# Literature review of Maori models of health and indigenous injury prevention and health promotion interventions

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# Executive Summary

1. The aim of this literature review was to explore Maori models, frameworks and strategies that could relate to injury prevention and health promotion and provide a review of evidence based interventions within Maori communities and other indigenous literature pertaining to injury prevention and health promotion. The purpose of gathering this information was to best inform ACC about potential models with which they could align their programmes to.

2. Common features of the reviewed Maori models and frameworks are the emphasis on a holistic approach and acknowledgement of wairuatanga (spirituality) and whanau (family).

3. In identifying a Maori model or framework with which to align programmes with, consideration needs to be given to both qualitative and quantitative information.

4. To date, there is no evidence based research evaluating the effectiveness of specific Maori models and frameworks in community interventions pertaining to injury prevention and health promotion. Of the international literature reviewed, no details of a specific indigenous framework from which the programme was delivered was outlined.

5. Te Whare Tapa Wha (Durie, 1985) is the most commonly cited Maori model of health, is utilised as a framework in a number of sectors (health, education and justice), has been used and endorsed as a framework in mental health outcomes (Kingi and Durie, 2000) and used in a Maori psychological measure of well-being (Palmer, 2003).

6. Three themes from the national and international literature were identified as contributing to the success of indigenous injury prevention and health promotion

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interventions: the need for consultation and community driven programmes, holistic frameworks and co-ordinators with strong community networks.

7. In considering Te Whare Tapa Wha as a model with which to align their programmes to, consideration needs to be given about the applicability of such a framework to non-Maori, cultural appropriateness, workforce capability, adequate resourcing, who has control over delivery of the framework and the potential impact on Kaupapa Maori (i.e. by Maori for Maori) programmes.

8. The wider issues related to biculturalism and parallel development need to be considered and may require ACC to revisit their strategic plan. Puao-te-ata-tu (Department of Social Welfare, 1988) and Te Pae Mahutonga (Durie, 1999) may be useful strategies to assist with this.

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# Introduction

The New Zealand Injury Prevention Strategy (ACC, 2003) sets out the vision, strategic direction, goals and objectives of injury prevention in New Zealand. The vision is for New Zealand to become injury free. This can be accomplished by achieving a positive safety culture and creating safe environments. A positive safety culture is defined as "a shared set of beliefs, attitudes, values and ways of behaving that support the prevention of injury"(ACC, 2003, p.14). Social environments are defined as "social and physical surroundings or conditions that support the prevention of injury" (ACC, 2003, p.14).

ACC currently provide and fund a wide range of injury prevention programmes in order to meet their specific goals and objectives. The strategic plan outlined eleven underlying principles which included the government relationship to Maori, reducing inequities between groups and providing culturally appropriate injury prevention activities. In relation to Maori and injury prevention, specific actions are identified as: increasing the capacity and capabilities of Maori service providers, supporting training of Maori injury prevention workforce, promoting collaboration between injury prevention providers and Maori, encouraging the involvement of Maori whanau, hapu and iwi in injury prevention and ensuring more kaupapa Maori injury prevention interventions are developed for Maori by Maori. Within New Zealand, delivery of services has evolved through research and consultation to acknowledge the importance of culture to health (Lawson-Te Aho, 1998) and ensuring prevention programmes are culturally appropriate and meaningful to the specific communities they are being delivered to.

The aims of this literature review are:

1. to explore Maori models, frameworks and theories that could relate to injury prevention and health promotion. Specific models were requested to be reviewed which included: the work of Mason Durie, Powhiri models and Puao-te-ata-tu.

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2. to provide a review of evidence based interventions within Maori communities and other indigenous literature pertaining to injury prevention and health promotion

The purpose of gathering this information was to best inform ACC about potential models with which they could align their programmes to.

In order to address the purpose and aims of the literature review, the review has been divided into four sections. Section A reviews a variety of Maori models, frameworks and strategies identified as being related to injury prevention and health promotion. Additional information regarding research and the use of these models is detailed.

Section B outlines the available literature pertaining to evidence-based injury prevention and health promotion interventions within Maori communities. A review of the international literature regarding indigenous injury prevention and health promotion interventions is also presented. Based on this review, a series of common themes pertaining to indigenous interventions emerge and are outlined.

Section C is the discussion component of the literature review. A Maori model of health from which ACC could align their programmes to is identified. The issues associated with such a venture are discussed. The major themes arising from national and international research are outlined including the need for a holistic perspective, community driven programmes and co-ordinators with strong community networks.

Section D of this report provides a number of conclusions and recommendations based on this literature review.

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# Section A: Maori models, frameworks and strategies related to injury prevention and health promotion

## *Introduction*

In this section, a literature review of Maori models, frameworks and strategies relating to injury prevention and health promotion are presented. In addition, where appropriate, the utilisation and research that has been conducted with each model is also presented.

Within ACC (www.acc.co.nz) injury prevention has been defined as being targeted to reduce the incidence of injuries, their severity and costs and to develop a 'safety culture' among all New Zealanders.

The following definitions of health promotion have been taken from the Health Promotion Forum website (www.hpforum.org.nz). The World Health Organisation (WHO) defines health promotion as... "the process of enabling individuals and communities to increase control over the determinants of health and thereby improve their health." Health promotion represents a mediating strategy between people and their environments, synthesising personal choice and social responsibility in health to create a healthier future. "Health promotion is the process of supporting people to increase control over the factors that influence their health and quality of life. An important characteristic of health promotion is its focus on groups of people, either the whole population or specific subgroups. It places emphasis on changing the environment to enable behaviour to change."

Central to both injury prevention and health promotion is the issue of health and well-being; ensuring better health and preventing ill-health. With this in mind, it is then useful to review Maori models that relate to health, and thus would be seen as being relevant to injury prevention and health promotion.

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## *Te Whare Tapa Wha (Durie, 1985)*

This model was first presented at a Maori Women's Welfare League hui in 1982 where Kaumatua advocated for the concept of wairuatanga (spirituality) as being the starting point for issues related to Maori health (Durie, 1998). In 1985, Mason Durie published a paper titled, 'A Maori perspective of health' which outlined Western and Maori differences in perspectives towards health. Durie presented a 'traditional perspective' of Maori health as being a 'four sided concept representing four basic tenets of life.' (Durie, 1985, p. 483). Health is aligned to the four corners of a house, each being necessary in order to 'ensure strength and symmetry' of the house. The four components of well-being are te taha wairua (spiritual well-being), te taha hinengaro (mental well-being), te taha tinana (physical well-being) and te taha whanau (family well-being).

Durie has published a number of articles detailing the specific components of Te Whare Tapa Wha (Durie, 1998 Durie, 1985). Durie (1985) asked the question, "Does the Maori concept of health have any implications for the development of health services in New Zealand and for health education?" (Durie, 1985, p. 485). In answer, he outlined Maori concerns at the time which focused on pollution of food sources (environment) and the health of Maori children. He concluded by stating that contemporary health services are finally acknowledging the importance of a spiritual dimension and that in order to provide a comprehensive health service, these Maori beliefs, alongside Maori experts need to be incorporated into Western health systems.

## *Utilisation of Te Whare Tapa Wha*

Te Whare Tapa Wha is being used as a framework for services in a range of sectors including policy, health, mental health, public health, education, justice and Kaupapa Maori health services. Durie (1998) comments that the ready acceptance of Te Whare Tapa Wha by Maori was probably due to its simplicity. McPherson, Harwood & McNaughton (2003) describe Te Whare Tapa Wha as being different from many other models of care in that it is a model that is owned by its community. This model has been used as the basis for many new services and is currently being developed to measure



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outcomes for Maori (Mc Pherson et al. 2003). The model has also been identified as having appeal to Pakeha. For example, the model was used by nursing schools in the 1980's and was the basis of the Wairaki Polytechnic nursing school at Rotorua, which was set up in 1985.[1]

Within the mental health sector, Te Whare Tapa Wha, alongside Te Wheke (Pere, 1988) and Te Pae Mahutonga (Durie, 1999) have been recommended as a Maori model of health. There are a number of mental health organisations who use Te Whare Tapa Wha is used as a framework. For example, the Capital and Coast District Health Board (C&CDHB) Mental Health Services Business Plan for 2000 to 2004 aims to develop a bio-psychosocial/cultural model of care throughout all mental health services. The systemic model to be developed is based on multi family group therapy, multi-systemic therapy, home based, mobile intensive approaches and Maori mental health models of treatment including Puahou and Te Whare Tapa Wha. The continued development of Kaupapa Maori mental health services is outlined as well as increasing the bicultural responsiveness of all mainstream mental health services (C&CDHB, 2001).

In Porirua, the Regional Rangatahi Adolescent Inpatient Unit (RRAIU) under C&CDHB was established in 2003. This service was developed to be a bicultural unit and provides inpatient beds for adolescents throughout the North Island requiring hospitalisation due to mental health problems. Assessment processes and treatment plans are devised based on Te Whare Tapa Wha and ensuring all components of a person's well-being are being addressed (L.Laphen, personal communication, 2005).

In 2004, the Serious Conduct Disorder Unit was opened in Epuni. The unit is a joint project between C&CDHB, Ministry of Health (MoH) and Child, Youth and Family (CYF). The programme uses Kaupapa Maori frameworks and Western/Tauiwi youth frameworks. The aim is to provide an inclusive bi-cultural platform and approach. The service objective is to further develop clinically and culturally relevant treatment,

[1] Retrieved 21 May 2005 from: http://culturalsafety.massey.ac.nz/ChapterFive.htm

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interventions and specialist care to young people/Rangatahi experiencing Severe Conduct Disorder and a co-existing mental health difficulty.[2] Puao-te-ata-tu and Te Whare Tapa Wha as frameworks from which to deliver this service.

In 2003, the Mental Health Commission conducted a survey of 20 District Health Boards (DHBs) in acute inpatient mental health settings to find out about the use of cultural assessment. They concluded that the majority of DHBs, were able to identify key concepts that underpin cultural assessment, including Te Whare Tapa Wha, powhiri poutama and tikanga (Mental Health Commission, 2004). It was noted that there were some problems in the routine use of cultural assessment in DHB's and that in order to combat this the practice of cultural assessment needed to be clearly stated and incorporated into policy, assessment processes and client documentation.

There also exist a number of Kaupapa Maori mental health services that utilise the framework of Te Whare Tapa Wha from which to provide their services. For example, Oranga Hinengaro, Specialist Kaupapa Maori Mental Health service in Palmerston North uses Te Whare Tapa Wha as the foundation for its clinical and cultural and partnership activities.[3] Ngati Kahu social services in Northland deliver Kaupapa Maori mental health services for Maori using the Te Whare Tapa Wha model.[4] Turanga Health provide a respite and homebase Kaupapa Maori whare for those with mental illness operation under the framework of Te Whare Tapa Wha.[5]

In the public health arena, Te Whare Tapa Wha is also seen as a model of Maori health which can be used as a framework from which to achieve hauora (well-being) (Ministry of Health, 2003). In the Maori public health action plan for 2003 –2004, Te Whare Tapa Wha, Te Wheke and Te Pae Mahutonga are identified as models which reflect hauora for whanau, hapu and iwi. The action plan takes the Whare Tapa Wha model and describes the whare nui (ancestral house) in detail. The different parts of the whare nui are aligned

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[2] Retrieved 20 May 2005 from: http://www.cyf.govt.nz/jobs.cfm?job_id=1355
[3] Retrieved 21 May 2005 from: http://www.midcentral.co.nz/hospital/OH/OH-About.htm
[4] Retrieved 21 May 2005 from: http://www.ngatikahu.org.nz/main%5CHealthservices%5CMentalhealth.htm
[5] Retrieved 21 May 2005 from: http://www.turangahealth.co.nz/respite_homebase_support.html



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to specific aspects related to public health. For example the maihi are aligned to concepts of manakitanga (value, respect, guide, support, guide, motivate, deliver and host), whakamana (enable, empower, build confidence and understanding), rangatirtanga (lead with confidence and understanding) and whanaungatanga (partnering, networking, information sharing, service co-ordination and shared kaupapa) (Ministry of Health, 2003). Te Rapuora o te Waiharakeke, a Kaupapa Maori health service in Malborough is an example of a public health service who utilise Te Whare Tapa Wha, Te Wheke and Te Pae Mahutonga.[6]

The New Zealand Guidelines Group (NZGG) aims to promote effective health and disability services. They have published a guidelines for assessment of older Maori people, in which Te Whare Tapa Wha was recommended as the base from which to guide the multi-disciplinary and multi-dimensional assessment.[7]

In He Korowai Oranga, Maori health strategy (Ministry of Health, 2002b), Te Whare Tapa Wha is referred to as the most common approach to holistic well-being. Under the pathway of development of whanau, hapu and iwi, a specific objective (1.2) is to build on Maori models of health, specifically to recognise and value Maori models of health and healing. The Ministry states that they will continue to encourage and implement Maori models of health in the activities of the health sector.

