Fire Research Report

Effective Fire Safety Strategies for Pacific People

NIU Development Inc

August 2006

The aim of this research was to identify the social trends impacting on Pacific families, households and communities and assess what knowledge about Pacific fire risk, fire awareness and fire safety behaviours exists. Additionally an assessment of what Pacific peoples preferred method of receiving promotional information is and how best to engage with at-risk Pacific population groups was investigated. Nui Development Inc conducted face-to face surveys and focus groups to achieve this.

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Puipuiaga

Effective Fire Safety Strategies for Pacific Peoples

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NIU Development Inc 2006

"Fire is only dangerous when man lifts a hand to destroy or uses it to endanger others. If we protect fire, fire can protect us."

Tufuga Lagatule, Christchurch

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2 Preface - Fire in the Pacific

It is customary for Pacific people to pass on histories, stories, myths and legends verbally through speech or song. Oral tradition was the main medium for sustaining the community and ensuring its continuity. This is how fire legends continued in our histories.

> ***"Grant, oh grant me***
> ***thy hidden fire,***
> ***O banyan tree.***
> ***Perform an incantation,***
> ***Utter a prayer***
> ***To the banyan tree.***
> ***Kindle a fire in the dust***
> ***Of the banyan tree."***
>
> Ancient Polynesian chant.

Fire themes are common to most Pacific ethnic groups and there are many similarities, such as the demigods and the toa involved. The most renowned are Maui, Mafui'e and the fire goddess Pele of Hawai'i. The famous Maui features in a great number of Pacific stories across many Pacific motu.

Theft, trickery and deceit are strongly connected with fire-finding all over the world (Westervelt, 1910). Pacific peoples have also fondly related and associated fire stories with heroism, courage, reward and individual and collective gain. The diversity of fire-making stories is as varied as their sources.

Tonga

The stories say that before the people of Tonga discovered fire, they ate raw food and found warmth through use of natural materials.

Atalonga was a demigod who lived in Pulotu, the spirit world where the spirits held the secrets of fire. Atalanga had a son Kijikiji or Maui Kijikiji who was known to be very mischievous. Before living in the upper world of mortals, Atalanga promised his brothers that he would return and help cultivate the plantations. One day Atalanga left his son in the upper world to return to the underworld to keep his promise to his brothers, and the inquisitive Kijikiji followed his father.

He saw his father dig a hole in the reeds, climb down and cover the hole before disappearing. Kijikiji followed his father down the hole and saw his father working on the plantations. He climbed a nonu tree, picked off the fruit and bit into it. Atalanga picked up the fruit and recognised that the teeth marks left in the fruit belonged to none other than his son. He called out to him and asked him to help him with the plantation. He instructed his son to obey one rule, not look around when he is digging.

Kijikiji agreed, but as soon as he started digging he turned around and noticed that the weeds magically reappeared. His father saw him and told him to stop, go to the house and ask for some fire to cook their food. Not knowing what fire was, Kijikiji quickly went into the house and asked for some fire. The spirit in the house gave him a stick that was burning on one end. Kijikiji was amazed with the orange flame and the sparks flying from it.

After they ate their food, which tasted much better cooked on the fire, they headed home. Atalanga warned Kijikiji to leave the fire stick in the underworld. Before climbing back up through the hole, Atalanga could smell something burning. He turned to his son and saw that he still had the fire stick in his hands. Atalanga threw the stick away.

He did not notice that Kijikiji's tapa had caught fire until they had climbed through the hole to earth. Atalanga was angry and called on the rain to put out the fire, but Kijikiji whispered to the fire to escape to the trees. This story explains that when people rub sticks together for long enough, fire could be released. If dry shrubs were held close and air blown on the sticks, a flame would appear.

Samoa

Ti'iti'i was the son of Talaga. Ti'iti'i was curious about where his father went to work every day. One day, he decided to follow his father and saw his father walk into the forest and disappear through the bushes. Ti'iti'i came to the same place he had seen his father disappear and, rummaging through the bushes, found a hole he could go through. He eventually came across his father working in a plantation.

Talaga told him to keep quiet as this was the garden of a giant. As they ate their meal Ti'iti'i noticed that Talaga used fire to cook the food. He asked his father where this fire came from and he was told it was his payment for working on the plantations. Ti'iti'i went to the house of the giant, who was furious at seeing Ti'iti'i. The giant tried to attack Ti'iti'i. The giant was amazed at Ti'iti''s strength; Ti'iti'i tore off the giant's arm. The giant begged for mercy as Ti'iti'i threatened to tear off the rest of the giant's limbs. As a price for his freedom the giant gave Ti'iti'i the secret of fire.

Niue

In Niue, Maui Matua and Maui Tama lived in Matave. Maui Matua always returned home

with cooked food and Maui Tama never knew where his father obtained his supplies. He followed him one day to Talamaitoga where there grew a cluster of bamboo. When Maui Tama removed this cluster, the pathway to Lalofonua was revealed.

The son saw that his father prepared his food with fire, and knew this was how his father's food was tender and cooked. The parent soon knew he was found out; subsequently, the son stole a burning stick and ran back up to earth. The parent cursed his fire stick, so that everywhere that the son tried to keep the fire burning, it would extinguish as all the trees were wet from rain.

At Talamaitoga he thrust it into a banyan tree and very soon it spread all over the land. When Maui Matua returned to the world above, he realised the fire had spread and could not be controlled.

This was the beginning of fire making. It is known that when fire is needed two sticks are rubbed together. Maui Matua had cursed all the trees so that fire would not be made. Oral tradition has it that the kanumea tree, the cucumber tree, the giant taro and the hulahula banana were all affected by this curse. The kanumea berries turned bitter. The wild cucumber and the giant taro became hot to the taste. The hulahula banana bunch no longer hangs beautifully but stands stiffly upwards to this day because of the curse of Maui Matua.

Hawai'i

Pelehonuamea or Pele is the renowned fire goddess of Hawai'i. Before her birth, her mother was told that the ancestors would arrive with the spirit of this special baby during a storm. Pele's uncle Lonomakua, keeper of the flame, knew all of the secrets of fire. After seeing the reflection of fire in Pele's eyes he knew that Pele would be the next keeper of the fire that burned deep within the Earth.

With her brother and sister and the guidance of the stars, Pele went on a voyage to find her a new home. She landed on an island she named Hawai'I and made Kilauea her home. Pele is known as passionate and vengeful and capable of great envy. She is the protector of the people of Hawai'i.

Cook Islands

According to the traditions of Manihiki, Tangaroa is the origin of fire. Maui journeyed on behalf of humankind to ask Tangaroa for fire. He was encouraged to take the safer and most common road but chose to take the forbidden path of death.

Tangaroa was very angry and attempted to kick Maui to death. Maui cunningly managed to prevent Tangaroa from hurting him and insisted that he received fire. Maui killed Tangaroa in their battle but used incantations to bring him back to life later.

Aotearoa

The fire goddess Mahuika guarded the secret of fire in the fingernails of her hands. The people were afraid of Mahuika, keeping their home fires burning so they did not have to ask her for more fire.

Maui extinguished all the camp fires at night and then ordered his servants to build a fire in the morning. To their astonishment, they found there were no fires at all in the villages, and they did not want to approach Muhuika to ask for more fire. Maui volunteered.

After finding out that she was an ancestor of Maui, Mahuika took off one her fingernails and gave it to Maui. The flames in her fingernails was sufficient to light the humans' fires. Maui put out the flames and went back again until he had tricked her into giving him all but one of the nails of her hands.

Mahuika was angry and threw her last nail into the trees. All the lands were afire and it is in these particular trees that humans take sticks from to rub together and start fire.

Focus group knowledge of fire in the Pacific

Fire is considered a blessing by many contemporary Pacific peoples. It provides warmth and security and enables the cooking of food. It is used to purify and cleanse. Pacific people acknowledge that fire can also be destructive.

In Fiji, according to legend, a great warrior stole fire from the sun. As a gift for defeating the Sun, the sun gave the warrior fire.

In Saleaula, on Savaii in Samoa, the whole village was burnt in a lava fire except for the grave of the village Taupou. The people believe that her purity and the high respect in which she was held is the reason why her grave still stands today.

Another village had carried out forbidden activities on the Sabbath. This brought about volcanic eruptions and a destructive flow of fire on the village.

Rubbing two sticks together to kindle wood dust was used before matches or synthetic fire starters; in Samoa this was referred to as sa'i le afi.

Fire was also used to help grow new crops; in Niue this is called slash and burn. Careful to mark out land boundaries, people start a fire to allow the growth of new arrowroot.

When a fire occurs in the islands

Laying down soil was known to prevent the re-ignition and spread of bush fires. The structure of traditional fale helps to minimise the spread and damage of most fires.

Fire is used to purify and cleanse

Most traditional homes are built with no walls, and pou or poles support the roof. The kitchens or cooking areas are not connected to the fale, which confines cooking fires.

Families and neighbours put out fires with buckets of sea water; otherwise homes are usually left to burn down. Some urbanised areas in the Pacific Islands have fire departments.

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4 Summary

Pacific peoples are a unique, diverse and fast-growing population in Aotearoa/New Zealand. Pacific people have a lower median income than the population median, reflecting entrenched disadvantage facing many Pacific people.

New Zealand fire research has consistently identified a relationship between social and economic deprivation and rates of residential fires. Socio-economically disadvantaged children have a higher risk of fire-related death or hospitalisation. Pacific children appear to be over-represented in fire deaths.

Pacific peoples have a unique combination of fire safety risks and assets.

International fire prevention research has identified that without active official intervention, the fire risks facing Pacific peoples on low incomes will continue to be high.

This study included –

1. A survey of 190 Pacific peoples in Auckland, Wellington and Christchurch
2. Face-to-face interviews with 15 key informants.
3. Four focus group discussions, one each in Auckland and Wellington and two in Christchurch.

This sample was not random or representative of the general Pacific population, but provides valuable qualitative data. Pacific respondents overwhelmingly rated fire safety as very important. Focus groups correctly identified major causes of fire and ways of reducing their household's fire risk.

Thirty percent of survey and key informant households had worked out an escape plan, just over half the proportion in general fire safety surveys. A higher proportion of Pacific than general survey respondents reported keeping matches and lighters up high, out of sight and reach of children. A higher proportion of Pacific than general respondents who smoked said that they smoked outside. A lower proportion of Pacific participants said they left food frying on the stove unattended than in a general survey.

More than half the Pacific survey respondents had talked with their families about fire hazards inside the home and just under half had discussed outside hazards.

More than two-thirds said their home had smoke alarms installed, slightly lower than in two general surveys. It is likely that Pacific tenants without smoke alarms were living in private rental accommodation.

Over a quarter said they had a fire extinguisher handy and almost one in five said they had a fire blanket. Two out of five said they had a fire alarm. The affordability of fire equipment was raised as a barrier by all three groups in this study.

Pacific respondents commonly spoke Pacific languages at home. They preferred face-to-face communication for health promotion, and delivery of health and social services by Pacific organisations. Failing this, they prefer dominant culture organisations to work in partnership with Pacific groups.

Participants wanted communication about fire safety to be conducted in their languages and to use their traditional processes. Pacific communities need to be empowered to identify their own fire safety needs and to develop solutions for themselves.

Pacific peoples have a unique combination of fire safety risks and assets. Risks include poor housing, use of temporary accommodation, overcrowding, routines that may often be interrupted, inadequate knowledge of fire safety practices, and a lack of smoke alarms, other fire prevention equipment and telephones in some houses.

Assets include a high value placed on children and old people, a high degree of interest in fire safety, a high rate of smokers who say they smoke outside, a high rate of households that say they kept matches and lighters away from children, a low rate who say they leave cooking unattended, and close community bonds.

Community injury prevention programmes have been shown to be effective in reducing injury rates. This report recommends 33 initiatives in policy, creating a supportive environment, strengthening community action, developing personal skills and community networks. They included establishment of Pacific community injury prevention programmes and a multi-media Pacific fire safety promotion programme.

5 Introduction

To the knowledge of the investigators, this is the first research in Aotearoa/New Zealand specifically for and by Pacific people about Pacific fire safety knowledge, awareness and behaviour.