Within the justice sector, Te Whare Tapa Wha is being utilised in rehabilitation programmes for offenders. For example, Kowhiritanga, a crimniogenic progamme for woman offenders was developed in 2004. This bicultural programme combined both Western models related to offending (such as relapse prevention) and Maori models of health namely Te Whare Tapa Wha (King and Cherrington, 2004). Women from all ethnic groups were required to look at their well-being, health and offending through the Whare Tapa Wha model. Feedback from the woman participants (10 in total) indicated

[6] Retrieved 21 May 2005 from: http://www.tewaiha.org.nz/mission.asp

[7] Retrieved 16 March 2005 from:
http://www.nzgg.org.nz/guidelines/dsp_guideline_popup.cfm?guidelineCatID=32&guidelineID=30



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that they had all found the cultural component of the group as 'very useful.' Unfortunately, there were no general comments made regarding Te Whare Tapa Wha. (L. King, 2005, personal communication). However, the facilitator noted that all participants contributed extensively to the cultural components including Te Whare Tapa Wha and commented how they were able to relate to various concepts and processes. As this programme was a pilot programme, further research is required.

The Montgomery House violence prevention programme began in 1987 under the Department of Corrections. The programme is an 8-week group based intervention established upon social learning and cognitive behavioural principles. In addition, the programme delivery is broadly based on Te Whare Tapa Wha where the needs of all residents are addressed in relation to their physical, spiritual, psychological and family well-being. Whilst the majority of residents are Maori, all residents received the cultural components of the programme including Te Whare Tapa Wha and tikanga. It has been noted that the programme has shown some effectiveness in reducing offending, however, there is no specific reference to the utility of Te Whare Tapa Wha.[8]

The Ministry of Education's early childhood curriculum aim is for children to "grow up as competent and confident learners and communicators, healthy in mind, body and spirit, secure in their sense of belonging and in the knowledge that they make a valued contribution in society" (Ministry of Health, 1996, p. 9). The Whariki model does not directly refer to the use of Te Whare Tapa Wha. However, there are a number of principles and goals that can be aligned with this model. For example the principles of Kotahitanga (Holistic development) and Whanau Tangata (Family and community). The goals mana atua ( Well-being), mana whenua (belonging), mana tangata (contribution), mana reo (communication) and mana aoturoa (exploration) are also related to the concept of wairuatanga.

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[8] .Retrieved 21 May 2005 from: http://www.corrections.govt.nz/public/research/ effectiveness-treatment/montgomery-house.html

The holistic perspective (Kotahitanga) towards childhood development is further detailed on the New Zealand childcare web page which advocates that tikanga practices be adhered to in early childhood centers. Te Whare Tapa Wha, Nga Pou Mana and Te Wheke are outlined as three Maori models of health that are regarded as articulating these tikanga practices.[9]

### Research using Te Whare Tapa Wha

The Whare Tapa Wha model is also being used in outcomes research for Maori mental health. Kingi and Durie (2000) devised an outcomes measure based on Te Whare Tapa Wha. The report outlines the research process that was utilised in devising the measure and included consultation with 17 different stakeholders (organisations and conferences) throughout the country. The measure is consistent with Maori concepts of health and was developed based on "an accepted model of Maori health, Te Whare Tapa Wha" (Kingi and Durie, 2000, p. 13). The authors state that the measure be used along side more clinically focused measures in "determining responses of Maori clients to care and treatment in mental health settings" (Kingi and Durie, 2000, p. 11). Outcomes research in mental health DHBs has been directed by the Ministry of Health. It is envisaged that the measure will be used in both mainstream and kaupapa Maori mental health settings, alongside Western measures of outcome (MH-SMART Implementation Team, 2005).[10] The implementation of Hua Oranga in determining outcomes for Maori clients would suggest that services (both mainstream and Kaupapa Maori) will be required to address their spiritual, physical, mental and family well-being

Palmer (2002) has developed a psychological measure of well-being created by Maori for use amongst Maori. Initially the measure was developed for use amongst Maori pregnant woman. The measure is based on a range of Maori models of well-being including Te Whare Tapa Wha (Durie, 1998), Te Wheke (1991), Nga Pou Mana (Henare, 1988) and Te Ropu Awhina o Tokanui (1986). By utilising these models, 12 components of psychological well-being were identified and incorporated into the measure. These

[9] Retrieved 21 May 2005 from: http://www.nzchildcare.ac.nz/Tikanga/practices.htm
[10] Retrieved 14 June 2005 from: www.mhrds.govt.nz/dynz.aspx?ID1=3&ID2=54&ID3=85



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included: taha whanau, taha tinana, taha wairua, taha hinengaro, taha whatumanawa, taha mauri, taha whenua, taha mana, taha tikanga, te ao tawhito and te ao hou. The measure has been administered to a number of different populations.

***Te Wheke (Pere, 1988)***

Williams et al (2003) describe Te Wheke and Te Whare Tapa Wha as culturally connected models in that they are cultural specific frameworks, reflect self-determination and connect well-being to culture. Durie (1998) also identifies Te Wheke as being another model of health that has received a level of acceptance in the 1980's. Palmer (2002) utilised aspects of Te Wheke in her measure of psychological well-being and it has also been identified in the health sector as being a useful model from which to view health (Ministry of Health, 2003). Te Weke utilises the four dimensions of Te Whare Tapa Wha (i.e. wairua, tinana, hinengaro and whanau), however, there are an additional four dimensions. The focus of Te Wheke is on the well-being of the whanau. In this model, health is viewed from a family perspective.

Pere (1988) uses the analogy of an octopus to describe the elements essential for the sustenance and well-being of the whole octopus. Each tentacle symbolises a particular aspect of health. The head and body represents the family unit. Each tentacle intertwines with the other as does the interrelationship of each health variable. The eight tentacles or components of well-being are: wairuatanga (spirituality), mana ake (uniqueness, including positive identity), mauri (life principle, including the environment), Ha a koro ma a kui ma (the breath of life from forebears), taha tinana (physical), whanaungatanga (the extended family, group dynamics and social interaction), whatumanawa (the emotional aspect) and hinengaro (the mind). Waiora or total well-being for the individual and family is achieved when each of these variables are in intact.

***He Korowai Oranga (Ministry of Health, 2002b)***

The philosophy of Te Wheke is on family well-being, and this concept is more recently being reflected in Maori health strategies. For example, in He Korowai Oranga, the Maori health strategy, the emphasis is on achieving whanau ora : Maori families being

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supported to achieve their maximum health and well-being. Specific outcomes identified include whanau experiencing spiritual, physical, mental and emotional health (Ministry of Health, 2002b). Earp (2004) describes the He Korowai Oranga strategy as 'revolutionary' in that it presents a new way of thinking about health care systems and services. At the core of the strategy is the vision of achieving whanau ora (healthy families) (Earp, 2004). In essence, the solution to Maori health issues requires a whanau approach. Earp (2004) describes a number of programmes in New Zealand that incorporate Maori holistic models and approaches in methods of prevention and diagnosis. One example is the Ngati Porou Hauora Project which provides health services to the Ngati Porou region where the majority of people are Maori and also where many of the whanau and community are poor (Earp, 2004). This project incorporates a holistic approach which is used with Maori and non-Maori.

***Mauri ora (Te Puni Kokiri, 2004)***

Another example of the focus on whanau well-being is highlighted in a recent report published by Te Puni Kokiri titled 'Transforming whanau violence: A conceptual framework' (Te Puni Kokiri, 2004). This document provides a framework to reduce whanau violence. The goal or vision is about achieving well-being (mauri ora) for whanau, hapu and iwi, and individual Maori. Again the dimensions of Te Whare Tapa Wha are used. Mauri ora, in this context, is regarded as achieving a balance between wairua (spiritual well-being), hinengaro (intellectual well-being), ngakau (emotional well-being) and tinana (physical well-being). In addition, mauri ora is seen as being sustained and restored by experiences of ihi (being enraptured with life), wehi (being in awe of life) and wana (being enamored by life). The development of a programme to enact this framework is recommended. An identified group has been appointed to establish a Maori pilot project to test the application of the framework. Ten pilots are then to be established in the next two years over various sites in New Zealand, where the framework will be administered and evaluated (Te Puni Kokiri, 2004).

***Gallery of Life (Te Roopu Awhina o Tokonui, 1988)***

The 'Gallery of Life' created by Te Roopu Awhina o Tokonui has also been highlighted as a Maori model of health (Durie, 1998; Palmer, 2003). This model was developed



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initially for use within psychiatric nursing and was used to provide a cultural perspective to health. This holistic model incorporates nine dimensions. Again, they include Te Whare Tapa Wha dimensions **:** spirituality (taha wairua), family (taha whanau), well-being (taha hinengaro), physiology (taha tinana). The other dimensions are environment (taha whenua), compliance (taha tikanga), old world (Maoritanga), new world (Pakehatanga) and self (taha tangata). The Gallery of Life is written in a poetry style which aims to describe the various components of each dimension. Durie (1998) outlines this model in his review of Maori health models. Palmer (2003) has utilised some of the dimensions identified in this model within her waiora measure (i.e. taha whenua, Maoritanga and Pakehatanga).

### ***Nga Pou Mana (Henare, 1988)***

Nga Pou Mana (Henare, 1988) represents a set of four values and beliefs that have been identified by the Royal Commission of Society as pre-requisites for health. The identified pou or supports include: whanaungatanga (family), taonga tuku iho (cultural heritage), te ao turoa (the physical environment – including pollution ) and turangawaewae (land base – including land rights, access to an economic base and marae). Particular emphasis is placed on the external environment. Nga Pou Mana incorporates social, cultural and economic variables relevant to individual and whanau, hapu and iwi well-being. This model has also been identified by Durie (1998) as a model that has a focus on environmental and social determinants of health. Palmer (2003) utilised some of these dimensions in the waiora measure. It is also recommended to be used in tikanga practises in early childhood centres.[11]

### ***Tapu and Noa***

Whilst not specifically a Maori model of health, these two concepts have relevance to health promotion and injury prevention from a Maori perspective. Durie (2000) presented a paper titled 'The application of tapu and noa to risk, safety and health' to the Challenges, Choices and Strategies, Mental Health Conference in Wellington, 2000. Durie (2000) described the place of tapu and noa traditionally and in modern society. The principles of tapu and noa are a "code of social and environmental responsibility" (Durie,

[11] Retrieved 20 May 2005 from: http://www.nzchildcare.ac.nz/Tikanga/practices.htm



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2000, p. 2). Historically, the role of tapu and noa was misinterpreted by the missionaries as related to the Maori religious system rather than recognizing the significance of these concepts to health, safety and the avoidance of risk. As a result, modern interpretations of tapu and noa have focused on tapu being a sacred quality linked to the gods. As Durie (2000) points out, tapu is also associated with the prevention of accidents and calamities and abiding by the laws of tapu was linked to healthy practices. In essence, tapu can be viewed as a "type of public health regulation basically concerned with the avoidance of risk and the promotion of good health" (Durie, 2000, p.4). Durie asserts that the observation of tapu and noa is not as widely practiced, albeit for on the marae. These concepts continue to regulate behaviour on the marae in three domains: space, time and boundaries.

Durie (1999) describes the rituals, behaviours and beliefs that occur in a marae setting to outline a modern Maori psychology. He identified a total of nine domains, tapu and noa (safety) being one of these domains. Safety is a central issue when on the marae and the concepts of tapu and noa become prevalent. For example, manuhiri (visitors) on the marae are considered tapu until they have been through the process of karanga, whaikorero, hongi and hakari. Until these processes are completed, they are regarded as tapu and treated with respect as well as particular codes of conduct being enacted. The psychological attributes associated with the safety domain includes caution, behavioural constraints and boundaries. Durie (2000) concludes that the concepts of tapu and noa are still of relevance to Maori and can continue to be negotiated and elaborated on in other settings. Given ACC's emphasis on injury prevention and health promotion, these two concepts have particular relevance for Maori.

### ***Powhiri Poutama***

The Powhiri Poutama model has been developed by Te Ngaru Learning Systems and has been used predominately in the alcohol and drug area.[12] There is however, no published literature on the specific details of the model, although it has been highlighted by Te Rau Matatini as an area that Maori Child and Adolescent mental health workers wanted more

[12] Retrieved 31 May 2005 from: www.matatini.co.nz/careers/lespriest.htm



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training in as a Maori model of practice (Te Rau Matatini, 2004).[13] The model has also been introduced in Kaupapa Maori Mental Health services. For example, Kaumatua Turoa Haronga from Oranga Hinengaro, Specialist Maori Mental Health Service in Palmerston North uses this model to provide the framework from which he practices (T.Haronga, personal communication, 1997). The model is related to the process of powhiri when a clinician meets with a client. The issues of karanga (who has called the meeting), whaikorero (who lays down the kaupapa (purpose) of the meeting) and issues related to boundaries, time and space as identified by Durie (1999) are integral to the powhiri process and subsequent successful engagement of a client. The powhiri process has also been acknowledged by the Mental Health Commission as an important component to cultural assessment and that the powhiri process and cultural assessment need to be used routinely in DHBs.[14]

Herd (2005) is to present a paper entitled 'Wahine Tupono: Evaluating a Kaupapa Maori Intervention Programme' in July 2005 at the Public Health Association Conference in Wellington. The author describes in her abstract the programme delivered to Maori women who identified as problem gamblers in which the Powhiri Poutama framework was used. The author argues that in "order to facilitate healing Māori must design and deliver their own interventions utilising Māori frameworks and to also evaluate and assess their usefulness in Māori terms, ensuring that Māori autonomy and self determination are recognised and programmes developed and funded accordingly with the principals of the Treaty Of Waitangi."[15] Herd (2005) describes the Powhiri Poutama framework as being designed for use in treatment programmes, designed from a Maori world view and from a perspective that is holistic and embraces a Kaupapa Maori viewpoint.

[13] Retrieved 14 June 2005 from: www.matatini.co.nz/resources/ maorichiildadolescentwd.pdf
[14] Retrieved 30 May 2005 from: www.mhc.govt.nz/publications/2005/ Delivery%20of%20cultural%20assessment%20for%20Maori.doc

[15] Retrieved 31 May 2005 from: www.pha.org.nz/docs/Conferences/ Conference%202005/Programmev2.doc)



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## *Maori Health Promotion Models*

### ***Te Pae Mahutonga (Durie, 1999)***

Te Pae Mahutonga is based on concepts of modern Maori health promotion that are derived from Sir Maui Pomare's 1899 health promotion plan and the Ottawa Charter (Durie, 1999). Prevention of mental health disorders and promotion of positive mental health must be consistent with indigenous perspectives and values but also with best-practice and evidence based models (Durie, 2004).

Te Pae Mahutonga is the name given to the constellation of stars referred to as the southern cross. Because of this association, Durie (1999) asserts that the model applies to Maori but also to all New Zealanders. Within this constellation Durie likens the four stars and two pointers to the following concepts: Mauriora, Waiora, Toiora, Te Oranga. The two pointers are Nga Manukura and Te Mana Whakahaere. Each star and pointer are outlined as follows:

1. Mauriora – Access to te ao Maori

Access to a secure identity is fundamental to Mauriora. Deculturation has been linked to poor heath and acculturation to positive health. The goal of health promotion would be to promote positive identity and facilitate Maori entry into the Maori world. The Maori world includes access to language and knowledge, marae, economic resources, social resources and "access to societal domains where being Maori is facilitated not hindered." [16]

2. Waiora – Environmental protection

The external world and spiritual components are elements of waiora that connects well-being with cosmic, terrestrial and water environments. Health promotion is linked to the quality and nature of the relationship people have with the land and environment and having a balance between development and environmental protection. Issues related to

[16] Retrieved 14 May 2005 from: http://www.pha.org.nz/docs/MaoriPublicHealth/tepaemahutonga.doc



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pollution, the natural environment and balance of modern technology are areas that need to be addressed.

3.Toiroa – Healthy lifestyles

Alcohol and drug use, road safety, use of machinery are all examples of risks to healthy lifestyles. Durie (1999) emphasizes the importance of protection from injury, self-harm and illness as being a major challenge of health promoters. Risks are highest when poverty is greatest. Key areas to address for Maori include harm minimization, targeted interventions, risk management, cultural relevance and positive development.

4.Te Oranga -Participation in Society

Durie (1999) asserts that health promotion cannot be separated from socio-economic circumstances. Maori have rights to participate in society, decision making and the ability to access good health services. Policies which lead to unemployment and reduced access to education will continue to limit Maori participation in society. Health promotion is about increasing the extent of Maori participation in the economy, education, employment, knowledge society and decision making.

Durie identifies two pre-requisites in order for health promotion to be effective:

a) Nga manukura - Leadership

   Leadership for health promotion needs to reflect community leadership, health leadership, tribal leadership, appropriate communication and have alliances between leaders and groups.

b) Te Mana Whakahaere - Autonomy

   Communities need to have a strong sense of autonomy and self-determination in promoting their health. Processes used by health promoters need to make sense to the community. In essence issues related to control, recognition of aspirations, relevant processes, sensible measures and self governance contribute to autonomy.

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Durie (1999) concludes that health promotion for Maori and all New Zealanders is about creating a climate within which human potential can be realised. The action points discussed under the model is one way to ensure this occurs.

## Ultilisation of Te Pae Mahutonga

Te Pae Mahutonga has been identified by Ministry of Health (2003; 2002b) as an appropriate model of Maori health promotion. There is however, less evidence of research regarding this particular model and practical application. Chadwick and Richardson (2003) presented a paper in the 2003 National Mental Health Conference in Palmerston north, describing He Oranga Poutama, a programme based on Te Whare Tapa Wha and Te Pae Mahuntonga (Durie, 1999).

Williams et al (2003) described He Oranga Poutama as a sports programme which makes "multifaceted contributions to mental health promotion" (Williams et al. 2003).[17] In the Manawatu district, this system has been implemented where a range of activities including 'marae games', a series of sports tournaments and competitions among local marae based groupings were organised (Chadwick and Richardson, 2003). Williams et al (2003) report that one of the strengths of He Oranga Poutama is that it is based on Te Pae Mahutonga which provides "a strong theoretical rationale built around the need for healthy Maori developments as a key pathway to well-being" (Williams et al. 2003).[18] Whilst no specific outcome data was presented by Chadwick and Richardson (2003), the authors conclude through analyzing the programme with the Te Pae Mahutonga model, that the programme contributes to positive outcomes in the community.

### *Tipu Ora (Ratima, 2000)*

Ratima (2000) describes the Tipu Ora programme in Rotorua as a Maori centered approach to health promotion. The Tipu Ora programme is an initiative of the Maori Women's Welfare League, which is contracted to improve the health and well-being of

[17] Retrieved 10 May 2005 from: http://www.mentalhealth.org.nz/resources/MHPliteraturereview.doc
[18] Retrieved 10 May 2005 from: http://www.mentalhealth.org.nz/resources/MHPliteraturereview.doc

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children in the Rotorua area and to improve understanding of, and access to, child health services through appropriate health education and support. The model's paradigm is the Maori world view and the philosophy is to be healthy as Maori. Ratima (2000) identifies four key characteristics of the approach:

1) Maori cultural factors are emphasised in seeking to improve Maori health.
2) Health is viewed within the wider Maori development context.
3) Successful implementation is reliant upon the recruitment of a Kaitiaki who are competent in both cultural and technical terms, and has community credibility and iwi endorsement.
4) The capacity to access Maori networks to gain community support for the programme is fundamental to the approach.

Nine principles of the Tipu Ora model are identified: Maori interconnectedness, values, self-determination, Maori identity, quality, whanau relationships, caring and community credibility. The strategies utilised include: inter-generational transfer of knowledge, cultural affirmation, iwi endorsement, Maori domains, links to Maori development, utilisation of Maori community resources, whanau-focused service and building relationships with funders. The processes from which these strategies are realised are though identifying criteria and procedures for kaitiaki recruitment, iwi consultation, addressing determinants of health, reinforcement and validation of Maori practices, home-based service delivery, whanau-based service delivery, utilisation of Maori networks and consistent communication with funders

Ratima et al (1995, cited in Coster, 1998) has also presented a framework for service delivery in the health arena:

- Whaka piki – Enablement of client decision-making on service options
- Whai wahi – Participation of clients, whanau and Maori institutions
- Whakaruruhau – Safety including both physical and non-physical safety
- Totika – Effectiveness with a focus on health status issues and health gains

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- Putanga – Accessibility which requires good service information, service availability
- Whakawhanaungatanga – Integration by making links with other appropriate services.[19]

Coster (1998) states that organisations that are able to incorporate Maori models of well-being and the principles of service delivery outlined by Ratima et al (1995, cited in Coster, 1998) will be more appropriate, acceptable and have a greater impact on positive outcomes for Maori.

## *Biculturalism*

In 1986, a Ministerial Review Committee was formed under chairperson, John Rangihau, charged with reviewing the Department of Social Welfare and providing their opinions on "aspects of the Social Welfare Department that are detrimental to Maori people" (Department of Social Welfare, 1988, p. 6). The result was a report titled 'Puao-te-ata-tu: Dawn break, The report of the ministerial committee on a Maori perspective for the Department of Social Welfare.' The committee consulted iwi and institutions throughout the country (65 marae and institutions) which resulted in 13 recommendations. In essence, Puao-te-ata-tu, was one of the first reports to recommend biculturalism within a mono-cultural dominated government organization.

The report provided practical recommendations in regards to building community capability, workforce development, training and partnership. For example, recommendations were made in regards to the departments policies and objectives and advocated for the incorporation of Maori cultural values and enhancing leadership in minority groups in all future policies (Recommendation 1). They also recommended equal allocation of resources and new legislation that recognized cultural values and beliefs of all cultural groups but especially Maori (Recommendation 2). A number of changes to commissions, laws and specific acts were also advocated for

[19] Retrieved on 25 March 2005 from: http://hcro.enigma.co.nz/website/print_issue.cfm?issueid=15



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(Recommendation 3, 4 and 5). The parallel equivalent to Social Welfare, Matua Whangai was also recommended to be re-established (Recommendation 7) as was the establishment of management committees nominated from tribal authorities (Recommendation 6). Funding initiatives for unemployed Maori were also advocated for in collaboration with other government departments (Recommendation 8). Issues regarding cultural training for all staff members and recruitment of Maori staff were also highlighted (Recommendation 9, 10 and 11). The employment of cultural consultants, interdepartmental co-ordination, community involvement and the need for a comprehensive approach to service delivery were addressed in Recommendations 12 and 13.