5.1 Project aims

The project aimed to –

- ➔ Identify Pacific social trends and their impact on the fire risk, awareness and fire safety behaviours Pacific households.
- ➔ Provide data for evidence-based policy advice about Pacific fire safety attitudes and behaviours.
- ➔ Identify ways that will enable the NZFS to engage meaningfully with Pacific communities.
- ➔ Identify ways of increasing the proportion of Pacific people in the NZFS.
- ➔ Identify strategies to improve Pacific peoples' fire safety.

5.2 Project objectives

- ➔ To undertake a literature review to identify social trends impacting on Pacific families, households and communities and existing knowledge about Pacific fire risk, fire awareness and fire safety behaviours.
- ➔ To survey Pacific peoples about their fire safety awareness, risk and safety behaviours and attitudes that might contribute to fire injuries among Pacific peoples.
- ➔ To assess the preferred health promotion communication modes and media of Pacific peoples.
- ➔ To determine how to best engage with at-risk Pacific population groups.
- ➔ To report back to stakeholder Pacific communities about the results and outcomes of this study.

5.3 Demographics of Pacific peoples in Aotearoa

Pacific peoples have been in Aotearoa/New Zealand for more than a century and have contributed significantly to the political, social and cultural fabric of this society (Finau and Tukuitonga, 2000). Pacific peoples will continue to influence the demographic pattern, socio-cultural features and wellbeing of Aotearoa/New Zealand in the future as the population increases and ages.

The label "Pacific peoples" includes groups with a range of ethnic affiliations and includes many people with more than one ethnicity (Bedford & Didham, 2001). The term "Pacific" in this report refers to the New Zealand population with South Pacific ethnic origin.

There are distinct differences among Pacific peoples in language, social structure and history

The peak years of Pacific migration were the 1960s and early 1970s, when New Zealand needed unskilled labour and encouraged Pacific people to immigrate (Te Ara /Encyclopedia of New Zealand, 2005).

The Samoan ethnic group makes up almost half the Pacific population (49 percent), followed by Cook Islands (22 percent), Tonga (17 percent), Niue (8 percent), indigenous Fijian (3 percent), and Tokelau (2 percent) (Statistics New Zealand, 2003a). However, the Pacific population in Aotearoa/New Zealand includes representatives from over 22 different communities.

Although most groups have similarities, there are distinct differences in language, social structure and history. Within each group there are also differences between those born in Aotearoa/New Zealand, those born overseas and those of multiple ethnicities (Tukuitonga & Finau, 1997).

Three Pacific populations have more members in Aotearoa than in their home countries (Statistics New Zealand, 2002a). The 2001 census count of people in Aotearoa with ancestry from Niue was about ten times the estimated population on the island. There were about four times as many Tokelaua people in Aotearoa for that census as estimated in Tokelau, and the number of Cook Islands Maori in Aotearoa was about two and a half times the estimated size of the population in the Cooks in 2001.

The Pacific population at the time of the 2001 Census was significantly younger than the total population, reflected in a median age of 21 years compared to 35 years for the total population. Thirty-nine percent of the Pacific population is aged under 15, compared to 23 percent of the total population. Only 3 percent of the Pacific population was aged 65 and over compared to 12 percent of the total population.

Pacific peoples are highly urbanised. Ninety-eight percent live in the main urban areas, 66 percent of those in the Auckland region. The 2001 Census also showed that Pacific peoples disproportionately feature in negative social and health indicators.

The Pacific population is projected to reach 414,000 in 2021 (Statistics New Zealand, 2003b). This is an increase of 152,000 or 58 percent over the estimated resident population of Pacific ethnicity of 262,000 at 30 June 2001. In 15 years, they will amount to 9.2 percent of the New Zealand population compared with 6.7 percent in 2001.

5.3.1 Pacific peoples and disability

About 14 percent of Pacific peoples living in New Zealand households in 2001 had a disability. Mobility and agility disabilities were the most common types of disability reported by Pacific adults. Ten percent of all Pacific adults living in households had a mobility disability, and seven percent had an agility disability (Ministry of Health, 2004a).

5.4 Pacific peoples' languages

In 2001, 46% of Pacific peoples were able to hold an everyday conversation in their first language, although this varied between ethnicities. People from Samoan were the most likely to speak their first language (62%), followed by Tongan (54%), Tokelau (40%), Niue and Fiji (26%) and Cook Islands Maori (17%), although this last figure is believed to be an undercount (Statistics New Zealand, 2004a).

Although more than 80% of each major Pacific ethnic group said they spoke English, it is important to note the proportions who did not. They include 19% of Tongan people, 17% of Samoans, 12% of Tokelauans, 9% of Cook Island Maori and Niuean people, and 8% of indigenous Fijians.

A telephone survey of Pacific peoples' alcohol and drug use in 2003 offered Pacific language speakers to interview respondents from the four largest ethnic groups. They carried out 42% of interviews with Tongan participants in Fakalea Tonga; 28% in Gagana Samoa; 13% in te reo Kuki Airani and 1.4% in Vagahau Niue (Pacific Research and Development Services and SHORE/Whariki, 2003).

5.5 Pacific peoples' socio-economic status

5.5.1 Income

Pacific workers were hard hit by job losses from economic restructuring in the 1980s and early 1990s. While Pacific employment rates have since increased, they have not returned to their earlier levels (Statistics New Zealand, 2002b).

The median income for Pacific peoples aged 15 years and over for the year ended 31 March 2001 was $14,800. This compares with a median annual income for New Zealand adults of $18,500. However, there were substantial difference by gender and ethnicity.

In 2001, 46% of Pacific peoples were able to hold an everyday conversation in their first language

Pacific men had an annual median income of $17,800 while Pacific women's median income was $13,000. This has implications for Pacific households headed by solo mothers.

Median annual incomes by ethnicity were $17,100 for Fijian adults, $16,600 for Niuean people, $15,600 for Samoan people, $14,800 for Cook Island Maori, $13,200 for Tokelauan people, $11,800 for Tongans, and $10,100 for Tuvaluans, the seventh largest Pacific ethnicity (Blick, 2003).

These low incomes make it very difficult for many Pacific households to manage basic needs for food and shelter. A summary of housing and health research cited two studies showing the stresses facing some Pacific households. The 1997 National Nutrition Survey found that 12% of households report feeling stressed because of not having enough money for food; almost a third of these were Pacific households (Rankine, 2005, p11).

A national survey of a random sample of low-income households published in 1999 found similar difficulty in affording essential foods. It also found that over half the households had not been able to afford to visit a doctor when they needed to and two out of five had been unable to visit the doctor at least three times. Pacific participants described having to choose between food, heating, medical care and obligations to their families in the Pacific.

In 2001, two out of five Auckland households in the bottom 20% income band were paying unaffordable rents; more than double the proportion in 1988 (Rankine, 2005). Pacific households were among those much more likely to live in unaffordable housing.

As well as meeting basic needs on low median incomes, Pacific households often have financial obligations to their church and their extended family around New Zealand and in their country of origin.

Their economy may not be based on individual households but on their extended family. Money earned by members of a household may be a resource for the extended family, and decisions on how it is spent may be made by a senior family member who does not live in the household (Fleming, 1997).

These financial obligations embed many Pacific families in a web of reciprocal arrangements and form part of strong community bonds.

5.5.2 Occupation

According to the *Pacific Peoples Census Snapshot*, nearly two out of three Pacific adults were in paid work in the 2001 Census. The most common occupation groups for Pacific adults were plant and machine operators and assemblers, followed by service and sales workers, and clerks.

Since 1991, there has been an increase in the proportion of Pacific men employed in white collar occupations and Pacific women in technician and associate professional occupations, paralleling a similar change in the total workforce (Statistics New Zealand, 2002b).

5.5.3 Education

In the 1996 Census, 47% of Pacific peoples had no educational qualification, compared with 34% of the total population. Two percent had a degree, compared with eight percent of the total, while 17% of Pacific peoples had another tertiary qualification compared with 25% of the total (Statistics New Zealand, 2004b).

However, post-school qualification levels among Pacific peoples are rising, especially among those born in Aotearoa. The 2001 Census found that New Zealand-born Fijian adults aged 15 and over were most likely to have a post-school qualification (30%) compared to overseas-born Fijian adults (29%).

Figures for other Pacific groups were: Samoan, 23% and 13% respectively; Niuean, 20% and 15%; Cook Island Maori, 19% and 12%; Tokelauan, 18% and 16%; and Tongan, 16% and 10%.

5.5.4 Housing

At the time of the 2001 Census, 26% of the Pacific adult population and 55% of all New Zealand adults owned or were paying off their own home (Statistics New Zealand, 2002a). Ownership rates varied across Pacific populations; they were highest for Fijian adults (31%), followed by Samoan (27%), Niuean (25%), Cook Islands Maori (24%), Tongan (23%), Tokelauan (22%) and Tuvaluan (16%).

Post-school qualification levels among Pacific peoples are rising, especially among those born in Aotearoa

Sixty-two percent of Pacific people lived in rented houses; in Auckland Pacific people made up 44% of Housing New Zealand Corporation tenants (Housing New Zealand Corporation, 2004). A housing research review found that it is almost impossible for the poorest quarter of New Zealand households to buy a house because of the lack of low-income state loans and a drop in their real wages. This rent trap is particularly difficult for Pacific peoples because of their lower median incomes (Rankine, 2005).

This is exacerbated in Auckland, where house prices have risen by more than twice tenant incomes since the 1980s. The majority of Tongan tenants in a recent Otara survey said they would never be able to save enough to buy their own home (‘Alatini, 2004).

There is little reliable data about substandard housing in New Zealand, apart from Building Research Association of New Zealand national house condition surveys.

The 1999/2000 survey found that one in four buildings were in poor condition and the cost of repairing the more serious defects averaged $4,000 per house. Auckland houses were generally in the worst condition. Structural problems included lack of clearance around stoves, a significant fire risk (Rankine, 2005, p22).

The 2001 Census reported only 603 people living in tents, caravans, sheds and boats in the four urban Auckland council areas (Auckland City Council, 2003). This is likely to be a significant underestimate. Otara residents reported “typically” sleeping in uninsulated garages and caravans in a 1999 report (Otara Housing and Health Local Solutions Project, 1999).

One in five Tongan households in ‘Alatini’s 2004 Otara survey used garages for accommodation, and they said this was common among other Pacific households.

The small size of most lower-priced rental houses ensures that any large household will fit at least one official definition of crowding (Rankine, 2005, p16). Eight percent of Auckland households were defined as crowded in 2001 compared to 5% nationally, although official estimates of crowding are acknowledged to be underestimates, particularly for Pacific peoples.

In 2001, 43% of Pacific people lived in households defined as needing extra bedrooms (Statistics New Zealand, 2003c). The number of Pacific children living in overcrowded conditions increased by nearly 8% from 1996 to 2001 (Johnson, 2003).

One in five Pacific households consisted of extended families in 2001, more than six times the rate for Palagi households. Pacific people whose living conditions were defined as crowded were twice as likely to live in an extended family. Around 28% of Pacific people lived in households with seven or more usual residents in 2001 (Statistics New Zealand, 2003c).

One review of fatal domestic fires involving New Zealanders aged 15 to 64 found that over a quarter of these incidents occurred when the usual routine was disrupted. The researchers believed this to be a conservative estimate (Duncanson et al, 2001).

High housing costs, the stresses of crowding and evictions mean that Auckland people on low incomes are much more likely to move house frequently, leading to frequent disruptions in daily routine (Rankine, 2005).

Pacific families often live in environments that undermine good health. The socio-economic factors listed and the breakdown of traditional Pacific support structures contribute to poor health status (Ministry of Health, 1998).

The majority of Pacific peoples perceive good health as a balanced state of physical, spiritual, mental, family and relational wellbeing - more than just the absence of disease. An individual's identity, health and wellbeing are dependent on family connections, heritage, roles and responsibilities.

5.5.5 Access to telephones and transport

In 2001, 18% of Pacific people lived in households without a telephone; the national rate was 5% (Statistics New Zealand, 2002b).

The proportion of Pacific people living in households without a vehicle (14%) in the 2001 Census was almost double the proportion of the general population without access to a car (Statistics New Zealand, 2002b). However, the proportion of Pacific people without access to a vehicle has steadily dropped over the last 15 years.

5.6 Pacific peoples' tobacco, alcohol and other drug use

Smoking rates in New Zealand are highest among groups that are most deprived. Before 2002, the proportion of Pacific smokers had been stable for 15 years at approximately one in three (Public Health Intelligence, 2005).