Puao-te-ata-tu was a historical document that provided practical solutions to increasing the responsiveness of the Department of Social Welfare to Maori. It's recommendations were a mixture of bicultural and parallel development strategies. Recently, albeit 15 years later, this document is being resurrected along side its recommendations.[20] In 2001, the Honourable Tariana Turia referred to a recent review of the Department of Child Youth and Family Services made by Mick Brown where it was recommended that Puao-te-ata-tu be revisited. Tariana Turia described the report as one of the few documents that "accurately represents whanau, hapu and iwi aspirations for their own social development."[21] Tariana Turia also stated that there have been suggestions that the framework in Puao-te-ata-tu could be successfully used across the social policy sector of which she believed was worth considering.

Biculturalism is a strategy that many government departments have attempted to implement in order to improve their service delivery, responsiveness to Maori and to honour the principles of Te Tiriti o Waitangi. Many departments, like Child, Youth and Family (previously known as Department of Social Welfare) continue to review their organization and assess their cultural responsiveness. Outcomes of these specific reviews were unable to be obtained for the present literature review, in terms of reviewing

[20] Retrieved 12 April 2005 from: http://www.scoop.co.nz/stories/PA0103/S00028.htm
[21] Retrieved 12 April 2005 from: http://www.scoop.co.nz/stories/PA0103/S00028.htm



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research into the effectiveness of such strategies when translated into specific community interventions.

## *Parallel Development*

In relation to the development of biculturalism in organisations, Cooney (1996) identifies four stages of bicultural development (L'Estrange, 1987, cited in Cooney, 1996) which include:

Stage 1: Domination (domination of Maori by Pakeha)

Stage 2: Self-determination (Maori autonomy and associated 'backlash')

Stage 3: The separate stage ( Maori and Pakeha have individual autonomy)

Stage 4: Biculturalism (a negotiated partnership)

Cooney (1996) extends this model to include a fifth stage: parallel development. Cooney (1996) noted that, "our present health services still fail to meet the needs of Maori. Parallel development of services run by both Maori and non-Maori for the benefit of both offers one way of addressing those failures." (Cooney, 1996, p. 22). This would require changes to an organisations structure and culture which would include an organisations constitution, philosophy, policies, standards and work practices. There also needs to be strong co-operation, consultation, information sharing and joint decision making, separate resource allocation and autonomy in provision of services to client groups. The difference between biculturalism and parallel development is that bicultural development occurs within the existing structure, where as parallel development requires structural change. Cooney (1996) details eight strategies or stages required in applying parallel development specifically in nursing services. Cooney (1996) views the parallel development model as one way of addressing the Treaty of Waitangi within organisations.

One example of parallel development within New Zealand is the Women's Refuge and Rape Crisis service. In 1984, at a national meeting of Women's Refuge, it was agreed that Maori were the best to provide and care for Maori woman and children affected by

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violence. From this, grew the development of parallel development within the organisation. The Women's Refuge define parallel development as:

- Tangata Whenua and Tauiwi are developing equally side by side
- Resources are shared equitably
- A model of complementary service delivery (culturally appropriate services)
- A system based on partnership consistent with Te Tiriti o Waitangi
- An organisational structure consistent with the feminist, women-based orientation of Women's Refuge.[22]

No data was able to be obtained regarding the effectiveness of service delivery or any evidence based research regarding outcomes of this parallel development service.

Durie (1998) presents a bicultural continuum rather then stages and sees biculturalism as a "gradation of goals and a number of possible structural changes"(Durie, 1998, p. 102). A continuum of bicultural goals range from:

1. cultural skills knowledge,
2. to better awareness of the Maori position,
3. to a clear focus on Maori issues and networks,
4. to best outcomes for Maori over all activities,
5. to joint ventures within agreed upon frameworks.

Durie also presents a bicultural continuum for structural arrangements within organisations:

1. unmodified mainstream institution
2. A Maori perspective (i.e. an addition to a service rather than a part of core business)
3. Active Maori involvement (i.e. Maori units in hospitals, bilingual units)
4. Parallel Maori institutions (i.e. Kohanga Reo, Kura Kaupapa)
5. Independent Maori institutions

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[22] Retrieved 14 April 2005 from: http://www.womensrefuge.org.nz/about_tetiriti.asp.

### *Te Tiriti o Waitangi as a health promotion framework*

Te Tiriti o Waitangi is increasingly being recognised by the health sector and other government sectors associated with health and well-being as the basis for which all health activities and "all health promotion activities should be based upon in New Zealand" (Health Promotion Forum, 1999 cited in Williams et al. 2003). Williams et al. (2003) cite a document produced at the Health Promotion Forum in 1999 titled 'TUHA NZ a treaty of understanding of Hauora in Aotearoa-New Zealand" which outlines a practice framework based on the treaty to guide health promotion activities. Williams et al. (2003) provide the following principles of health promotion based on this document:

- Article one – Kawanatanga / Governance: The creation of health promotion environments where Maori worldviews and cultural values are represented and influential in all aspects of decision-making.
- Article two – Tino Rangatiratanga / Self-determination: The achievement of Maori health aspirations through approaches such as community action.
- Article three – Oritetanga / Equity: The development of health promotion strategies to address the underlying determinants of health. (Williams et al. 2003).

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# Section B: Evidence based injury prevention and health promotion interventions within Maori communities and other international literature

## *Introduction*

The available research on evidence-based methods of interventions within Maori communities as they pertain to injury prevention and health promotion is scarce. Epidemiological research around prevalence rates of injuries, accidents and claims to ACC is described in a number of other reports (Ropata and Ameratunga, 2005; Broughton, 1999) and is not detailed in this literature review. Ropata and Ameratunga (2005) are currently in the process of evaluating the Safer Rohe programmes and 'Mana whenua' injury prevention programmes. Where researchers have focused on prevalence rates of injury to Maori, accidents and illnesses pertaining to ACC, they have also advocated the need for a Kaupapa Maori framework in providing interventions/ prevention (Ropata and Ameratunga, 2005) and being 'by Maori for Maori' initiatives (Broughton, 1999; Ropata and Ameratunga, 2005). It is envisaged with the evaluation of the Safer Rohe and Mana whenua programmes, that this will provide additional evidence-based research to further inform Maori injury prevention and health promotion programmes in New Zealand.

In relation to injury prevention and health promotion, there exist no studies that evaluate the effectiveness of specific Maori models of health such as Te Whare Tapa Wha, Te Wheke or Te Pae Mahutonga. The discussion paper on He Oranga Poutama (Chadwick & Richardson, 2003), which utlised the Whare Tapa Wha model and used Te Pae Mahutonga to analyse their programme, stated that based on this framework, they were able to identify positive outcomes. However, no formal evaluation data was presented.

In reviewing the available research in regards to injury prevention and health promotion interventions within Maori communities and other indigenous communities, there are a



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number of common emerging themes in relation to what has been identified through the research as being necessary to ensure the success of such indigenous programmes. These themes include:

1) The need for consultation and intervention programmes to be community driven
2) The need to incorporate holistic frameworks representing the indigenous worldview into the programmes, and
3) The ability for co-coordinators of intervention programmes to have or build strong networks with the community to which the programme is to be delivered.

## *New Zealand Research*

Maori SIDS Prevention Programme (Leach, Abel, Haretuku & Everard, 2000)
Research into the Maori Sudden Infant Death Syndrome (SIDS) Prevention Programme (Leach et al. 2000) highlighted the importance of consultation, community driven initiatives, holistic frameworks and strong co-ordinator networks in contributing to the success of this programme. The success of the programme has called for the possible introduction of the Maori SIDS programme into mainstream services (Leach et al. 2000).

The Ministry of Health's SIDS prevention campaign was the first of its kind internationally when implemented in 1991. Whilst the campaign resulted in a reduction of non-Maori cot deaths, the reduction rate was not significant for Maori. In 1994, University of Auckland School of Medicine obtained funding to conduct the Maori SID prevention programme. The initial aim of the programme was to ensure culturally appropriate information dissemination. This resulted in an identified team touring marae throughout New Zealand. A Maori SIDS information pack was developed, alongside a media campaign and regional co-ordinators. Based on consultation hui, the co-ordinators also became involved with Maori families who experienced SIDS as it had been identified by the community as a need. Responses to SIDS and death scene investigations were also addressed and national standards developed. The programme also became involved in research initiatives.

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Leach et al. (2000) note that whilst a formal outcome evaluation of the programme has not yet been conducted, a process evaluation identified that the programme was progressing well, but that further funding was required. The success of the programme to date was due to the programme being developed by Maori for Maori and working from a holistic Maori world view. The importance of regional co-ordinators having strong local networks was also integral to the success of the programme (Leach et al. 2000).

Since the introduction of the programme and its success, there has been signals that the Maori SIDS programme be extended into mainstream. The shift of 'by Maori for Maori' to 'by Maori for the general population' would inevitably result in a number of challenges such as Maori being in direct competition with mainstream services. Despite these challenges, Leach et al (2000) note that there is potential applicability of Maori health care models to the general community.

***Ngati Porou Injury Prevention Project (Brewin & Coggan, 2004)***

Brewin and Coggan (2004) evaluated the Ngati Porou community injury prevention project. This prevention project was based on the WHO safe community model which advocates that the people most able to solve issues related to injury prevention is the community itself. The model is an all age, community based model. In order for the project to be developed within a holistic Maori framework, a decision was made to base its activities at the local marae and utilise the strong community networks within the Ngati Porou area.

The evaluation was conducted in a culturally appropriate manner and included a collaborative and holistic approach alongside Maori frameworks. The specific frameworks were not detailed. The programme entailed initiating hui at most marae in the area, Kohanga Reo, Kura Kaupapa and sports clubs and public forums. Three road safety programmes where implemented including Drivewise, Marae-based drivers licenses and Kohanga Reo Road Safety Programmes.

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Methods of evaluation included participant observation, review of documentation and semi-structured interviews with key informants. Impact evaluation data was gathered through pre and post surveys and participant observation. Data on injury hospitalization for Maori was also gathered. Results indicated a significant increase in awareness of injury prevention and a significant reduction in injury mortality statistics when compared to a different community.

The success of this programme is attributed to it being driven by iwi and incorporating Maori processes, values and tikanga specific to Ngati Porou. Brewin and Coggan (2004) conclude that the Ngati Porou CIPP successfully addressed the principles of role modeling, life span focus, accessibility, acceptability and active participation and is a model that could be repeated in other indigenous communities.

### ***Te Whanau o Waipareira Trust and Whiriwhiri te Ora Trust (Moewaka Barnes, 2000)***

Moewaka Barnes (2000) evaluated two community prevention programmes aimed at reducing alcohol related traffic crashes amongst Maori. In designing these programmes a collaborative process was used where by the communities within which each programme was to be implemented designed the programme. Two Trusts were formed with specific goals. Activities designed to meet the specific objectives of prevention and community world views were devised at consultation hui in each community.

The first trust, Te Whanau o Waipareira Trust devised WHANAU/ TU BADD, which was incorporated a collective approach to prevention with the involvement of whanau and utilised activities such as waiata compositions, haka, and posters aimed at increasing awareness, involvement and ownership of the programme. Later further policies of the Trust were implemented where boundaries were set around use of alcohol at venues and other programmes such as drivers licenses programmes (Moewaka-Barnes, 2003)

The second Trust, Whiriwhiri te ora, used Tainui history of opposition to alcohol to provide context for strategies against drink driving. It was envisaged that prevention strategies could be adopted by the whole tribe and become a part of the tribes identity.



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When members adopted messages of the programme i.e. not to drink and drive and not let others drink and drive, they wore a blue ribbon in addition to learning specific songs related to this issue. A Lost Generations display using whare and pictures of those who had been killed through accidents was taken through out different marae and emphasized the importance of whakapapa (genealogy) and lost whakapapa through car crashes (Moewaka-Barnes, 2003).

The evaluation process of these programmes included interviews with participants, small group discussions, survey's and participant observation. The author concludes that based on this evaluation that the programmes were able to effectively combine research based objectives with a Maori world view and produce positive outcomes (Moewaka-Barnes, 2003). An important component of these two interventions appears to be the relevance and meaningfulness of strategies to each community.

***Asthma programme (Ratima, Fox and Te Karu, 1999)***

The evaluation findings of an asthma self-management plan programme that was conducted with researchers in partnership with a rural Maori community indicated that there were long term benefits of the programme that went beyond reduced asthma morbidity. These benefits included cultural affirmation, improved access to other health services, a greater sense of control for participants and positive impacts on the extended family (Ratima et al. 1999). The programme was delivered through clinics held at marae where Maori processes were followed. A 'credit-card size self-management plan' was developed by the researchers based on the expressed needs of Maori communities and deemed appropriate to Maori communities. Ratima et al. (1999) reported that this plan is now used in a range of other communities. The implications of the study are that it provides support for providing public health services for indigenous communities that utilizes a partnership approach, community expertise and cultural processes appropriate to the indigenous community.

***Waitakere Community Injury Prevention Project (Coggan, Patterson, Brewin, Hooper and Robinson, 2000)***



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Another example of an injury prevention project is the Waitakere Community Injury Prevention Project (WCIPP). This project was based on the World Health Organisation (WHO) Safe Community model of injury prevention which incorporated a community based, all age injury prevention programme (Coggan et al. 2000). Evaluation of WCIPP was conducted over a three year period and included: reviewing documentation and implementation of goals, participant observation, regular telephone contact with co-ordinators and interviews with management group members. In addition two post implementation case studies were undertaken at the general site and marae site where WCIPP activities occurred. Process and outcomes measures indicated that the WCIPP had a significant effect on the institutionalization of injury prevention in the city council and marae. Positive effects were also noted in changes of awareness of injury prevention and safety related behaviour. Whilst there were no changes in all age hospitalizations, there was a significant reduction in child injury hospitalizations in comparison to other sites who had not benefited from WCIPP. Coggan et al. identify key areas that contributed to the success of the Maori WCIPP. These included the co-ordinator building strong networks and a Maori perspective towards injury prevention being incorporated into the programme that was holistic and used Maori practices. Coggan et al. state that this programme could also be transferred to other indigenous communities.

***Diabetes health promotion and disease prevention programme (Simmons and Voyle, 2003)***

The use of an urban marae setting was the basis for a diabetes health promotion and disease prevention programme (Simmons & Voyle, 2003). In implementing life-style programmes for Maori, Simmons and Voyle advocate for innovative approaches, in particular the need to provide such services in settings where Maori are more relaxed and familiar with such as the marae. The marae incorporates both physical, human and spiritual experiences. Whilst not stated explicitly by the authors, this is in essence parallel to a holistic view of health. 436 participants were enrolled in the diabetes programme, the majority of whom faced weight issues. Full day sessions or three 90minute sessions on life-style changes and diabetes education were introduced. The authors conclude that in line with the objectives outlined in Ottawa Charter for Health Promotion, the marae



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setting resulted in a culturally sensitive approach, sustainability, self-efficacy and influenced an environment to maintain healthy behaviors.

***Maori Youth Suicide Prevention (Lawson-TeAho, 1998)***

In 1998, Keri Lawson-Te Aho conducted a review and research around the Youth Suicide Prevention Strategy, in particular focusing on the needs of Maori youth. Firstly, Lawson-Te Aho (1998) reviewed the available literature which highlighted the relationship between culture and behaviour and how cultural alienation contributed towards poorer outcomes in relation to health. The author then reviewed the current strategies around youth suicide prevention including community and culturally based interventions and specific case studies based on indigenous youth prevention programmes. Themes from stakeholders interviews in New Zealand in relation to Maori youth suicide prevention programmes indicated that a Maori youth suicide prevention strategy needed to focus on: Maori community development, whanau development, tikanga/cultural development, Maori youth development, mainstream development, individual treatment of Maori mental illness and research. Lawson-Te Aho also conducted focus groups with Maori youth. The accumulation of information obtained from the literature review, stakeholder interviews and focus group hui was used to present a Maori youth prevention strategy which had five major goals:

1. to strengthen Maori communities,
2. to strengthen taitamariki development,
3. to increase the role of tikanga development as a protective factor for Maori taitamariki,
4. to encourage mainstream services to respond effectively and appropriately to the needs of Maori youth and
5. to improve the understanding of the causes and the true level of suicide amongst Maori youth.

Based on a review of indigenous prevention projects, Lawson-Te Aho identified factors that contribute to the effectiveness of cultural interventions for youth suicide. These were:

1. government commitment and active support



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2. Maori commitment and active support
3. Relocating the design of prevention strategies into the hands most affected by them
4. Base interventions on the realities receiving them
5. Understand historical factors that create a youth suicide risk for indigenous youth
6. Integrate traditional knowledge into contemporary settings (Lawson-Te Aho, 1998, pp30-35).

In essence, the Maori youth suicide prevention strategy as outlined by Lawson-Te Aho (1998) utilises a cultural development approach and emphasizes the importance of initiatives being holistic (Factor 6) and community driven (Factors 2, 3 and 4).

## *International Literature*

Berger (2002) reviewed the rates of injury world wide amongst indigenous peoples and identified that indigenous people often have dramatically higher rates of injury than the non-indigenous people of that particular country. Fire-related injuries, car accidents, deaths whilst incarcerated, violence and deaths by non-indigenous peoples, alcohol abuse and related deaths are high amongst indigenous people. Berger advocates that because of social policy, justice and treaty obligations, injuries among indigenous people should be a priority area. Indigenous people recognise the need for prevention and need to be enabled to establish their action priorities and agenda (Berger, 2002).

A community development approach is outlined by Berger (2002) which involves building local skills in community development, strengthening support systems for people and families in crisis, increasing access to mental health services, fostering healthy early childhood development, ensuring meaningful community participation in government decisions affecting their lives, and promoting economic development. Non-indigenous people can provide expert advice to these communities as required in conjunction with learning about the culture, research and ethical issues and wisdom of communities (Berger, 2002).

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The following section presents some of the international literature pertaining to evidence based interventions in indigenous communities as they pertain to injury prevention and health promotion. Similar themes to the New Zealand research are identified including the need for community driven initiatives, collaboration, consultation, holistic frameworks and the role of co-ordinators. It is of note that none of the reviewed international literature detailed a specific indigenous framework from which the programme was delivered.

***Principles for Best Practice in Aboriginal Health Promotion (Health Information Australia)[23]***

The identified principles for best practise in Aboriginal health promotion includes the three major themes. Health Information Australia provides specific information about Aboriginal health promotion including a summary of developments in indigenous health promotion. Health promotion for indigenous groups needs to take into consideration: culture, diversity within this population, socio-economic circumstances, the different languages and dialects, geographic location and the effects of colonisation.

An important component of indigenous health promotion was the incorporation of community controlled health initiatives and aboriginal health workers. Of note is the issue of identifying best practise in indigenous health promotion. In 2002, a document was produced on Principles for Best Practice in Aboriginal Health Promotion. These principles were:

1) aboriginal health promotion needs to acknowledge aboriginal cultural influences and the historical, social and cultural context of communities
2) aboriginal health promotion should be based on best practice (such information can come from qualitative and quantitative sources. The decisions on which to base best practice should take into account the strengths, limitations and gaps in the available evidence.)

[23] Retrieved 5 April 2005 from: http://www.healthinfonet.ecu.edu.au/html/html_programs/health_promotion/programs_healthpromotion.htm#summary



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3) aboriginal health promotion practise means building the capabilities of community, government, services, equitable allocation of resources
4) ongoing community involvement and consultation
5) practical application of aboriginal self-determination principles
6) adheres to holistic view of health
7) effective partnerships
8) aboriginal health promotion programs should be sustainable and transferable[24]

## ***Aboriginal and Torres Strait Islander Injury Prevention Plan (Moller, Thomson & Brooks, 2004; Clapham, 2003)***

This plan came out of the research conducted by Moller, Thomson & Brooks, 2004 and Clapham, 2003. Two reports were produced addressing the issue of injury prevention activity among Aboriginal and Torres Strait Islander peoples. Information was obtained through extensive literature review, consultation and interviews with community and stake holders. Volume 1 (Moller et al. 2004) outlines the existing injury prevention and safety initiatives within Australia that have a focus on the indigenous population. 314 projects were identified. 105 projects were related to violence prevention, 36 with preventing suicide and self-harm and 132 were identified as not a specific external cause focus. The remainder of projects addressed the physical and social environment that contribute to injury and safety. In reviewing these projects Moller et al. conclude that there are few good evaluation studies.

Based on the review, seven factors were identified as making programmes more likely to succeed. These factors were:

1. adequate funding and resources
2. Community control/ respect for community protocols
3. Community acceptability and involvement
4. Partnerships at all levels (local, regional and national)

[24] Retrieved 5 April 2005 from: http://www.healthinfonet.ecu.edu.au/html/html_programs/health_promotion/programs_healthpromotion.htm#summary



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5. A functioning organization and good project management
6. Skilled and committed personal
7. Understanding the underlying issues related to injury (Moller et al. 2004)

In this extensive review specific details are provided about the various intervention programmes. There is no mention of the models used in the programmes, but rather discussion on the processes involved in implementing an indigenous intervention programme. Moller et al. 2004 also reviewed indigenous injury prevention in New Zealand, Canada and United States. Of the reviewed literature in Canada, the emphasis appears to be on the education of injury prevention concepts to indigenous peoples. Again, no specific mention is made in the USA and Canada literature regarding specific indigenous models, although reference is made to different cultural beliefs having an impact on injury prevention programmes. Moller et al. refer to the importance of a global indigenous prevention strategy.

Based on their review and consultation, Moller et al (2004) detail what lessons can be learnt in relation to indigenous prevention interventions for Australian aboriginals. These lessons include:

1. The need for a holistic approach
2. The role of indigenous community at both a local, regional and national level
3. Understanding the multiple causes of injury
4. Having a clear knowledge base for injury (i.e. correct data collection and systems)
5. Funding
6. Workforce implications (i.e. training)
7. Administrative and reporting arrangements.

In Volume 2 of this report, Clapham, (2003) describes in detail the analysis and consultation process and specific findings in relation to the review of 314 injury prevention projects. In Appendix 4, nineteen case studies are presented about specific injury prevention projects catering for indigenous populations. The case studies presented did not describe specific Aboriginal models of health. Out of the 19 case studies



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reviewed, three case studies referred to the use of a holistic approach, and one case referred to a cross-cultural approach. A number of the case studies emphasized the importance of community driven initiatives.

For example, The Yarrahbah Men's Health Group Project (Case Study 5) aimed to build the capacity of indigenous men to participate in the community and deal with issues of suicide prevention, self-harm and domestic violence. Further aims were to support the social and emotional well being of men, specifically their spiritual, mental, physical, social and emotional well-being. The project identified five main areas that they addressed: leadership and parenting, tradition and culture (including a dance group), education and training, employment (i.e. support small business) and a men's shelter. It was noted that there had been a 2% decrease in violence in the area, but that a formal evaluation was required (Clapham, 2003).

The Port Youth Theater Workshop Project (Case Study 16) used a community cultural development model. The project focused on addressing the issue of family violence with young children. The theatre project was identified as being a safe and creative way for children to deal with issues related to family violence. A number of workshops were held with the aboriginal children, along side a support group of aboriginal workers who focused specifically on the spiritual and emotional well-being of the children. There was no specific evaluation of the project.