A 2003 survey found that 38% of Pacific men and 29% of Pacific women had smoked tobacco in the previous 30 days (Pacific Research and Development Services and SHORE/Whariki, 2003). Cook Islands women were more likely to smoke than the Pacific average and more likely to start smoking by age 15; older Tongan women were less likely to smoke.

The Ministry of Health's *Tobacco Facts 2005*, which used data collected in 2004, found that the Pacific smoking rate had dropped to 29%.

The 2003 survey found that 57% of Pacific respondents drank alcohol; 61% of men and 51% of women. Cook Islands women were more likely than the average to drink alcohol, as were Niuean people aged over 30. Men drank on average just over once every two days, drinking an average of nine to ten drinks.

Pacific families often live in environments that undermine good health

Pacific women drank just under once every four days, an average of six drinks on a typical occasion. Samoan women drank less than the average and Cook Islands men under 30 and Cook Islands women drank more than the average.

A third of Pacific drinkers, 41% of men and 25% of women, had drank enough to feel drunk at least once a week in 2003.

Fourteen percent of Pacific men had drunk kava in the last 12 months, and 3% of women. Cook Islands and older Niuean people were less likely to have drunk kava, and Tongan men were more likely. Twenty-one percent of Pacific men had used marijuana in the last year and 13% of Pacific women.

5.7 Pacific peoples and fire injury

New Zealand fire risk research has consistently identified a relationship between social and economic deprivation and rates of residential fires. Urban communities with low household incomes, crowded households, low educational achievement, high unemployment and inadequate parental supervision or support were found to experience nearly three times as many fires as the most affluent and well-housed New Zealanders (NZFS, 2005).

People in these situations are almost six times as likely to have a domestic fire in which someone dies. They are also less likely to live in buildings fitted with smoke alarms (Chalmers, 2000).

A study of Auckland fire-related child injuries in the decade to 1998 found that socio-economically disadvantaged children appeared to have a higher risk of fire-related death or hospitalisation (Kool, 2001).

This result is consistent with a national review of fatal fire incidents and their relationship to deprivation in the same decade, an analysis of spatial patterns in New Zealand fatal domestic fire incidents, and international studies (Duncanson et al, 2000a; Duncanson, 1999; Duncanson et al, 2000b).

The review lists possible explanations for the higher rate of child deaths from fire in socio-economically deprived households, including a higher prevalence of substandard housing, use of flammable foam furniture, reduced capacity to supervise children, and increased access of children to matches and lighters.

Households struggling to pay bills may sometimes have their electricity disconnected, forcing them to use open flame light sources that increase their risk of fire.

New Zealand reviews of fire deaths have also consistently found that children under five and people over 65 were at greatest risk of dying in domestic fires. The vulnerability of these age groups and of people on low incomes is consistent over time and in different countries, unless there are specific effective interventions (Chalmers, 2000).

Pacific children represented 16% of those killed by fire nationally in 2004, although they made up 8% of the child population

Chalmers' Pacific informant pointed out the difficulty of asking people focused on basic immediate survival needs such as food and health to think about fire safety, a much lower priority for them. Chalmers also said that factors such as overcrowding, poverty, ill-health, fatigue and depression, especially for single mothers with young children, increase stress and have detrimental effects on people's energy levels and their ability to cope.

An Auckland and a national study have concluded that Pacific children appear to be over-represented in fire death rates (Kool, 2001; Duncanson et al, 2001). Pacific children made up nine of the 19 Auckland children who died between 1989 and 1998, although Pacific peoples comprised between 18 and 22 percent of the Auckland child population in this period.

All these Pacific children died as a result of house fires; playing with matches or lighters was the most common way in which fatal fires started. Seven of the 10 Auckland house fires resulting in deaths happened in rental properties.

Thirty-seven Auckland Pacific children were hospitalised from fire-related injuries in the decade to 1998; 16 were Samoan, 13 Tongan, six Cook Islands Maori and two Niuean. Kool related 131 of the 148 fires that resulted in children being hospitalised to census mesh blocks. Just over half (53.5%) of these fires occurred in houses in the most deprived Auckland mesh blocks, compared to 10.7% in the most affluent.

Pacific children nationally represented 16% of those killed by fire in 2004, although they made up 8% of the child population (Safekids, 2004). Chalmers' Pacific informant believed that overcrowding in Pacific homes and lack of knowledge about fire safety meant that "there is a disaster waiting to happen".

Information about the three leading causes of injury to Pacific people has been compiled by ethnicity, age group and local authority area in the Auckland region between 2000 and 2004 (Safe Communities Foundation NZ, 2005). One hundred and thirteen children, all but two aged up to four years old, were listed as injured by fire, a hot object or a hot substance. This is not the total number of Pacific people injured by fire, as only the three leading causes of injury were counted. These fire injuries also include injuries outside the home, such as in car crash fires.

Fifty-three of these children were injured in the Manukau City Council area, 44 in the Auckland City Council area and 16 in the Waitakere City Council area. Forty-six of these children were Samoan, 43 Tongan, 14 Cook Islands, 6 Niuean, 2 Fijian, one was from another Pacific community and the Pacific ethnicity of another child was not identified.

Two New Zealand studies commented on the conflation of ethnicity with socio-economic disadvantage. Kool concluded that hazardous environments, poor housing, low incomes, little fire safety knowledge and maternal characteristics may have confounded the effects of ethnicity on injury rates. Chalmers concluded that ethnic minority status is not in itself a risk factor, but is made visible because of its relationship with low income.

5.8 Fire safety knowledge and behaviour

While research information about fire safety attitudes and behaviour is available for Maori and Palagi/European New Zealanders, little is known about these aspects of fire safety for Pacific peoples in Aotearoa/New Zealand.

As a large proportion of Pacific populations are located in Manukau and Porirua, national random survey sampling does not capture sufficient numbers for independent analysis of Pacific responses. Available data often discusses Pacific peoples as a group, with little analysis by other possible variables.

5.8.1 National fire safety data

One national study of New Zealanders' knowledge of fire safety and prevention in 2000 interviewed 750 randomly selected people by telephone; Pacific people made up five percent (CM Research, 2000).

It also carried out 21 in-depth householder interviews, three in Pacific households. Eighty percent of both groups of respondents claimed to have smoke alarms installed, although non-Europeans were less likely to believe that smoke alarms are a good idea. Three-quarters of Pacific peoples did not have either a fire extinguisher or a fire blanket.

Fifty-seven percent of households had an escape plan, but fewer than half of these households practiced it. Motivations for escape plans including school age children who needed to do it for homework, someone with a disability in the household, and knowing someone had died or been injured in a house fire.

The most common unsafe practices people admitted to doing sometimes or often were leaving a pot on the stove when out of the room (48%); having multiple plugs in a power socket with no overload cut-off switch (26); drying clothes close to a heater (20%) and leaving lighters or matches in reach of children (15%). Pacific people were among the groups most likely to say they did these things. The cost of fire safety equipment was one reason for these behaviours.

The study categorised Pacific peoples as among a group it called “Abdicators”. This group believed they were doing everything possible to prevent fires, despite actually taking few precautions.

They did not believe that a serious fire would happen to them and were confident that the Fire Service would save them should a serious fire break out. The study described households where English is a second language as having “a pronounced sense of helplessness with regard to preventing fires”.

The study suggested that 30% of households where English is a second language would respond to fire safety messages communicated through their workplace. It suggested that fire prevention messages should show fire-causing scenarios that these people could identify with.

It recommended that the Fire Service combine with businesses and local authorities to offer free installation and checking services for smoke alarms, electric blankets and house wiring.

Another review of fatal fire incidents found that public awareness of the propensity of aluminium to melt and fuel household fires is generally low (Duncanson et al, 2001).

The study categorised Pacific peoples among a group it called “Abdicators”

5.8.2 Regional data

Another 2000 study, which did not list participant ethnicity apart from Pakeha and Maori, investigated fire safety and prevention knowledge in the Bay of Plenty and Waikato areas, one of a series to do so in this region (Beale & Moroney, 2000). Over half (59%) said they kept matches and lighters out of reach of children, while 11% said children could find them if looking.

Almost half (47%) had an open or enclosed log fire in their home. A large majority (76%) said they had smoke alarms, an increase of four percent on a similar 1998 survey. Fire Service promotions were the most common motivation for having smoke alarms. One-fifth (20%) said their smoke alarms had never been tested, and more than half (57%) said their smoke alarm batteries were replaced at least annually.

Three-fifths (59%) said their household had worked out an escape plan, an increase of five percent since 1998. Most (88%) had never practiced escaping their home, three percent fewer than in 1998.

5.8.3 Information about Maori and fire safety

A Fire Service study in the Bay of Plenty Waikato regions focussed on fire safety and prevention in 300 Maori households (Bay-Waikato Fire Region, 2000). Eleven percent of respondents were fluent in Maori and 26% knew enough te reo Maori to get by. The study found that half (53%) kept lighters and matches within reach of children, and 39% kept them out of reach. Forty-three percent had a smoke alarm installed and 20% of these changed the battery when required. Thirty-two percent had an escape plan in case of a fire.

Research and community consultation about fire safety among Maori resulted in the launch in 2005 of *Maui Tinei Ahi*, a new national curriculum-based education fire safety resource kit for kohanga reo and kura kaupapa Maori. The programme was developed by the NZFS with these schools to match a similar English-language resource.

5.9 Fire safety and smoking materials

Smoking materials were the most common cause of ignition in all fatal New Zealand residential fires between 1978 and 1987 (Waller et al, 1998). Between 1991 and 1997 smoking was associated with 10-17% of fatal fires (Duncanson et al, 2001).

Kool found a higher rate of Auckland fires were started by children playing with matches and lighters than in the USA, despite New Zealand's lower smoking rates, and said this required more investigation. There is no requirement for landlords in New Zealand to provide safe means of heating, smoke alarms or fire extinguishers (Duncanson et al, 2001).

The development of "fire-safe" or low-ignition cigarettes has a high ratio of benefits in injury prevention to its cost (Duncanson et al. 2000b). Tobacco companies in New Zealand have argued against this, saying that smokers should take responsibility to dispose of cigarettes wisely. However, over 4 million cigarettes are disposed of safely for every one that starts a fire (Duncanson et al, 2001).

The development of "fire-safe" or low-ignition cigarettes has a high ratio of benefits in injury prevention to its cost

As well as smokers keeping houses smoke free by smoking outside, other strategies could include having one lighter per household, kept in a safe place, or for smokers to keep matches or lighters always in their pockets rather than in the house (Duncanson et al, 2001).

5.10 Fire safety in the kitchen

A 1998 study in the Bay of Plenty and Waikato region identified the following factors associated with cooking fires –

- ➔ Cooking with oil, especially fried potato dishes.
- ➔ Boiling dishes for a long time.
- ➔ Cooking one item rather than a meal.
- ➔ Forgetting that the item is being heated.
- ➔ Leaving unused pots of oil or food on the stove when not cooking (Bay-Waikato Fire Region, 1998).

Factors that exacerbating fires were were –

- ➔ Carrying the burning pan to try and take it outside
- ➔ Attempting to smother the fire with an ineffective substance, especially water or salt on a fat fire.
- ➔ People with disabilities being unaware of risks.

Between 1991 and 1997, 27 New Zealanders died in 22 unintentional domestic fire incidents involving a stove top or oven. Twenty-five of these people when food that was left on the stove or in the oven ignited.

Eight of those who died had blood alcohol levels higher than 100mg per 100 mls, and another four had drunk alcohol immediately before the fire (University of Otago, 2001). In 14 of the 20 fatal incidents there was no functioning smoke alarm.

In eight of the 20 incidents, the abandoned cooking had involved oil or fat. In two cases, the pot was aluminium. This study concluded that cooking with fat or oil and using aluminium pots may pose particular fire risks.

5.11 Fire safety equipment

Laws making the installation of smoke detectors compulsory in residential housing have been enacted in many countries, but New Zealand has not done this. Landlords are not required to provide safe means of heating, smoke alarms or fire extinguishers (Duncanson et al, 2001).

In 1998 the Building Industry Authority estimated the ratio of benefit to cost for mandatory smoke alarm installation at 9:1; $9 benefit in reduced injury for every dollar spent (Duncanson et al, 2001).

5.12 Recommendations from fire research

For almost 20 years, researchers have recommended initiatives in public policy, housing and community development to deal with the socio-economic determinants of fire injury (Safekids, 1996; Duncanson et al, 2000c; Chalmers, 2000; Kool, 2001).