Case Study 10: Safe Dreaming Trails Links Schools, used a cross-cultural collaborative approach to address community safety. The project was administered to all children in the area. However, the specific cultural component of the programme was conducted by an elder who introduced children to safe community practise through a dreaming story and a visit to a traditional aboriginal meeting place of specific spiritual value to the Karuna people. The students also crossed over reconciliation stones. Part of the project was for children to be able to identify and report safety hazards.

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The theme of community driven initiatives is also described in a number of other programmes such as the: Worrabinda Community Injury Prevention Project (Case Study 4). This project is outlined further on in the literature review. Another example is the Top End Women's Legal Service Aboriginal Outreach Service Project (Case Study 1). The aims are to reduce family violence related injuries. The service is a community based legal service. The model is described as being based solely on what the community wants (Clapham, 2003).

***Evaluation of three community health promotion programmes for youth (Reininger, Dinh-Zarr, Sinicrope, & Martin, 1999).***

The issue of consultation, community driven initiatives and leadership, including the role of co-ordinators was explored by Reininger et al (1999) in an international study. The researchers evaluated three community health promotion programmes for youth and identified several factors that influenced a communities ability to build an effective programme. The importance of building coalitions, participation and leadership were highlighted. In evaluating these programmes, three dimensions of leadership and partnership were explored: 1) clarification of scope of activities, 2) identifying skilled indigenous leadership, and 3) formality of relationships. Two out of the three initiatives demonstrated success in each of the dimensions related to health promotion for youth. Those successful initiatives were clear about their scope of activities and the formality of their relationships. Indigenous out-reach workers employed to liaise with the communities were important in the success of programmes and forming of coalitions. The third community which encountered difficulties in all three dimensions resulted in no meaningful collaboration. Furthermore a non-indigenous community outreach worker was employed and encountered hostile reactions which created an adverse environment for open discussions about the programme (Reininger et al. 1999).

The authors concluded that the case studies provide important information for future promotion programmes that require collaboration within communities. Based on their findings, several implications for practice are outlined. Firstly, practitioners must place emphasis on identifying a clear scope of activities. Secondly, they must be selective



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about working with communities who are able to identify local leadership. The authors note that some communities may not be ready to identify their scope of activity or leadership. Therefore, it is important not to force their engagement but implement strategies to improve awareness and motivation (Reininger et al. 1999).

### ***Community Health Advocates in Australia (*Rodney, Clasen, Goldman, Markert, *and* Deane, *1998).***

The use of co-ordinators in indigenous promotion and prevention programmes has been emphasized. Rodney et al (1998) in Australia conducted a study looking at the training of community health advocates. A community health advocate (CHA) is a term used to describe an indigenous out-reach worker who is respected and trusted within his/her community and serves as a bridge between health professionals and his/her community. The primary role of CHA's is to inform community members of resources and assist them in accessing such resources. The underlying focus is to educate communities about a wellness approach to all areas of their lives. Examples of how CHA's have assisted with the needs of clients in this particular study include: food, utilities, prescriptions, parenting classes, adult health care, vision and dental care, immunizations, and follow-up on getting children to primary care providers for physicals.

Rodney et al (1998) developed a training programme for CHA's which was evaluated. Based on the evaluation, managers viewed CHA's as a positive force in meeting client needs and independence. Client feedback was very favourable, indicating to the authors that there is an important niche for CHA's in health. The authors conclude that CHA's, in the present environment which emphasizes health promotion/disease prevention, play a pivotal role in improving communities access to health care, quality of health care, and reduced health care costs.

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***Healthy Lifestyle Programme in Australia (Rowley, Daniel, Skinner and Skinner, 2000)***

The issues of community driven initiatives and holistic frameworks was identified in a study by Rowley et al. (2000). The researchers evaluated the effectiveness of a community directed 'healthy lifestyle' programme in a remote Australian Aboriginal community. The researchers noted that health promotion programmes aimed at reducing risk factors associated with diabetes had not been effective for indigenous populations due to problems with communication (i.e. remote areas) and inappropriate language and/or messages. Community driven initiatives were viewed as being more effective (Rowley et al. 2000). The study followed a cohort of overweight and diabetic aboriginals over a 2 year period who were a part of a community driven healthy lifestyle programme. The programme titled 'The Looma Diabetes Programme' incorporated informal and formal education sessions, healthy eating choices classes, exercise (hunting, walking groups and basketball) and the employment of a diabetes nurse educator. There was also wider community involvement which developed over the two years. Examples included a member of the community being employed to manage the local grocery store with the job to increase sales of vegetables and fruit.

The results of the study found that of the 49 people enrolled in the programme, there were significant weight loss and a reduction in biochemical measure of glucose metabolism. Six years later, the healthy lifestyle programme is still being run by the community and has the potential for longer term outcomes in relation to reducing disease. Rowley et al. (2000) advocated for the importance of community driven initiatives especially the process associated with such initiatives. Furthermore, such programmes needed to be flexible, holistic and driven by the community. Community ownership and control of the programme were the essential features of its success.

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## ***Emergency services in remote indigenous communities in Australia (Queensland Government)*** [25]

The issue of effective consultation, engagement and incorporation of indigenous viewpoints was highlighted in a Queensland Government programme aimed at developing emergency services in remote indigenous communities in Australia. The project aimed to develop and implement appropriate pre-hospital care service delivery models for remote indigenous communities. This was to be achieved through a combination of extensive research and wide community consultation. A key focus of the project was appropriate community engagement processes to ensure the outcomes were compatible with indigenous cultural beliefs and practices. The methods used included wide consultation. Engagement methods focused on building strong relationships with communities, families and individuals.

There were a number of factors that influenced the planning and choice of engagement methods and included: community preference, the unique circumstances of each community, consultation fatigue experienced by some communities and the importance of maintaining a single, consistent contact officer. The issue of effective engagement was critical to understanding the needs and expectations of the remote indigenous communities. Central to effective engagement was the need for developing and maintaining strong, long-term relationships and partnerships with indigenous communities. Awareness of the issues facing indigenous communities such as limited resources, difficulties caused by isolation, geography and climate, respect for the customs and traditions of indigenous Australians and their right to self-determination was also important. A comittment to the engagement processes would contribute to a service that would build community capacity, would be co-ordinated and and appropriate to the needs of each community.

25 Retrieved 7 April 2005 from:
http://www.getinvolved.qld.gov.au/share_your_knowledge/keyinitiatives/showcase_ce/emergency/engaging.html

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***Worrabinda Community Injury Prevention Project. (Shannon, Canuto, Young, Craig, Schluter, Kenny and McClure, 2001)***

This is an all age injury prevention programme, aimed specifically to identify community owned strategies for reducing injury (Moller et al. 2004). The emphasis of the project is on injury surveillance and community development. The project began in 1997 and is ongoing. The first nine months of the project involved community consultation and baseline data collection.

In 1998, specific interventions designed by the community were implemented. Of concern within this community was alcohol and violence related injury, domestic violence, safety of mothers and children, youth and the environment. Practical suggestions were provided by the community such as making the pub safer (i.e. rubber flooring), establishing a counselling group for men and a sports and recreation for bored youth. It was noted that many of the suggestions were in the parameters of well-known harm reduction and primary prevention strategies (Moller et al. 2004). The findings of the evaluation indicated a statistically significant change in the frequency and distribution of non-hospitalised injuries following the injury prevention programme (Shannon et al. 2001). The researchers conclude "that effective injury prevention programs can be established by indigenous communities in a manner consistent with contemporary best practice models of control" (Shannon et al. 2001, p. 237).

**Unintentional injury among American Indian and Alaska Native children (*Chilton, Bodurtha, Butterbrodt, & Freeland-Hyde, 1999)***

The need for programmes to be community driven and incorporating specific cultural beliefs of a tribe was identified in a study focusing on the prevention of unintentional injury among American Indian and Alaska native children (Chilton et al, 1999). Their research focused on injury prevention programmes developed by the Indian Health Service (IHS) and tribal communities which the authors reported have lead to successful outcomes in motor vehicle occupant safety, drowning prevention, and fire safety. The importance of professionals collaborating with tribes and the IHS to address injury-

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related mortality and morbidity amongst American Indian and Alaska native children was recommended (Chilton et al. 1999). The methods typically used in injury prevention included media campaigns, targeted education, safety technology, environmental modification, and law and regulation changes.

The models described in this study were specific programmes tailored to meet the specific cultural beliefs of a specific tribe. For example, in some tribes, discussions of mortality, risk, and harm are forbidden. It would be inappropriate then for health care professionals to warn that death was a potential outcome if certain protective measures were not adhered to. A strategy used by the IHS Injury Prevention Program was to conduct a crash test using a cradle board to demonstrate what would occur. Video footage of this test was sufficient to communicate the risk without having to predict risk of harm to the child. The researchers recommended the need for collaboration with tribes, IHS and health professionals, increased funding for programmes, and further law changes in increasing community capability (Chilton et al. 1999).

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## Section C: Discussion

This discussion is divided into four sections. Firstly, an exploration of Maori models and the available research about these models. Central themes from these models include the holistic perspective and the inclusion of wairuatanga and whanau in Maori perspectives relating to health. Issues related to the importance of qualitative and quantitative information in relation to Maori models are also outlined. A potential Maori model of health is identified as being of particular use.

Secondly, a review of international literature highlights the importance of a holistic approach and community driven initiatives in indigenous injury prevention initiatives. The importance of consultation is emphasized in the literature and has relevance to ACC in its consideration of models with which to align their programmes too.

Thirdly, the issues related to using a Maori framework from which to deliver all programme is discussed. These issues include: the transferability of Maori models to mainstream, appropriateness of using a Maori model in mainstream and issues related to biculturalism, parallel development and 'by Maori for Maori' initiatives.

### *1. Maori models, frameworks and theories relevant to injury prevention and health promotion*

Section A of this literature review, presented a number of different Maori models that could be related to injury prevention and health promotion. A total of eight models or frameworks were reviewed: Te Whare Tapa Wha (Durie, 1985), Te Wheke (Pere, 1988), Mauri ora (Te Puni Kokiri, 2004), Gallery of Life (Te Roopu Awhina o Tokonui, 1987), Nga Pou Mana (Henare, 1988), Powhiri Poutama, Te Pae Mahutonga (Durie, 1999) and Tipu Ora (Ratima, 2000). In addition, Puao-te ata tu (Department of Social Welfare, 1988), a policy document for the Department of Social Welfare, biculturalism, parallel development and Te Tiriti o Waitangi were reviewed as other frameworks. The concepts



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of tapu and noa were also reviewed in relation to their direct relevance to injury prevention and health promotion. The most commonly cited Maori model of health was Te Whare Tapa Wha (Durie, 1987), followed by Te Wheke (Pere, 1988). Te Pae Mahuntonga (Durie, 1999) was identified by the Ministry of Health as an accepted Maori model of health promotion (Ministry of Health, 2002b) and by Williams et al. (2003) as overlapping with their generic framework.

Te Whare Tapa Wha has been described as an accepted holistic Maori view of health (Ministry of Health, 2003; 2002) and has been used as the basis for many health services (McPherson et al. 2003). Durie (1998) stated that the ready acceptance of Te Whare Tapa Wha in the health sector has been due to its simplicity. The model is used in a number of Kaupapa Maori mental health services. Te Whare Tapa Wha has also been used in two mainstream mental health services (RAAIU and Epuni Conduct Disorder Service) committed to providing a bicultural service and in rehabilitation programmes for offenders (King & Cherrington, 2004).

No specific research could be identified that evaluated the effectiveness of this model in a community intervention. However, the inclusion of the Maori mental health outcomes measure, Hua Oranga, (which is based on the Whare Tapa Wha framework) into the Ministry of Health's nationwide assessment of outcomes within mental health settings, suggests that the framework has practical applicability to Maori. Furthermore, Te Whare Tapa Wha was endorsed through consultation hui when the measure was being devised (Kingi and Durie, 2000). As stated, the outcomes data that will be collected in all DHBs and suggests that many services (both mainstream and Kaupapa Maori) will be assessed according to whether there have been improvements in a Maori clients spiritual, physical, mental and family well-being as a result of interventions with mental health services.