Duncanson (1999) used the Ottawa Charter as a framework for health promotion on the issue; recommendations from other studies are paraphrased under the appropriate category.

5.12.1 Build healthy public policy

- ➔ NZFS collaboration with government agencies and NGOs to address socio-economic disparities in New Zealand (Duncanson, 2001).
- ➔ NZFSC support for legislation requiring mandatory installation of hardwired smoke alarms in new dwellings and residential rental accommodation (Duncanson, 1999; Duncanson et al, 2000a; Kool, 2001).
- ➔ NZFSC work with relevant government ministries to ensure safe housing construction and the use of safe means of heating and lighting (Duncanson et al, 2001).
- ➔ NZFSC support for regulations requiring cigarettes to be "fire-safe" (Duncanson, 1999; Duncanson et al, 2000a, 2001).
- ➔ NZFSC support for improved housing affordability (Duncanson et al, 2000a, 2001).
- ➔ NZFSC work with the Ministry of Consumer Affairs on flammability standards for children's clothes similar to those for sleepwear (Kool, 2001).
- ➔ NZFSC work with the Ministry of Consumer Affairs on flammability standards for bedding materials and upholstered furniture (Duncanson et al, 2001).

➔ Accurate official collection of fire data to monitor population-based fire prevention (Duncanson et al, 2001).

5.12.2 Create supportive environments

➔ NZFSC support programmes enabling free installation and maintenance of smoke alarms (Duncanson et al, 1999, 2000a, 2001; Chalmers, 2000).
➔ Hardwiring of alarms so no batteries are needed (Chalmers, 2000; Kool, 2001).
➔ NZFSC and the Insurance Council of NZ investigate premium reductions for clients with hardwired smoke alarms and sprinklers (Kool, 2001).
➔ NZFSC work with HNZC towards retrofitting of sprinklers in HNZC dwellings (Kool, 2001).
➔ NZFSC support to reduce the cost of fire prevention technologies (Kool, 2001).
➔ NZFSC collaborate with other agencies to include fire safety in programmes aimed at improving the wellbeing of people on low incomes (Duncanson et al, 2001).
➔ Intersectoral collaboration with agencies that regularly visit homes, so that they are trained to assess fire safety along with other risks to health (Duncanson et al, 2000a).
➔ NZFSC support for stop smoking programmes (Duncanson et al, 2001).
➔ Pub-based stainless steel cookware promotions could encourage replacement of aluminium pots with stainless steel (Duncanson et al, 2001).

5.12.3 Strengthen community action

➔ NZFSC provide information and support for communities at particular risk of fatal fires to be involved in developing injury prevention strategies and advocacy. (Duncanson, 1999, Duncanson et al, 2000a, 2001; Kool, 2001).
➔ NZFSC gets appropriate cultural advice to develop fire prevention initiatives with Pacific groups (Kool, 2001; Duncanson et al, 2001).
➔ Funding of effective education programmes for caregivers about the dangers of children playing with lighters and matches (Kool, 2001).
➔ Develop community injury prevention programmes to promote safer cooking and the use of steel rather than aluminium cookware (Duncanson et al, 2001).

5.12.4 Develop personal skills

➔ Involve vulnerable communities in developing interventions in ways that help build skills to improve housing stock (Duncanson, 1999).
➔ Recruit Pacific staff to the Fire Service and provide fire safety skills training for Pacific health promoters (Victoria University, 2001).

5.12 5 Develop community networks

➔ Develop reciprocal relationships between fire agencies and leaders and organisations in vulnerable communities (Duncanson, 1999).
➔ Build the capacity of Pacific peoples to promote fire safety in their communities (Health Research Council, 2004).

5.12.6 Re-orient health services

➔ Collaborate with health professionals on advocacy for safer environments and investment in prevention (Duncanson et al, 2000b).

Chalmers cited international research findings that suggest door-to-door distribution as the most cost-effective method of smoke detector distribution.

However, informants in her study said that old people were unfamiliar with developments in fire prevention technology such as smoke alarms; that many had rejected an offer of free installation of smoke alarms; and that outside agencies would need to be responsible for replacing the alarm batteries.

Accurate and comprehensive data collection is essential to monitor patterns of fire-related injury, and to evaluate population-based fire prevention strategies (Duncanson et al, 2001).

While current New Zealand Fire Service data may be used with confidence, it could be improved with ongoing education of fire fighters about the importance of data, the inclusion of additional data fields, and links with health service data to increase case accuracy. Separate coding of fire-related deaths in the index to coroners' files would also assist case identification and retrieval of data.

5.13 Community fire injury prevention

Three community injury prevention projects that included fire-related activities reduced injury rates

Housing New Zealand Corporation has collaborated with the NZFSC on Te Kotahitanga, a fire safety programme operating in Northland, the East Coast and eastern Bay of Plenty. The programme installs smoke alarms and develops home escape plans for privately-owned properties in rural communities in these areas.

Evaluations of three other community injury prevention projects that included fire-related activities found that they reduced injury rates.

An evaluation of a smoke alarm distribution programme in eight Eastern Bay of Plenty communities in the late 1990s found that between seven months and more than two years later, 72% of houses had at least one functioning smoke alarm (University of Otago, 2000).

Thirty households (7%) said that the alarm had warned of fire in this time, and at least seven of these incidents had similar characteristics to recorded fatal fires. The evaluation recommended that the NZFS fund and develop smoke alarm installation projects.

The evaluation of the Waitakere Community Injury Prevention Project acknowledged that the task of developing and implementing injury prevention strategies in more than seven different Pacific communities is challenging (Coggan et al, 2000). The evaluation said: "It is important that the flexibility required to establish appropriate cultural procedures and practices for all cultures represented in the community is recognised."

The project, which ran from 1995 to 1997, employed three co-ordinators – Maori, general and Pacific. Pacific peoples make up 11% of the Waitakere population and made up one of the priority areas for the project. Fire-related activities included education about burns and scalds for children, hazard reduction at home and smoke alarms for older people.

The evaluation found that Waitakere was the only community to show a decrease in injury hospitalisation rates during and immediately after the project, and concluded that the community injury prevention model appears to be an effective strategy.

Another study evaluated the Turanganui-a-kiwa Community Injury Prevention Project among Maori in the East Coast from 1996 (Injury Prevention Research Centre, 2002). The project focused on three different types of injury with different age groups, including fire safety with older adults. Before the project none of the kaumatua had correctly installed smoke alarms in their homes, and afterwards all 120 kaumatua homes had alarms.

Service providers need a good understanding of the socio-cultural background of Pacific individuals, families and their contexts

The project developed a relationship between kaumatua and the Fire Service to identify emergency exit plans and to monitor the alarms and their battery life. The evaluation found that injury rates for Turanganui-a-kiwa declined between 1997 and 1999 while rates for a comparison community increased.

5.14 Health promotion with Pacific communities

There is a plethora of literature suggesting that people from minority communities experience racial discrimination, services that fail to meet their needs, as well as language and cultural barriers in accessing information and services (National Community Fire Safety Centre Toolbox, 2004; Rankine, 2005, p9).

Pacific peoples are familiar with health, social and justice services yet continue to experience significant barriers in accessing primary and secondary care. These barriers are often due to the cost of services but may also reflect other dimensions of access, including cultural (Ministry of Health & Ministry of Pacific Island Affairs, 2004).

The complex nature of Pacific communities requires leadership approaches that are multi-faceted and culturally competent. For example, Chalmers' Pacific informant did not believe that educating school children as a way of educating their families would work for Pacific peoples, as Pacific children are required to defer to adults.

Jansen and Sorrenson, writing on culturally competent health care, suggested that building leadership capacity is a strategy for engaging Pacific communities to reduce disparities and other negative outcomes.

They said that working with Pacific communities should include:

- ➔ Establishing and maintaining trust with Pacific communities, particularly when there may be a history of adversarial relationships or distrust
- ➔ Effectively sharing resources in the face of competing needs
- ➔ Sharing power and ensuring contributions are valued and respected
- ➔ Using culturally competent communication modalities to provide Pacific partners with timely access to information.

One report on the translation of safety knowledge said that ensuring that fire fighters reflect the diversity of the community and promote safety in ways that are sensitive to the needs of groups most at risk could improve safety promotion (Victoria University, 2001).

Ultimately, the study concluded that the specific needs of targeted community outreach may mean that safety promoters work alongside fire fighters in some communities.

High-quality service delivery for Pacific peoples that is accessible, effective and cost efficient requires providers to have a good understanding of the socio-cultural background of Pacific individuals, families and their contexts.

This includes their demographics, cultural norms, support structures and variations within each population group; audience engagement through relationships and shared objectives; understanding behavioural drivers; and the identification of key issues and implementation of a plan of action (Brown, 2005).

For example, it should not be assumed that all Pacific peoples have the same preferences, or that an individual's choices will remain static over time. This is due to the diversity within and between cultures, and the development and change that occurs in all cultures over time. For this reason, appropriate collection and review of ethnicity data underpins the delivery of culturally competent responses to individuals and communities (Jansen & Sorrenson, 2002).

For most Pacific peoples, language and custom are the cornerstones of maintaining cultural integrity. The support and promotion of first languages is a crucial principle (Tiatia et al, 2006; Health Research Council of New Zealand, 2004).

To achieve this, culturally competent organisations and providers ideally will have staff bilingual in the main Pacific languages, or access to accredited interpretation services (Jansen & Sorrenson, 2002). Consumers and their families will also need key information in their own languages.

Chalmers' Pacific informant agreed, saying that communication about fire safety with Pacific communities would need to be conducted in their languages and use their traditional processes, to "go where they go" and provide information in ways they understand.

Resource materials should be developed in partnership with Pacific communities so that cultural sensitivities and appropriateness are considered in their design and use of messages.

Communication about fire safety with Pacific communities would need to be in their languages and use their traditional processes, to "go where they go"

The Health Research Council's *Pacific Health Research Guidelines* are a useful blueprint for health promotion as well as health research. They suggest the establishment of a Pacific Advisory Committee or similar infrastructure, carefully chosen to reflect knowledge of the issue, credibility with their communities, ethnic balance and regional representation (HRCNZ, 2004).

The most fundamental principle to consider when engaging Pacific communities is the inherent ability of communities to recognise their own problems - in this case the fire safety concerns of its members - and to intervene or develop solutions appropriately for themselves. For example, Chalmers suggested that focus groups of mothers in church-based or Pacific childcare groups could develop and test ideas for fire safety resources for single parent families.

Effective fire safety messages targeting Pacific families and their communities should encourage active participation of Pacific peoples as the designers, developers and implementers, working in close partnership with the New Zealand Fire Service (Ministry of Health, 2004b).

This enables a "by Pacific, for Pacific" approach. Another fire study supported partnerships between majority culture and Pacific groups as an effective tool in improving overall fire prevention outcomes for Pacific communities (Duncanson et al, 2002).

An essential component of providing excellence in planning, development and service delivery to Pacific peoples is a well-trained and skilled workforce. This workforce needs to be guided and supported by the development of cultural competencies and best practice guidelines (Ministry of Health, 2004b).

Existing official systems and structures need to acknowledge the beliefs and practices of the diverse Pacific population in Aotearoa/New Zealand. Pacific communities should be supported to develop more effective and innovative models of service delivery in fire safety and other health-related areas (Tukuitonga & Finau, 1997).

The Fire Service, with its many local networks, is well placed to engage with Pacific communities. The service has made attempts to represent the community it serves and is actively recruiting Pacific peoples as they are currently under-represented in the workforce.

6 Methodology

This study included three parts –

➔ A survey of 190 Pacific peoples in Auckland, Wellington and Christchurch
➔ Interviews carried out face-to-face with 15 key informants.
➔ Four focus group discussions, one each in Auckland and Wellington and two in Christchurch.

Data collection processes in this study have been guided by the 12 ethical principles in the *Pacific Health Research Guidelines* (Health Research Council, 2004). They are: Relationships, respect, cultural competency, meaningful engagement, reciprocity, utility, rights, balance, protection, capacity building, and participation.

Methodologies took a collaborative approach with stakeholders to ensure that the research was done* with *them rather than* to *them.

Methodologies took a collaborative approach with stakeholders to ensure that the research was done *with* them rather than *to* them. All participants signed and written consent forms that explained the study's aims and stated that their participation was voluntary and confidential and their anonymity would be maintained.

The project team was committed to ensuring that appropriate Pacific cultural protocols and processes were embedded in the research design, implementation, analysis, report writing and dissemination. The team ensured that -

➔ Pacific ownership of the cultural processes and aims of the project was upheld.
➔ Pacific expertise was included in the project's design and development.
➔ Consultative and culturally appropriate processes were used.
➔ Engagement and participation of respondents was safe.

6.1 Surveys

The general and key informant questionnaires were developed in consultation with the project team's Advisory Group and the NZFS Advisory Group. Request and thank you letters to respondents were endorsed by the NZ Fire Service.

The general survey participants were found in several ways. Some were approached directly at church, Pacific functions, fono and other events through NIU Development's national networks; some were snowballed from the initial interviewees; and a few were contacted by telephone.

The majority of general surveys (170) were carried out face-to-face, enabling interviewers to answer any queries respondents had. Twenty surveys were completed over the telephone. Niu Development provided a mea 'ofa or koha towards participants' expenses and time.

6.2 Focus groups

There were four focus groups in this research project. One each was held in Auckland and Wellington and two were held in Christchurch. One Christchurch group was for older participants and one for youth.

In attendance were key stakeholders, representatives from several Pacific and mainstream health providers, Pacific and mainstream community services and youth group representatives, as well as supportive members of the community.

Focus groups were guided by cultural protocols. This meant that all focus group meetings started with a lotu. Focus groups began with a warm welcome followed by introductions of the research team and an overview of the research project. A video provided by NZFS was screened to show the impact, speed and destructive power of fire.

Focus groups included general discussion and ethnic-specific discussion, often in first languages, to concentrate on how best to address fire safety within our Pasefika communities. All focus groups ended with a lotu. The focus groups and many survey respondents indicated that they enjoyed their meetings and found the questionnaire informative and a stimulus to action. They were grateful for the opportunity to present their views and air their perspectives about Pacific fire safety.

The *Pacific Health Strategic Plan* encouraged Pacific peoples to -

➔ Research their own communities.
➔ Set research agendas.
➔ Drive research projects.
➔ Investigate and address their own priorities.
➔ Create their own knowledge.
➔ Discover their own solutions (Health Research Council, 2005).

The project team also agreed with the plan that the relevance of this research should:

➔ Target a major health problem.
➔ Address an area of priority and need.
➔ Make a difference.
➔ Tangibly improve health outcomes.
➔ Help to reduce disparities by increasing understanding.

➔ Increase the wellbeing of the Pacific community.

The project team believes that *Puipuiaga* fulfils these criteria.

6.3 Limitations

The main limitation of the study was the size of the sample, which made detailed ethnic-specific analyses impossible. As the sample was not random, the quantitative findings cannot be used to generalise about the wider Pacific communities in Aotearoa New Zealand.

However, the qualitative findings about barriers to getting fire equipment, Pacific preferences for health promotion, and ways for the NZFS to engage meaningfully with Pacific communities showed agreement between the three study strands and congruence with similar earlier research.

Despite the limitations of the sample, the project team believes the results provide significant new information and important insights into Pacific fire safety issues and needs.

7 Findings

7.1 General survey

The sample population was 190; 65 from Auckland, 65 from Wellington and 60 from Christchurch. Fifteen key informants were also interviewed and their responses are included in this section where appropriate.

7.1.1 Ethnic distribution

Ethnicity	Number	Percent
Samoa	69	36
Niue	45	24
Tonga	44	23
Cook Island	27	14
Tokelau	5	3
	190	**100**

The ethnic mix of the sample was not representative of their proportions in the population of Aotearoa. Samoan (a total of 69 responses) and Cook Islands people (27) were under-represented, while Tongans (44) and those of Niue descent (45) were over-represented.

7.1.2 Gender

More men (108; 56.8%) than women (78; 41%) were interviewed. Four interviewees did not state their gender.

7.1.3 Age

The sample included people aged from 16 to over 66; the biggest age group was those aged 16 to 25.

Age group	Number	Percent
16-25	65	34.2
26-35	37	19.5
36-45	42	22.1
46-55	30	15.8
56-65	6	3.2
66+	7	3.7
Did not answer	3	1.6
	190	**100**

7.1.4 Language mostly spoken in the home

Sixty-six (35%) of respondents spoke only a Pacific language at home. Tongan was the most commonly spoken language of the five in the sample (72.7%), followed by Tokelau (60%, although the numbers are very small), Gagana Samoa (24.6%), Te reo Kuki Airani (22%) and Vagahau Niue (15%).

Language	Number	Percent of total	Percent of language gp
Te reo Kuki Airani	6	3.2	22
Te reo Kuki Airani and English most of the time	8	4.2	29.6
Te reo Kuki Airani and English some of the time	5	2.6	18.5
Vagahau Niue	7	3.7	15.5
Vagahau Niue and English most of the time	1	0.5	2
Vagahau Niue and English some of the time	2	1	4
Gagana Samoa	17	8.9	24.6
Gagana Samoa and English most of the time	9	5.3	13
Gagana Samoa and English some of the time	13	6.8	18.8
Samoa and Niue	1	0.5	1.4
Samoa and Kuki Airani and English mostly	1	0.5	1.4
Tokelau	1	0.5	20
Tokelau and Samoa	2	1	40
Tokelau and English most of the time	1	0.5	20
Fakalea Tonga	32	16.8	72.7
Fakalea Tonga and English most of the time	2	1	4.5
Fakalea Tonga and English some of the time	7	3.7	15.9
English	1	0.5	
English most of the time	59	31	
English some of the time	5	2.6	
Did not answer	10	5.3	
	190	**100.6**	

7.1.5 Occupation

Forty-five percent of the sample had either no income (students, full-time mothers) or low incomes (beneficiaries or pensioners).

Status	Number	Percent
Employed	95	50
Unemployed/beneficiary	30	15.8
Self-employed	6	3.1
Student	41	21.6
Retired	7	3.7
Mother/housewife	7	3.7
ACC	1	0.5
Nanny	1	0.5
Did not answer	2	1
	190	**99.9**

7.1.6 Housing status

Only 136 of the respondents gave their housing status; possibly many of the young people misunderstood the meaning of the question. Of those 136, 35.3% owned their own home, 34.6% rented from Housing New Zealand Corporation and 29.4% from a private landlord. However, the answers to question [x] indicate that many living in rented accommodation may not have stated this.

Housing status	Number	Percent
Own home	48	25.3
Living with parents/family	46	24.2
State house tenant	40	21
Private rental tenant	40	21
Boarding	13	6.8
Emergency accommodation	1	0.5
Did not answer	2	1
	190	**99.8**

7.1.7 House insurance

Insured	Number	Percent
Yes	73	38.6
No	78	41
Unsure	36	18.9
Did not answer	3	1.5
	190	**100**

7.1.7 a) House insurance by housing status

Those insured	Number	Percent
Owned	45/48	93.7
Rented	15/136	11
Other status	13	
	73	

7.1.8 Contents insurance

Insured	Number	Percent
Yes	75	39.4
No	65	34.4
Unsure	41	21.6
Did not answer	9	4.7
	190	**100**

7.1.8 a) Contents insurance by housing status

Those insured	Number	Percent
Owned	36/48	75
Rented	28/136	20.6
Other status	11	
	75	

7.1.9 Which best describes what your home is built of?

Housing structure	Number	Percent
Brick	50	26.3
Wooden	97	51
Brick and wood	1	0.5
Did not answer	42	22.1
	190	**99.9**

7.1.10 Which best describes the height of your home?

Height	Number	Percent
One storey	51	26.8
Two or more storeys	33	17.4
Did not answer	106	55.8
	190	**99.9**

7.1.11 How many people live at home?

Ninety-two people (31.5%) lived in households of more than five people.

Number of residents	Number of respondents	Percent
1	6	3.2
2	20	10.5
3	26	13.7
4	41	21
5	33	17.4
6	25	13.2
7	16	8.4
8	8	4.2
9	3	1.6
10	5	2.6
11	1	0.5
12	2	1
Did not answer	3	1.6
Not applicable	1	0.5
	190	**99.4**

7.1.12 a) Which of these best describes your household type?

Just over half the respondents lived in a two-parent household, and one third in a one-parent household.

Household type	Number	Percent
Two-parent household	101	53.2
One-parent household	63	33.4
Lives on their own	2	1
Boarder	1	0.5
All adults	1	0.5
Couple with no children	1	0.5
Couple with two hosted students	1	0.5
Flatmates	2	1
Did not answer	18	9.5
	190	**100**

7.1.12 b) Extended family

Extended family	Number	Percent
Yes	53	27.9
No	81	42.6
Other (did not specify)	2	1
Boarders	1	0.5
Flatmates	1	0.5
N/A (did not specify)	1	0.5
Did not answer	51	26.8
	190	**99.8**

7.1.13 a) Do you have anyone at home with a disability?

One in seven of the respondents said they lived with someone who has a disability.

Member with disability	Number	Percent
Yes	27	14.2
No	162	85.3
Did not answer	1	0.5
	190	**99.9**

Only fourteen named the disability; ten of these were conditions that limited mobility. They included stroke; limited mobility due to illness and back, knee and hip surgery; chronic inflammatory demyelinating polyneuropathy; arthritis; blindness; nerve damage to left foot; obesity and blindness; broken leg; invalid and elderly. Other conditions included epilepsy; learning disability and ADHD; bowel problems and haemophilia.

7.1.13 b) If there was a fire, would there be any problems in getting out of the home quickly for the person with a disability?

Difficulty escaping	Number	Percent
Yes	13	48.1
No	11	40.7
Unsure	2	7.4
Did not answer	1	3.7
	27	**99.9**

7.1.14 If there was a fire, who in your home would be responsible for getting everyone outside to safety or ringing the fire service?

Including those who did not answer, 62 people (32.6%) did not know or did not name someone who would be responsible for fire safety in their household.

Responsible person	Number	Percent
Father	16	8.4
Mother	9	4.7
Parents	22	11.6
Myself	67 (There were references to the eldest)	35.3
Anyone at home at time of the fire	42	22.1
Husband	2	1
Children	2	1
Siblings	3 (Two referred to older siblings)	1.6
Adults	2	1
Head of the household	1	0.5
Nana	2	1
Renting landlord	1	0.5
Named individual	1	0.5
No one	1	0.5
Unsure	1	0.5
Did not answer	18	9.5
	190	**99.7**

7.1.15 If you are living in a rental home, did the landlord put in place the following to ensure you home is fire safe?

One hundred and thirty-six people (71.6%) of the respondents answered this question; this is likely to be a more reliable indicator of housing status than question 7.1.6.

7.1.15 a) Fire alarms

Fire alarms	Number	Percent
Yes	83	61
No	44	32.3
Did not answer	9	6.6
	136	**99.9**

7.1.15 b) Fire extinguisher

Fire extinguisher	Number	Percent
Yes	27	19.8
No	91	66.9
Did not answer	18	13.2
	136	**99.9**

7.1.15 c) Safe exits for safe escape

Safe exits	Number	Percent
Yes	54	39.7
No	54	39.7
Did not answer	28	20.6
	136	**99.9**

7.1.16 On a scale of 1 – 10 (1 being "not important" and 10 being "very important") how important do you think fire safety is?

Ninety-one percent of respondents ranked fire safety from 8 to 10.

Ranking fire safety	Number	Percent
1-4	0	0
5	3	1.6
6	5	2.6
7	6	3.2
8	10	5.3
8.5	1	0.5
9	17	8.9
9.5	1	0.5
10	143	75.3
Did not answer	3	1.6
	190	**99.5**

7.1.17 a) Are all matches and lighters kept up high, out of sight and reach of children?

Out of reach	Number	Percent
Yes	149	78.4
No	18	9.5
Unsure	20	10.5
Not applicable	2	1
Did not answer	1	0.5
	190	**99.9**

7.1.17 b) Do children in your home know to take found matches or lighters to an adult straight away?

Found lighters/matches	Number	Percent
Yes	122	64.2
No	31	16.3
Unsure	31	16.3
Not applicable	3	1.6
Did not answer	3	1.6
	190	**100**

7.1.18 Are you aware that overloading (putting too many plugs in power points and multi-boxes) can start fires?

Too many plugs	Number	Percent
Yes	140	73.7
No	37	19.5
Unsure	11	5.8
Did not answer	2	1
	190	**99.9**

Cooking

7.1.19 When frying/deep frying, do you:

7.1.19 a) Stay close by?