The simplicity of Te Whare Tapa Wha has been both a criticism and accolade of the model (Durie, 1997).  The essential features of Te Whare Tapa Wha is that it takes a holistic perspective to well-being and that in order to achieve well-being or health, each component needs to be in balance. The holistic concept and need for balance of each



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dimension is also reflected in other Maori models of health. Models such as Te Wheke and Nga Pou Mana provide additional concepts and, in the case of Te Wheke, Gallery of Life and Mauri Ora, they offer a more in depth analysis of dimensions relevant to Maori well-being. It is important to note that many of the other frameworks still contain the basics of Te Whare Tapa Wha (i.e. Te Wheke, The Gallery of Life and Mauri Ora). Palmer's (2003) development of a Maori measure of well-being, which utilised components of Te Whare Tapa Wha, Te Wheke, Gallery of Life and Nga Pou Mana also point to the utility of all of these concepts when conceptualizing a Maori perspective of well-being.

In reviewing the Maori models of health, another common thread amongst them is the emphasis on a holistic view of health and the inclusion of wairuatanga (spirituality). Durie (1998) noted that acceptance of Maori perspectives in health, had contributed to a re-evaluation of New Zealand health services and goals. In particular there had been the emergence of the 'S factor' among Western circles which was alikened to wairuatanga but specifically Western in nature. The recognition of spirituality as a critical factor in indigenous well-being and the importance of including a spiritual dimension in the development and implementation of preventative and health promotion programmes in Australian aboriginals was highlighted in a recent study by McLennan and Khavarpour, 2004.

Many of the reviewed models of health also acknowledge the importance of whanau, hapu and iwi well-being. In essence, the holistic view emphasizes the importance of whanau well-being rather than being focused primarily on individual health (i.e. Mauriora, Te Wheke, Gallery of Life, Te Whare Tapa Wha). The focus on whanau well-being is also reflected in current Maori health strategies (i.e. He Korowai Oranga and Maori Public Health Action 2003-2004).

The emphasis on the collective and not just the individual is highlighted in health promotion and injury prevention literature which emphasizes the importance of building community capacity and capabilities when implementing intervention programmes.



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ACC's strategies also acknowledge the importance of whanau (ACC, 2003) and a holistic approach (ACC, 2004). For example, the New Zealand Injury Prevention Strategy (ACC, 2003) details specific actions in relation to Maori including increasing Maori service capacity and capabilities and encouraging the involvement of Maori whanau, hapu and iwi in injury prevention. It is unclear whether ACC view whanau well-being and a holistic approach as being as vital to well-being in comparison to a Maori perspective. A case in point is in ACC's rehabilitation model (ACC, 2004) which acknowledges the importance of whanau and community. However this is only in relation to the role that whanau can play in assisting restoring health and independence to the individual. Whilst this is still a focus on individual well-being, ACC (2004) states that a holistic approach is a fundamental component of lifetime rehabilitation planning and specific objectives being to create long term support systems for the individual, whilst valuing families, whanau and other people providing support.

The review has highlighted the lack of evidence-based research regarding the various Maori models of health. When making decisions regarding the use of models that do not have any evidence-based research with which to support its use within a service, consideration needs to be taken into account about the value of both qualitative and quantitative information. For example, in the Australian Health Promotion website, information is presented regarding the principles for best practice in aboriginal health promotion. It is noted that aboriginal health promotion should be based on best practice and that such information can come from qualitative and quantitative sources. The decisions on which to base best practice should take into account the strengths, limitations and gaps in the available evidence.[26]

The issue of best practise taking into account both qualitative and quantitative information is important given the dearth of quantitative evaluation information. In looking at the issue of evidence-based purchasing of health promotion initiatives, Rada,

[26] Retrieved 5 April 2005 from: http://www.healthinfonet.ecu.edu.au/html/html_programs/health_promotion/programs_healthpromotion.htm#summary

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Ratima and Howden-Chapman (1999) recommend that 'good judgement' is required in evaluating the applicability of evidence and feasibility of implementation within different contexts. Both types of qualitative and quantitative information is required in the decision making process. Specific problems in evaluating the effectiveness of health promotion interventions are due to the multiple variables that affect multiple health outcomes. In addition, there is limited evidence for the effectiveness of interventions and it is of variable quality.

Rada et al. (1999) were required to develop a framework for prioritizing twenty-two health promotion interventions. They used a broad range of evidence which included scientific research, organizational capacity, socio-cultural factors and local community-based knowledge. They concluded that for "evidence-based medicine, evidence-based health promotion must employ both quantitative and qualitative evidence, and that the final judgement about purchasing of health promotion initiatives is essentially subjective and political" (Rada et al. 2003).[27]

In considering a Maori model of health from which to align ACC programmes to, consideration needs to be given to the importance of qualitative information and models which have been endorsed by the Maori community. For example, Puao-te-ata-tu recommended a number of actions that needed to occur in order for the then Department of Social Welfare to be more responsive to Maori. In essence, the document outlined specific actions towards the Department becoming bicultural. This specific strategy has not been researched, however the recommendations were based on extensive consultation with Maori and therefore, the strategy has a type of cultural validity for Maori. Since the 1980's, Maori health hui have repeatedly called for the inclusion of wairuatanga in health practices when working with Maori (Durie, 1998) and has resulted in health services acknowledging this component of well-being. In devising Hua Oranga, an extensive consultation process was used where by the Whare Tapa Wha framework was endorsed (Kingi & Durie, 2000). The qualitative information (i.e. hui, consultation and community

[27] Retrieved 5 April 2005 from:
http://www.healthinfonet.ecu.edu.au/html/html_programs/health_promotion/programs_healthpromotion.htm#summary



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endorsement) must be given weight in considering a model with which to align programmes to.

Based on this review, it would seem apparent that if ACC were considering a Maori model to align their programmes with , then Te Whare Tapa Wha is the most researched and cited model currently. The evidence-based research is not extensive, but consideration also needs to be given to what the Maori community supports as well. In highlighting Te Whare Tapa Wha as a potential model, this is not to negate the importance of the other models of health. In essence all models support a holistic perspective, spirituality and whanau wellness.

## *2. Evidence-based research of interventions within Maori communities and other indigenous international literature related to injury prevention and health promotion.*

Section B presented the available research in relation to evidence based interventions in Maori communities and relevant international literature. The review highlighted that in New Zealand there is a dearth of evaluation data. In looking at the specific injury prevention and health promotion programmes delivered in Maori communities, none make reference to a specific model of health. However, reference was made to the fact that the framework was holistic (Leach, 2000; Brewin & Coggan, 2004; Moewaka-Barnes, 2000; Coggan et al. 2000 ) and in a number of studies utlisied the marae setting (Brewin & Coggan, 2004; Ratima et al. 1999, Coggan et al. 2000; Simmons & Voyle, 2003).

In reviewing the available research in New Zealand, three themes were identified as contributing to the success of indigenous interventions: the need for consultation and community driven programmes, holistic frameworks and co-ordinators building strong community networks. Whilst the reports published in Australia (Moller et al. 2004;

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Clapham, 2003) were extensive there were no identified indigenous models of health. However, like the New Zealand research, one of the essential features was the inclusion of holistic perspective (Moller et al. 2004).

The issue of community driven initiatives and consultation was also recommended in the Australian reports (Moller et al. 2004) and in a number of individual studies and papers (Berger, 2000; Chilton et al. 1999; Queensland Government, 2004; Reininger et al. 1999; Rowley et al. 2000). The importance of the role of co-ordinators was identified by Moller et al. as being integral to success of programmes, as did the study by Rodney et al. 1998.

There was also recognition of the issues related to community consultation and involvement. The study by Reininger et al. 1999 also highlighted the importance of building coalitions, having a clear scope of activity, local leadership and formal relationships. A community development approach for indigenous groups was outlined by Berger (2002) which involved building local skills in community development, strengthening support systems for people and families in crisis, increasing access to mental health services, fostering healthy early childhood development, ensuring meaningful community participation in government decisions affecting their lives, and promoting economic development. The Queensland Government (2004) also highlighted the importance of effective engagement and being mindful that communities can also suffer from consultation fatigue.

Whilst the international literature does not refer to a specific indigenous model, the essential features of successful indigenous interventions were the holistic perspective, the importance of consultation, collaboration and community driven initiatives. The role of co-ordinators was also highlighted as important to success. The international literature highlights the importance of the process involved in developing and implementing an indigenous injury prevention or health promotion programme. Specifically, the importance of consultation and letting the community decide what their goals, priorities and strategies for injury prevention and/or health promotion is essential to the success of indigenous programs.

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In considering the implementation of a Maori model of health into all intervention programmes, the same process of extensive consultation and community driven initiatives, alongside co-ordinators with strong community networks would be imperative in ensuring the success of such intervention programmes.

## *3. Issues to consider when utilising a Maori model of health as a framework for programme delivery within a mainstream organization*

***a) Transferability of Maori models of health***

A number of the studies identified the potential applicability of the indigenous programme into other communities (Moewaka-Barnes, 2000; Leach, 2000) and in other indigenous communities (Brewin & Coggan, 2004; Coggan et al. 2000). It was not clear whether they were referring to other Maori communities or other indigenous populations. If we were to consider that a number of studies utilised the marae setting as a way of ensuring a holistic framework, one would then question whether this could be applied to other indigenous groups or non-Maori. The marae base is unique to Maori and as such sets the scene from with which to deliver holistic services.

The literature review has also revealed that there are a few mainstream services that use Maori models of health to all clients (i.e. RRAIU and Ngati Porou Hauora Project). The success of the Maori SIDS prevention programme prompted some discussion about the applicability of that programme to mainstream (Leach, 2000). Durie (2004) described Te Pae Mahutonga, a Maori model of health promotion as applying to all New Zealanders. However, it is unclear whether he was referring to the whether the implementation of a Maori health promotion model for Maori would improve the health of Maori, thus contributing to the over well-being of New Zealand as a whole or whether he was stating that the framework could be applied to all New Zealanders. It is of note that in a previous article describing Te Pae Mahutonga, Durie (1999) warned that the promotion of good

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mental health would be ineffective if it was based on the premise that all people ascribe to the same views of health and have similar goals.

In considering Te Whare Tapa Wha as a model with which to align their programmes to, consideration needs to be given to the issue of whether dimensions such as spirituality would have the same relevance and meaning in mainstream programmes. For example, as discussed earlier, the concepts of tapu and noa (which are strongly associated with wairuatanga) are of relevance to many Maori and are areas that would need to be addressed in injury prevention and health promotion programmes for Maori. However, it is likely that such concepts would have little meaning and applicability to many non-Maori. ACC would need to consider the applicability of different cultural beliefs and values when considering using this holistic model.

### ***b) Appropriateness of using a Maori model of health in a mainstream programme***

In deciding whether to implement a Maori framework into mainstream, ACC would need to also consider whether this framework would be culturally appropriate for non-Maori. The issue of evaluating the cultural appropriateness of service delivery in multi-ethnic communities is raised by Thomas (2002). A culturally appropriate intervention is defined as, "the delivery of programme and services so they are consistent with the communication styles, meaning systems and social networks of clients, or programme participants and stakeholders" (Thomas, 2002, p. 2). Thomas (2002) notes that much of the evaluation literature has been focused on culturally appropriate interventions for Maori. In considering the delivery of Maori models of health to mainstream, this definition of a culturally appropriate service needs to be considered. Questions such as what are the communication styles and meaning systems for non-Maori need to be asked.