Stay close to cooking	Number	Percent
Yes	146	76.8
No	40	21
Not applicable	3	1.6
Did not answer	1	0.5
	190	**99.9**

Keep fire prevention tools handy?

7.1.19 b) Fire extinguisher

Extinguisher when cooking	Number	Percent
Yes	52	27.4
No	117	61.6
Not applicable	20	10.5
Did not answer	1	0.5
	190	**100**

7.1.19 c) Pot lid

Pot lid when cooking	Number	Percent
Yes	142	74.7
No	35	18.4
Not applicable	1	0.5
Did not answer	12	6.3
	190	**99.9**

7.1.19 d) Fire blanket

Fire blanket	Number	Percent
Yes	35	18.4
No	136	71.6
Not applicable	16	8.4
Did not answer	3 (does not own one)	1.6
	190	**100**

7.1.20 Do you know what steps to take to stop a fire from happening when you are cooking?

A majority of respondents said they knew how to stop a fire when cooking.

Stopping cooking fires	Number	Percent
Yes	114	60
No	70	36.8
Did not answer	6	3.2
	190	**100**

Thirteen descriptions were recorded. Three of these were unsafe or ineffective. They included “water”; the “use of baking ingredients such as baking soda or salt”; and “shaking a wet towel over the flames”.

Other descriptions included:

➔ Smother with fire blanket or put out with appropriate fire safety equipment.
➔ Cut off air supply to fire by placing lid over.
➔ Turn off stove then use soaked cloth to put out fire or prevent fire from spreading.
➔ Throw baking soda over fire to extinguish it; try and turn off the power, if unsuccessful call 111 and evacuate.
➔ Turn off element.
➔ Use bigger pans when using large amounts of oil or when frying.
➔ Keep an eye on cooking, use appropriate temperature.
➔ Turn pan handles to the back.
➔ Make sure flammable items are kept away from the oven, such as cooking oils or towels.
➔ Use timer on oven.

Home safety

7.1.21 a) How many doors lead into/outside your home?

Four percent of respondents lived in a home with one fire exit.

Number of fire exits	Respondents	Percent
1	8	4.2
2	96	50.5
3	63	33
4	15	7.9
5	5	2.6
6	1	0.5
7	1	0.5
Did not answer	1	0.5
	190	**99.7**

Please indicate where they are.

Place	Number
Front	180
Back	167
Side	61
Sliding door	7
Garage	6
Fire exit upstairs	1
Bedroom	1
Big windows	1
Other door	1

7.1.21 b) Are the passageways/hallways cleared for a clear escape when you need it?

Clear passages	Number	Percent
Yes	175	92.1
No	15	7.9
	190	**100**

7.1.22 a) Do you have smoke alarms in your house?

Smoke alarms	Number	Percent
Yes	130	68.4
No	54	28.4
Unsure	6	3.2
	190	**100**

7.1.22 b) Smoke alarms by housing status

Those alarmed	Number	Percent
Owned	32/48	66.6
Rented	63/136	43.4
Other status	35	
	130	

7.1.22 c) If ‘Yes’, do you dust the smoke alarm with a vacuum cleaner brush every six months?

Dust alarms	Number	Percent
Yes	59	45.4
No	54	41.5
Unsure	16	12.3
Did not answer	1	0.7
	130	**99.9**

7.1.22 d) Do you test smoke alarms each month by pushing the test button to ensure it beeps?

Test smoke alarms	Number	Percent
Yes	69	53
No	47	36.1
Sometimes	2	1.4
Unsure	12	9.2
	130	**99.7**

7.1.22 e) Do you change the battery when required?

Change battery	Number	Percent
Yes	88	67.7
No	29	22.3
Unsure	13	10
	130	**100**

7.1.22 f) Changing batteries by housing status

	Number	Percent
Owned	24/48	50
Rented	42/136	30.8
Other status	22	
	88	

7.1.23 Do you own any other fire safety equipment?

7.1.23 a) Fire extinguisher?

This response is likely to include home owners.

Fire extinguisher	Number	Percent
Yes	44	23.2
No	143	75.3
Did not answer	3	1.5
	190	**100**

7.1.23 b) Fire blanket?

Fire blanket	Number	Percent
Yes	28	14.8
No	152	80
Did not answer	10	5.2
	190	**100**

7.1.24 a) Does your home have a fireplace?

Fireplace	Number	Percent
Yes	81	42.6
No	108	56.8
Did not answer	1	0.5
	190	**99.9**

7.1.24 b) Do you use a fire guard over your fireplace?

Fire guard	Number	Percent
Yes	56	69.1
No	21	25.9
Unsure	1	1.2
Not applicable	2	2.4
Did not answer	1	1.2
	81	**99.8**

7.1.25 Are heaters kept at least one metre away from curtains, furniture and bedding?

Clearance round heaters	Number	Percent
Yes	147	77.3
No	17	8.9
Usually	1	0.5
Do not own a heater	22	11.6
Did not answer	3	1.6
	190	**99.9**

7.1.26 Do you have any of the following inside your home?

7.1.26 a) Bar heater in the bathroom

Bathroom heater	Number	Percent
Yes	54	28.4
No	129	67.9
Did not answer	7	3.7
	190	**100**

7.1.26 b) Non-slip rug in the bathroom

Bathroom rug	Number	Percent
Yes	111	58.4
No	76	40
Did not answer	3	1.6
	190	**100**

7.1.26 c) Identifier on clear glass sliding doors

Identifier on glass	Number	Percent
Yes	41	21.6
No	132	69.5
n/a	7	3.7
Did not answer	10	5.2
	190	**100**

7.1.27 a) Do you smoke (cigarettes, other)?

Smokers	Number	Percent
Yes	69	36.3
No	120	63.1
Did not answer	1	0.5
	190	**99.9**

7.1.27 b) Smoking by ethnicity

Smokers	Number	Percent
Tokelau	3	60
Samoa	28	41
Niue	16	36
Tonga	15	34
Cook Island	7	26
	69	

7.1.27 c) Where do you usually smoke at home?

Smoking location	Number	Percent
Inside	1	1.4
Outside	49	71
Inside and outside	17	24.6
Did not answer	2	2.9
	68	**99.9**

7.1.27 d) Do you put your cigarette butts out in a suitable ashtray and empty it regularly?

Butt disposal	Number	Percent
Yes	57	82.6
No	7	10.1
Unsure	3	4.3
Did not answer	2	2.9
	69	**99.9**

Fire safety outdoors

7.1.28 a) Do you fry/deep fry/BBQ/use a portable gas burner?

Cooking outdoors	Number	Percent
Yes	109	57.4
No	80	42.1
Did not answer	1	0.5
	190	**100**

7.1.28 b) Do you keep a fire extinguisher handy?

Fire extinguisher outdoors	Number	Percent
Yes	29	26.6
No	65	59.6
Unsure	3	2.7
Not applicable	3	2.7
Did not answer	9	8.2
	109	**99.8**

7.1.28 c) Do you keep a pot lid handy?

Pot lid outdoors	Number	Percent
Yes	74	67.9
No	28	25.7
Unsure	2	1.8
Not applicable	1	0.9
Did not answer	4	3.7
	109	**100**

7.1.28 d) Do you keep an oven tray handy?

Oven tray outdoors	Number	Percent
Yes	67	61.5
No	30	28.1
Unsure	2	1.8
Not applicable	1	0.9
Did not answer	9	8.2
	109	**100.5**

7.1.28 e) Other fire safety tools?

➔ Salt
➔ Baking soda
➔ Fire hose
➔ Gloves and other essential equipment
➔ Fire safety equipment is unaffordable.

29 a) Do you cook food in an umu/hangi/lovo?

Umu	Number	Percent
Yes	49	25.8
No	135	71
Unsure	4	2.1
Did not answer	2	1
	190	**100**

7.1.29 b) What the fire prevention methods are used when cooking in an umu/hangi/lovo?

➔ Make sure the hose is always near by.
➔ First aid kit.
➔ Plenty of people around in case something happens.
➔ Make sure you are doing the umu a safe distance from the house or fence.
➔ Always stay close by.
➔ Wet newspaper.
➔ Wet sacks.
➔ Make sure children are not running around.
➔ Soil is available.
➔ Do not try to overload the umu with wood/fire/stone in case it will get out of control.
➔ Access to a phone.

7.1.30 Have you noticed any fire hazardous practices used by your household outdoors?

Practices mentioned included not wearing shoes, wearing rubber shoes and not wearing protective gloves.

Hazardous practices	Number	Percent
Yes	6	3.2
No	25	13.1
Sometimes	1	0.5
Did not answer	158	83.2
	190	**100**

Before cooking by umu/hangi/lovo, do you:

7.1.31 a) Get a permit from the city council?

Umu permit	Number	Percent
Yes	30	61.2
No	19	38.7
	49	**99.9**

7.1.31 b) Inform your local fire station?

Inform fire station	Number	Percent
Yes	31	63.3
No	18	36.7
	49	**100**

7.1.31 c) Inform your neighbours?

Tell neighbours	Number	Percent
Yes	40	81.6
No	9	18.4
	49	**100**

7.1.32 Do you regularly clear away household rubbish and keep it away from the house?

Rubbish way from house	Number	Percent
Yes	174	91.6
No	8	4.2
Unsure	6	3.2
Did not answer	2	1
	190	**100**

7.1.33 a) Have you talked with your family about fire hazards inside the home?

Discuss hazards inside	Number	Percent
Yes	110	57.9
No	66	34.7
Unsure	12	6.3
Did not answer	2	1
	190	**99.9**

7.1.33 b) Have you talked with your family about fire hazards outside the home?

Discuss hazards outside	Number	Percent
Yes	90	47.4
No	83	43.7
Unsure	15	7.9
Did not answer	2	1
	190	**100**

7.1.33 c) Have you talked with your neighbours about fire hazards from your home or their home?

Discuss with neighbours	Number	Percent
Yes	39	20.5
No	136	71.6
Unsure	12	6.3
Did not answer	3	1.6
	190	**100**

7.1.34 a) Has your household worked out an escape plan in case of a fire?

Escape plan	Number	Percent
Yes	53	27.9
No	135	71
Did not answer	2	1
	190	**99.9**

If 'Yes', please describe your escape plan

Fifteen escape plans were described. All included getting out of the house quickly; seven mentioned a specified safe meeting place at a distance from the home, and four mentioned calling 111.

➔ Button in the house to flick the fire alarm, go to car park outside.
➔ Stop, drop and roll then go to the nearest exit.
➔ If alarm goes off – Get out. Go to assembly area and wait.
➔ Go straight through the nearest exit.
➔ Go to the nearest exit with wet blankets and make sure everyone is evacuated.
➔ Check people in your household. Execute fire drill. Turn off the power. Vacate the house and meet on the other side of the road.
➔ Everyone out. Assigned person checks for closed door and to see if there is anyone left. Take a number check. Wait out front by mail box.
➔ Run out side. Get down – Get low – Get out.
➔ Notify everyone there is a fire. Ring 111. Get out to safety. Exit at back or front door.
➔ Get out from the deck. Escape ladder is the best option.
➔ Get out as fast and any way you can.
➔ Save what we can then take off outside to front car park.
➔ If fire is in the lounge, kitchen or bathroom to use back door. If in the bedroom use the front door as an escape meet across the street as a meeting place and me or my family member shall go next door and dial 111.
➔ If exits are blocked smash a window to break through and escape from the fire.
➔ Get everyone out, stay low and get to the nearest exit run outside to the front of the house where the assembly pole is. Leave everyone there and tell them to stay there with family wife go ring 111.

7.1.34 b) Evacuation plan by ethnicity

With plan	Number	Percent
Tokelau	2/5	40
Niue	17/45	37.7
Cook Island	9/27	33.3
Samoa	19/69	27.5
Tonga	6/44	13.6
	53	

7.1.34 c) Does your household practice your escape plan at least every six months?

Practice escape	Number	Percent
Yes	12	22.6
No	36	67.9
Annually	3	5.6
Did not answer	2	3.8
	53	**99.9**

7.1.35 Have you noted any other points about fire hazards that have not been noted so far?

➔ There should be resources written in our own language so that our elderly can understand.
➔ Recommend that we have our own people educate communities about fire hazards in own language too.
➔ Would like more education about fire safety - request for any workshop or training.
➔ Empower public and community especially Pacific people about fire hazards and how to practise escape plans. Need to know more about fire hazards
➔ Think this survey may assist importance of education about effective fire strategies.
➔ Train community for fire safety and procedures.
➔ More effective TV ads for our Pacific Island peoples.
➔ Fire Service should check all homes for fire equipment; make sure all homes have them, especially our own community
➔ Fire safety should be taken seriously and put into place a fire escape plan for my family.
➔ Houses should come complete with fire safety equipment. Housing NZ should have all of these in homes before tenants move in.
➔ Not enough fire safety messages or information through drop mail.
➔ C'mon guys, get firewise.
➔ Lack of access to information and prevention of fires. Too reliant on cell phones which are not always available or charged.
➔ Watch out for matches, lighters, gas.
➔ Children have lost their lives because kids are playing with lighters - parents and smokers should be more responsible.
➔ Issues or concerns about candles not addressed.
➔ Candles - safe use. Wiring check when need an electrician. Fire type. Fire lighting and petrol (fires).
➔ Piles of rubbish, weeds, cuttings, cut grass in back yard.
➔ Fires that are done on the grass.
➔ How do we deal with bush fires?
➔ Bushfires - people who burn bushes.
➔ Not many PI households practise fire safety techniques so when it does occur there are many risks involved.
➔ What are the expenses of safety items?
➔ How to help someone in a fire.
➔ How to deal with fire escapes in restaurants and other buildings.
➔ Fireworks after Guy Fawkes Night.
➔ If doors were inaccessible in a fire, would jump from windows.

7.2 Key informants

7.2.1 Gender and age

Ten key informants were women and five were men. Six were aged between 16 and 35, and nine were aged between 36 and 55.

7.2.2 Language

Nine spoke a Pacific language at home; six Samoan, two Tuvalu and one Kuki Airani. Three spoke a Pacific language with English some or most of the time and three spoke English most of the time at home.

7.2.3 Occupation

Twelve informants gave their occupation. Two were managers of Pacific health services, one a registered nurse and one a health educator. Other occupations included a Minister's wife, administrator, social services consultant, youth mentor, security officer, fork hoist driver, garment presser and process worker.

7.2.4 Importance of fire safety

Thirteen key informants rated fire safety at 10 on a scale of 1 to 10; two rated it as 9-10.

7.2.5 Fire safety practice

All 15 informants owned fire alarms. Five (33%) owned fire extinguishers and one owned a fire blanket.

Twelve had talked with their family about fire hazards in the home and eight about outside hazards. One had talked with their neighbours about fire hazards.

Seven said their household had worked out an escape plan, although none said that they practised it. Descriptions included -

➔ Family to go through mothers bedroom. Close all windows and doors if there is time then go to a place to meet outside
➔ Run to nearest exit, make sure everyone outside, and make sure all the children are outside.
➔ Get out quickly as you can and go to assembly point.
➔ We have drawn out a map towards the nearest door - meeting place at front letterbox.
➔ Go out through front or back door.
➔ Escape through bedroom windows and meet outside on the road.

7.2.6 Barriers to Pacific families getting fire equipment

➔ The cost of purchasing equipment – buying fire equipment is expensive for some low income families.
➔ Transport – access issues.
➔ Imitation fire safety equipment maybe more feasible but quality is less.
➔ Lack of awareness of the seriousness of having fire equipment installed in the home.
➔ Lack of knowledge.
➔ Knowing where to purchase fire equipment.
➔ Language barriers.
➔ Fire equipment is not essential - it is better to be fire free rather than fire prepared.
➔ Time factor – work and personal commitments does not always permit the time to go and get fire equipment.

7.2.7 How can the Fire Service get the message of fire safety to Pacific communities?

➔ Going out into the community and doing education sessions on fire safety.
➔ Organise with the fire service to go meet with Pacific providers and churches to educate people. Have Pacific fire fighters to go out and educate the community. Need to employ Samoan firemen to educate their people.
➔ Posters in all Pacific languages. Start in school similar to other disciplines. Free promotional squirt for the kids.
➔ Promote through community based organisations.
➔ Youth activities such as sports. Pamphlets or flyers in every ethnic language. Youth camps, at home or work. There should be special programmes, for example every six months until the message gets through.
➔ Flyers and more advertising using Pacific Island people; more seminars and open days at fire stations.
➔ Have fire service members go into churches and speak with church leaders because they are the greatest influences of Pacific people. Advertise fire safety messages in natural tongue through 531PI and other radio stations or newspapers.
➔ Target people at the flea markets, such as Mangere, Otara or Avondale.
➔ Through guest speakers at TOPS and youth courses and other community groups and gatherings including early childhood centres. Promote at community festivals. Promote in Pacific languages. Promote to school children at school and they can take the message home. Use existing community channels such as community health education networks.
➔ Put on a big feed on using a fire display instead of oven.
➔ Advertising open days on Pacific radio stations so more Pacific Islanders can see some of the things that are involved in fire safety.
➔ Radio programmes in different ethnic languages.
➔ Media plan for awareness on radio NiuFM in ethnic languages. Come out in to the communities and churches and educate the leaders and use the people approach to implement to community fire messages in their own ethnic languages.
➔ Radio media; flyers out to the residence.
➔ Community education awareness programmes are needed for PI communities.

7.2.8 How can the Fire Service attract more Pacific fire fighters?

➔ Go to secondary schools that are predominantly Pacific Island and look at recruiting students; offer scholarships or apprenticeships.
➔ Introducing courses where young Pacific people can be trained for the service.
➔ Promotion through Pacific organisations.
➔ If young adults are aware of fire safety, they will work for the Fire Service. Educational programmes taught at school.
➔ Programmes should be delivered to schools; role models should have a part to play during demonstrations.
➔ Encourage our children for the Fire Service as a future career.
➔ Get Pacific Islanders to go out to schools, universities and polytechs and to the community to spread the word.
➔ Advertise like how the Army and Navy do on TV. Have a stall to recruit PI fire-fighters at expos for students, Pacifica or any other community function.
➔ Promote to school counsellors. Use existing PI fire-fighters as role models in marketing and promotional activities. Promote at community festivals.
➔ More information nights for PI people; a presence at career expos etc.
➔ Equal employment for females.

7.3 Focus groups

7.3.1 Most at risk in the event of a fire

Focus group members identified the elderly, children and people with disabilities as most vulnerable to injury from fire.

Focus groups said that older people are usually the caretakers of young children and usually alone at home while other adults in the family are out working. They said the elderly needed to be supported by family or educated in fire safety.

They agreed that people with a disability should have appropriate access safely out of homes in the event of a fire or an emergency. In almost all instances, there should be someone there with them.

Focus groups said that children can be very curious about how fire works, regardless of its destructive forces. For teenagers or youth, peer pressure to go along with what their friends do can be a factor in irresponsible behaviour with fire.

A participant in a Christchurch focus group described seeing a group of children in a park using an aerosol can on lighters to produce a forceful ball of fire.

7.3.2 Most common reasons for fire

➔ People die from smoke inhalation rather that fire itself. Our people are living in low socio-economic areas; therefore reflects on poor housing, and fire equipment being a low priority.
➔ Heaters – using them to dry clothes which inadvertently get caught on fire.
➔ Children playing with lighters or matches that they find.
➔ Cooking – leaving cooking or heating of oil unattended on the oven.
➔ Cost of equipment – financially fire safety equipment is not feasible.
➔ "It is not going to happen to me"; therefore believing that there is no need for fire safety equipment (three focus groups).
➔ People use an incorrect method of putting out the fire, such as pouring water over a fire started by oil.
➔ Transition from the islands to New Zealand.
➔ BBQs – not having the correct items such as a fire extinguisher or lid to help minimise possible fires; also using inappropriate BBQ starter such as gasoline.
➔ Smoking – not disposing of cigarette butts safely or not stubbing the cigarette butt out.
➔ Irons and appliances - accidentally leaving them on.
➔ Overloading power points.
➔ Cleaning is important get dust which can cause fires.

7.3.3 How to make our homes more fire safe

➔ Provide a safe environment and make house rules around fires.
➔ Install and provide fire safety equipment – fire alarm, smoke alarm, fire extinguisher.
➔ Fire proof home - hide matches and lighters out of reach of children
➔ Report and deal to any faults in the house.
➔ Everyone to have responsibility to keeping families safe.
➔ Safe storage of gas bottles and petrol containers.
➔ When cooking, people must stay in the cooking area.
➔ Always use a solid ashtray when smoking; do not smoke inside the home.
➔ Do not be careless using candles; for example, do not use candles when there is no one there to supervise.
➔ Do not drink and cook.
➔ Clean your oven
➔ Do not use your oven as a heater or dryer
➔ Put your family first - when there is a fire get out of the house or building.
➔ Keep heaters away from curtains or burnable items.
➔ Use bar heaters.
➔ Have a checklist for fire awareness.
➔ Safe box – promote the significance of having a safe box to keep important documents safe.
➔ Have safety covers on power points.
➔ Have a fire evacuation plan; nominate a someone to be in charge and make sure there is a safe assembly place
➔ Parents as educators: tools not toys
➔ Communication and awareness of fire hazards and fire safety is imperative.
➔ Education – television, pamphlets, radio programs for all ages
➔ School packs – educate children about being fire safe.

7.3.4 Recommendations

➔ Focus on 3 to 6-year-olds; start educating about fire safety and fire hazards from preschooler age, using flip cards, pictures and fire magnets.
➔ Educating our Pacific communities is paramount, in how fires start and safe ways to put out fires.
➔ Resources: Pacific people are visual people and the more effective form of educating are through visual mediums. Pamphlets are not as effective compared to videos or live examples. Resources should be Pacific-friendly and in all Pacific languages.
➔ Use media sources to raise awareness of fire safety. For instance, radio programs on 531PI, Niu FM and others. Television - air age-specific advertisements at appropriate times; children are usually watching in the early morning or early evening. Use Pacific programmes such as

Tangata Pasefika or Triangle TV. Include local and international ethnic newspapers.
➔ Evaluation of the pamphlet provided by NZFS: It should be more specific rather than general, such as focusing on smoke alarms or correct methods to putting out fires. Headings need to be bold at the top. There are too many distractions on the pamphlet and it is too wordy. Use a larger font size.
➔ Fire service needs to go out into the community and participate in any community events; have information stalls and demonstrations and hold regular seminars and sessions to increase awareness in the community.
➔ Have a Fire Expo for the community. Using community groups with the same focus or a "Fire awareness week".
➔ Allow visits to fire services and fire stations, so the community get to know their fire fighters and also the process of getting to a fire and to be familiar with surroundings.
➔ Umu: It is natural for our people to cook with umu - migrating to New Zealand shouldn't stop us using umu. The council should allow a place for the community to be able to cook in umu.
➔ Promote fire fighting as a career pathway, especially for our younger generation. Government to sponsor an increase in the NZFS Pacific workforce.
➔ Accident Compensation Corporation (ACC) should be involved with preventative measures, such as giving away free smoke alarms and showing how smoke alarms work.
➔ Contacting emergency services: not everyone may be aware that 111 is the correct number to call. People should be educated on contacting emergency services.
➔ Companies that install smoke alarms should follow up and do periodic maintenance. Two focus groups mentioned fire alarms put in areas where smoke from cooking can easily set them off. Therefore people pull out the battery. This reflects the importance of supervision and education on how to look after smoke alarms.
➔ There have been free giveaways of fire extinguishers through local liquor shops. Participants suggested that church or community events would have been more appropriate places for these giveaways.
➔ Reinforce the right of the Fire Service to have an input on new houses being built and be a part of health and safety inspections.
➔ All Housing New Zealand home should have fire safety equipment installed before tenants move in - fire alarms, fire extinguishers and sprinklers.

7.3.5 Experiences of fire

Two focus group members told about playing with fire when they were young. One was curious and wanted to see what fire looks like. They lit a match and it caught fire on the surrounding materials. Another started a fire by lighting a match in class at school. "It was fun and everyone was laughing." They set fire to a classmate's hair without thinking of the consequences – she lost a lot of her hair.

The child of one focus group member had hidden in a cupboard and lit some matches. The child's clothing caught on fire. The parent could hear a faint cry for help, masked by music playing the background. The parent found the cupboard, pulling the child to safety and put out the fire. This person teaches their children about fires by demonstration, lighting matches together to see how hot and dangerous lighting matches can be.