It is important to note the vision of ACC which is to achieve a positive safety culture and create safe environments. A positive safety culture is defined as a "shared set of beliefs, attitudes, values and ways of behaving that support the prevention of injury' (ACC, 2003, p. 14). As discussed previously, there are certain concepts unique within Maoridom such

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as tapu and noa and the spiritual connections related to this concept that would not be shared by non-Maori, yet are relevant to injury prevention and health promotion initiatives. What is defined as a safe culture and a safe environment will differ amongst different cultural groups and is the exact reason why indigenous perspectives have been advocated for in the area of health. Based on an example like this, the vision for all of New Zealand to achieve a positive safety culture may be difficult to obtain given the different beliefs and attitudes that exist. However, it is important to note the word 'shared', which may not mean one set of beliefs over another, as has occurred with Western dominated paradigms within health services. This vision would need to be further clarified in relation to acknowledgement of the different cultures that exist in New Zealand, and that impact on the shared set of safety beliefs and values.

The literature review has highlighted the importance of consultation when developing and implementing intervention programmes within indigenous communities. This process could also be applied to non-indigenous communities, that is asking the community to which the injury prevention programme is being delivered to, what exactly they want and what strategies they can identify to promote health and reduce injury.

Finally, in considering the use of a Maori model within mainstream service programme, consultation needs to occur with Maori. Questions such as ownership of models, about who would deliver the framework, what would happen to the development of Kaupapa Maori initiatives, what cultural safety procedures would be put in place (i.e. when referring to issues of wairuatanga, there needs to be clear supervision and direction in interventions such as the support of kaumatua etc) and who had control over the implementation of the framework would all need to be answered prior to delivering a programme based on a Maori model of intervention.

## ***Biculturalism, Parallel development and 'by Maori for Maori' initiatives***

In considering the use of a Maori model within a mainstream programmes, consideration needs to be given to the wider issues related to biculturalism, parallel development and

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Kaupapa Maori interventions. Where would such an initiative place ACC in regards to the Treaty of Waitangi, biculturalism and parallel development?

At first analysis, Durie's bicultural continuum (Durie, 1998) does not seem to have a component where the Maori perspective becomes the dominant paradigm. The proposal that 'what is good for Maori is good for all' has begun to gain strength in health circles due to the success of indigenous interventions. Moreover, many Pakeha relate to the process and concepts and find the Western paradigm within services, too medically focused. The premise that 'what is good for Maori is good for all' has begun to grow momentum within the health sector. However, there is no specific research to support this contention and care needs to be taken when considering applying a Maori approach to mainstream programme delivery.

In studying the models related to biculturalism (Durie, 1998) and parallel development (Cooney, 1996) it is possible that this new initiative (Maori frameworks as the dominant framework) could represent the later stages of biculturalism where new partnerships are negotiated. Alternatively, this proposal could be viewed as a reversal of mono-culturalism where one framework dominates over the other.

Puao-te-atu-tu was influential because it recommended that in order for a mainstream service to become more responsive to Maori, structural, legal and philosophical changes were required. Puao-te-atu-tu provided a number of strategies to action biculturalism and, upon reflection, parallel development within a mainstream organization. It is of note that a recommendation of this report in 1988 was for the return of Matuaa Whangai. This service was a Maori component to Social Welfare, and could be a likened to a parallel service. This recommendation was never actioned.

When considering the use of a Maori framework to align programmes with, an important question that needs to be answered by ACC, is whether the organization is considering a structural change as outlined in Puao-te-atu-tu or just focusing on a component within service delivery. It is important to consider the wider context when contemplating a shift

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in perspectives due to possible backlash and ensuring that such initiatives have the structural backing and are not set up to fail. If ACC were considering a structural and strategy framed from a Maori perspective, then the recommendations of Puao-te-atu-tu have merit. A useful exercise would be for ACC to analyse their strategies concerning Maori with the recommendations in Puao-te-atu-tu.

In considering a Maori strategy with which to frame service delivery, Te Pae Mahutonga (Durie, 1999) has some merit and warrants discussion. Te Pae Mahutonga has been described by Durie, not as a model of best practice but rather a "schema to identify the parameters of practice and to signpost the strategic directions that might be pursued by states, health and education sectors and indigenous people's themselves."[28]

In essence, Te Pae Mahutonga represents a set of strategies towards Maori health promotion. If an organization were to consider using this at a structural and strategic level, they would need to consider the applicability of concepts such as environment, leadership and autonomy to non-Maori. Could the issues of access to te ao Maori, environmental protection, healthy lifestyles, participation in society, leadership and autonomy be translated into a mainstream service? In considering the use of this Maori health promotion strategy within mainstream, one of the identified pre-requisites to effective health promotion would need to be considered. The prerequisite, Te Mana Whakahaere, refers to autonomy. Durie (2004) states that communities need to have a strong sense of autonomy and self-determination in promoting their health. Issues related to control of activities, appropriate processes, recognition of aspirations and self-governance all contribute to autonomy. The applicability of such issues to non-Maori would also need to be addressed. It must be noted that the concept of autonomy could be a likened to the concept of community driven initiatives outlined in the health promotion and injury prevention literature.

Williams et al (2003), in reviewing the mental health promotion literature, pulled together the international and local research and came up with a framework related to mental

[28] Retrieved 14 April 2005 from: www.pha.org.nz/docs/Maoripublichealth/Tepaemahutonga.doc

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health promotion. This framework highlighted the different activities of health promotion and could be used to guide funding and development. They identified that there were four levels of intervention: individual, family, community and population. At each level of intervention there were associated factors. For example at the family level this required fiscal support and community action. At the community level this required infrastructure resourcsing and community action.

Williams et al (2003) noted that this approach highlighted the significance of Te Pae Mahutonga (Durie, 1999) and the framework Puahou (Durie, 1997 cited in Williams et al, 2003) which preceded this model. The emphasis being on improvements in Maori mental health were dependent on identity, social and economic participation, appropriate services, workforce development and Maori autonomy (Williams et al, 2003). The authors stated that further conceptual work was required in seeing how their framework and Durie's framework overlapped and were connected.

The current question, is whether a Maori framework would be of benefit to non-Maori. This issue needs to be considered at both service delivery and a structural level. Would this approach result in ACC being more responsive to non-Maori in relation to injury prevention and health promotion? For obvious reasons, further work would need to be undertaken by ACC in this area.

Finally it must be noted, health services have taken many steps to honour the principles of the Treaty of Waitangi and are working towards providing a bicultural service. Therefore, in order to be responsive to the needs of Maori, they are beginning to use Maori approaches and frameworks within the service. However, it must be noted that much of the delivery of Maori approaches is by Maori. This would support the development of Maori programmes being developed and delivered 'by Maori for Maori.' This movement within Maoridom is perhaps a reflection of self-determination, autonomy and tino rangatiratanga.

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As biculturalism has developed in New Zealand services (i.e. mental health, education, justice) the call for specific Kaupapa Maori initiatives and 'by Maori for Maori' programmes has increased. This strategy is reflected in ACC's strategy for Maori. The New Zealand Injury Prevention Strategy identifies specific actions in regards to Maori and injury prevention. These actions include increasing the capacity and capabilities of Maori service providers, supporting training of Maori injury prevention workforce, promoting collaboration between injury prevention providers and Maori, encouraging the involvement of Maori whanau, hapu and iwi in injury prevention and ensuring more kaupapa Maori injury prevention interventions are developed for Maori by Maori (ACC, 2003).

In considering the introduction of a Maori framework within service delivery, the momentum of Kaupapa Maori initiatives must not be lost. This would suggest that ACC needs to develop a clear strategic plan in relation to the Kaupapa Maori initiatives (i.e. by Maori for Maori) and those Kaupapa Maori initiatives (by Maori for everyone). Issues identified in Puao-te-ata-tu such as adequate resourcing and workforce development (i.e. is there a workforce available in New Zealand who would be able to provide those programmes?) need to be addressed prior to implementation.

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# Section D: Conclusions and recommendations

Based on the following literature review, a number of conclusions are reached and areas highlighted for further consideration. Following this are a number of specific recommendations that ACC would need to action prior to implementing a Maori model into mainstream programmes.

1. In considering a Maori model of health from which to align programs to, it would appear that Te Whare Tapa Wha is the most commonly cited model in the literature and has evidence of being endorsed by the Maori community.

2. In considering the use of Maori models of health to align programme delivery it is important that ACC consider the relevant research that has identified factors contributing to the success of indigenous intervention programmes. Specifically, the need for programmes to be holistic, to consult with the community and for programmes to be community driven and have co-ordinators with strong local networks.

3. Indigenous injury prevention and health promotion programmes were successful when they were owned and driven by that particular community. ACC would need to consider whether this would also apply to non-indigenous communities.

4. The international literature on indigenous injury prevention and health promotion did not refer to specific indigenous models. Rather emphasis was on the process of engaging indigenous communities through extensive consultation. In considering the use of a Maori model to align program delivery, the evidence based literature would suggest that each community to which programmes are to be delivered too need to be consulted and drive the

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strategy to be used. Therefore both Maori and non-Maori would need to be consulted.

5. Consideration as to whether the factors contributing to the success of indigenous evidence-based injury prevention and health promotion interventions (i.e. a holistic perspective and inclusion of cultural beliefs and values) can be applied and have meaning to non-indigenous populations.

6. Decisions regarding ACC's overall strategy would need to be addressed in relation to issues of biculturalism and parallel development. In considering a Maori health promotion strategy, Te Pae Mahutonga (Durie, 1999) has been identified within the literature and has possible conceptual overlaps with overall health promotion. Puao-te-ata-tu and the recommendations embedded in this report may be useful to analyse ACC's progress thus far.

7. The impact of implementing a Maori framework into mainstream on the continued development of Kaupapa Maori initiatives needs to be addressed. Given that Kaupapa Maori initiatives are continuing with some success, it is important that this momentum not be lost.

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## Recommendations

In order for ACC to implement a Maori framework that is sustainable into mainstream service delivery, a number of recommendations need to be actioned. It is recommended that:

1. ACC consult with the non-Maori community to find out how they would like further injury prevention and health promotion initiatives to be conducted within their community. This is in line with indigenous literature stating that interventions were more successful if they were owned and driven by the community.

2. ACC ascertain the willingness, acceptance and support of non-Maori stakeholders for a Maori framework (i.e. Te Whare Tapa Wha) from which to deliver their programmes. Specifically, it would be important to determine the meaningfulness and relevance of a framework such as Te Whare Tapa Wha to non-Maori.

3. ACC consult with Maori stakeholders (staff, clients and associates) who will be effected by the possible implementation of a Maori framework into mainstream programmes. Issues such as the continued development of 'by Maori for Maori' programmes, who would deliver Kaupapa Maori programmes into mainstream, the cultural appropriateness of such an initiative and who would have control over delivery of the framework need to be addressed prior to implementation.

4. ACC revisit and develop their strategic plan (and subsequent programmes) and consider using Puao-te-ata-tu and Te Pae Mahutonga to analyse and re-evaluate their strategic direction for Maori and non-Maori.

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5. If, after consultation with stakeholders and staff about the implementation of a Maori framework into mainstream programmes, ACC will need to ensure there is a commitment (i.e. a shared vision) from all staff for such an initiative.

6. ACC complete a workforce analysis to ascertain whether they have and the community has the workforce capability and resources to implement a Maori framework initiative into mainstream programmes.

7. If ACC decides to implement a Maori framework to align service delivery, adequate resources committed towards implementation, training and management of that initiative need to be made available.

8. ACC provide training and allowances in job descriptions and outputs for co-ordinators of intervention programmes to facilitate community networking and engagement with communities.

9. ACC ensure that accountability about the implementation of a Maori framework into mainstream programmes occurs at all levels (management, governance and below) and by non-Maori and Maori. It is imperative that accountability for such initiatives is not left to only Maori staff.

10. ACC ensure there are culturally appropriate evaluation mechanisms from which to evaluate the effectiveness of utilising a Maori framework within mainstream programmes. There is potential for the Hua Oranga measure to be adapted and used to assess outcomes.

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