One focus group member's family was living in a two-storey flat. The children were playing with matches and the mattress caught alight in the room. The father, alerted to the fire through the smell of smoke, ran up the stairs, grabbed the burning mattress and threw it down to the stairs. This blocked their only entrance out of the home.

Two focus group members had fallen asleep and left food cooking. After a night of socialising, one heated some food on the oven and then fell asleep. Their partner woke them up to their own clothes on fire and burning flames on the stove. The other was cooking on the stove and unintentionally fell asleep in the lounge. They woke to the smell of smoke filling the room.

Another focus group member was finishing off an assignment for school. They created a relaxing environment by having wine and candles. They accidentally fell asleep and the candles began to set alight their work.

One focus group member's sister was frying food. She picked up the pan, unbalanced and tipped over, covering herself with the hot cooking oil. Her brother grabbed a bucket of water from the bathroom and poured it over her, burning her even worse. She was then taken to hospital.

8 Discussion

8.1 Demographics

8.1.1 Ethnic mix

The differences in ethnic mix between our sample and the 2001 Census is a reflection of its small size. All results by ethnicity and housing status are indicative only.

8.1.2 Socio-economic status

Just over half the general survey sample (54.2%) indicated that they were in the paid workforce; this is a lower proportion than Pacific peoples in the 2001 Census. Students made up one in five of the sample, contributing to the high proportion (45%) over 15 with no or low incomes.

8.2 Housing type and home ownership

At least half and possibly more of the general survey sample lived in wooden houses, to be expected given New Zealand's large stock of wooden dwellings. Almost one in five lived in accommodation with two or more storeys. Eight participants lived in accommodation with only one exit door.

Many in this sample may know people who have had or been injured in a house fire.

Almost two out of five participants were sure that they had insurance for either their house and contents. Those living in an owner-occupied home were much more likely (75%) than those renting (20%) to insure the contents of their homes.

This means that using reduced house insurance premiums as an incentive to install smoke alarms is likely to be directly relevant only to the small proportion of Pacific households that own their homes. However, it may indirectly benefit Pacific tenants.

The proportion of people in the sample who said they owned their home almost matched the 2001 Census. Two questions in the survey asked about rented accommodation. Given that some young people answered the first question about their position in the household rather than about home ownership, question 15 indicating that 71.5% were renting is more likely to be accurate.

8.3 Household composition

A smaller proportion of the general survey sample lived with six or more other people than reported in the 2001 Census. However, almost one in three participants lived with five or more other people.

Just over half said they lived in a two-parent household, and a third in a one-parent household. More than a quarter of participants said they lived with extended family members, although another quarter did not answer this question.

The proportion of people living with someone who has a disability (14%) matched the information in the 2001 Census. Several mobility disabilities were mentioned, and half the people with a disability were reported to have a problem with getting out of the home quickly.

One focus group member has a family relative who is immobile and is left at home with responsibility for children during the day. In the event of a fire, this person would not be able to take the children outside and would be unable to get out of the house themselves.

8.4 Pacific languages

The total proportion of people in the general survey sample who spoke only a Pacific language at home was lower than the number described as speaking their own language in the 2001 Census. This may be due to differences in the way the questions were asked. The proportion varied by ethnicity. A bigger proportion of Tongan, Cook Islands and Tokelau people in this sample spoke their language at home than the Census indicated, while a much smaller proportion of Samoan and Niue people in this sample did.

However, it is evident that Pacific languages retain a central place in the lives of this group of people. More than one in three spoke only a Pacific language at home and almost half (48.9%) spoke their language and a little English.

Given that between eight and 19% of Pacific peoples reported in the 2001 Census that they do not speak English, any attempt to communicate effectively with Pacific peoples must include the use of Pacific languages.

8.5 Fire safety

Pacific people in the general survey and key informants overwhelmingly rated fire safety as very important. Stories told by focus group members indicated that many in this sample may know people who have had or been injured in a house fire.

Two-thirds of the general sample named a person who would be responsible for getting everyone outside or ringing for help if there was a fire.

Pacific focus groups correctly identified major causes of fire – children playing with lighters or matches, cigarettes not stubbed out properly, cooking left unattended, overloaded power points, and heaters left too close to flammable fabric.

They also correctly identified several ways of making their homes safer, including not drinking alcohol while cooking, keeping matches and lighters out of reach of children, using a solid ashtray for stubbing out cigarettes, smoking outside only, keeping heaters away from curtains and other flammable items, and other positive suggestions.

Seventy-eight percent reported keeping matches and lighters up high, out of sight and reach of children.

8.5.1 Escape plans

However, only a minority (28%) of general survey households and almost half the Pacific key informants had worked out an escape plan. This compares with 32% of Maori in the 1999 Bay-Waikato Fire Region survey; 57% in the CM Research 2000 national survey in 2000; and 59% of Bay of Plenty/Waikato people in the same year (Beale & Moroney, 2000).

The proportion of Niue and Cook Islands people with escape plans in our sample was twice that of Tongan people.

This low proportion of households with an agreed escape plan is a concern, especially given that two-fifths of those living in rental accommodation said they did not have safe exits for escape and eight percent of households had hallways that were not clear for a quick escape.

Fifteen general survey participants and six key informants provided descriptions of their escape plan, all of which stressed getting out fast. Four mentioned calling 111 or pressing the fire alarm button, and 11 named a safe meeting place.

Of the 56 general survey participants whose households had a fire escape plan, only 28% practised it at least yearly. The same proportion in the 2000 national survey had ever practised their escape. While a larger proportion of key informants had an escape plan, none said they had practised it.

More than half (57.9%) general survey participants and four-fifths of the key informants had talked with their families about fire hazards inside the home. Just under half (47.4%) general survey participants and just over half the key informants had discussed hazards outside. A much smaller proportion (20.5% of general survey respondents) had talked with their neighbours about fire hazards from their or the neighbour's home.

8.5.2 Smoking

Just over a third of participants said they smoked (35.8%), which is consistent with the findings of the Pacific Alcohol and Drugs Consumption Survey 2003. Smoking rates in our sample were higher among people from Samoa, Niue and Tonga than among people from the Cook Islands, which is not consistent with the much larger 2003 survey.

A majority (71%) said they smoked outside, compared with 62% in the 2000 national survey. Eighty-four percent said they put their cigarette butts out in an ashtray and emptied it regularly. Seventy-eight percent reported keeping matches and lighters up high, out of sight and reach of children. This compares with 39% of Maori in the 1999 survey and 59% in the Bay of Plenty/Waikato survey in 2000.

Only 9.5% of the Pacific sample said matches and lighters were left where children could reach them, compared with 15% in the 2000 national survey. Almost two-thirds of Pacific participants (64.2%) said that children knew to take found matches and lighters to an adult straight away.

8.5.3 Cooking

Only one in five participants said they left food frying on the stove unattended. This compares with 48% in the 2000 national survey. A quarter (27.4%) said they kept a fire extinguisher handy in the kitchen, and less than one in five kept a pot lid or fire blanket handy.

Sixty percent were confident that they knew what to do to stop a fire when they were cooking. Of the 13 responses, five would have smothered or at least not fed the fire and five were valuable preventive measures to stop fires from happening. Three referred to unsafe measures, such as using water or salt.

Three focus group stories dealt with kitchen fires. One participant described a family member whose oil fire burns had been aggravated by being doused with water. These findings indicate a need for education among Pacific peoples about how to deal with kitchen fires.

8.5.4 Fires, heaters and plugs

A significant minority of participants (42.6%) had a fireplace, and 69% of these participants said they used a fireguard. Nine percent of participants said they kept heaters closer than one metre from curtains, furniture and bedding.

In the 2000 national survey, 20% of people said they dried clothes on their heater. However, 12% of Pacific participants said they did not own a heater. This is a common economy in households surviving on low incomes (Rankine, 2005, p25).

Almost three-quarters of participants said they were aware that putting too many plugs into power points and multiboxes can start a fire. One in five did not know this before the survey. However, this does not mean that participants acted on this knowledge. In the 2000 national survey, 26% of participants reported using multiple plugs without an overload switch.

These are not the responses of people who take fewer than average precautions.

8.5.5 Fire safety outdoors

Participants in this study often cooked outside. More than half the participants (57.4%) said they fried or barbecued or used a portable gas burner outside, and 25.8% said they cooked in an umu, hangi or lovo. A quarter said they kept a fire extinguisher handy when doing so, two-thirds (67.9%) kept a pot lid nearby, and slightly fewer (61.5%) had an oven tray.

Participants made 13 useful suggestions for preventing fires from an umu or barbecue, although the use of salt was one unsafe suggestion about outside frying. One focus group member said a local church had an umu pit and regularly applied for council permission to use it. A survey participant suggested that councils should allow a place for Pacific communities to cook in umu.

Only six general participants said they had noticed unsafe practices around outdoor fires, including not wearing shoes or gloves or wearing rubber shoes. Four participants expressed concerns in their comments at the end of the questionnaire about outside fire dangers, including fires lit on grass, flammable piles of cuttings and grass in the back yard and bush fires. A large majority of participants (91.6%) said they regularly cleared household rubbish away from the house.

Pacific general survey participants appeared to be thoughtful neighbours when it came to umu. Four out of five said they told their neighbours beforehand, and a majority (63.2%) said they told the local fire station and got a permit from the local council (61.2%).

These findings tend to contradict those of the 2000 national survey, which found that Pacific peoples were over-represented among the group it called “Abdicators”.

A much larger proportion of Pacific people in our sample said they keep matches and lighters out of reach of children than in the 2000 general Bay-Waikato survey. Just over half of our sample had discussed indoor fire hazards with their families, and just under half had discussed outdoor hazards.

A smaller proportion of our sample said they left food cooking unattended than in the 2000 national survey. The same proportion of Pacific people with an escape plan said they had practised it as in the 2000 national survey.

These are not the responses of people who take fewer than average precautions. While people in three focus groups talked about a belief among Pacific people that fire would not happen to them, the general tone of the responses was active and interested, rather than helpless.

8.5.6 Fire prevention equipment

A majority of general survey participants (68.4%) said their home had smoke alarms installed. Of those who identified their housing status, smoke alarms were more common in owning (66%) than renting (43%) households.

This compares with 43% in the 1999 survey of Maori; 76% in the 2000 Bay of Plenty/Waikato survey; and 80% in the 2000 national survey.

Housing New Zealand has installed long-life smoke alarms in all its properties (Duncanson, 2000b). It is likely that Pacific tenants without smoke alarms in this survey were living in private rental accommodation.

Twenty-eight percent of Pacific participants said they did not dust the smoke alarm every six months; this compares with 53% of the 2000 Bay of Plenty/Waikato survey participants who said they had never cleaned their alarms.

Over a third (36%) of Pacific respondents with smoke alarms said they said they did not push the test button on their alarms every month; this compares with 20% of participants in the 2000 Bay of Plenty/Waikato survey who had never tested their alarms.

Almost half of the Pacific sample (46.3%) changed smoke alarm batteries when needed. A higher proportion of owner-occupied households seemed to do this than renting households. In 1999, 20% of the Maori sample regularly maintained their alarms; in 2000, 57% of the 2000 Bay of Plenty/Waikato participants did so.

Three questions asked general survey participants about fire prevention equipment in different contexts, generating different answers. The largest proportions responded about equipment in the

kitchen. Over a quarter (27.4%) said they kept a fire extinguisher handy and 18.4% said they had a fire blanket. This compares with 41% of the 2000 national survey who had a fire extinguisher or a fire blanket.

One-third of the key informants said they had a fire extinguisher, and 6.6% had a fire blanket. Sixty-one percent of those in rented accommodation (43.7% of the general survey total) and 100% of the key informants had fire alarms installed.

8.5.7 Other hazards

The general survey did not ask about the use of candles and other naked flame light sources, but two participants and two focus groups raised it as a fire risk.

8.5.8 Barriers to fire safety

The affordability of fire equipment was raised as a barrier by all three groups in this study and related to Pacific peoples' low average incomes. It was the first barrier identified by the key informants, one of whom mentioned the use of cheaper "imitation" fire equipment.

Key informants also identified other results of low incomes, a lack of transport and poor housing, as barriers to getting fire equipment or general fire safety. One general participant commented about their household being reliant on a cellphone that was not always available or working.

The second major barrier that key informants identified was a lack of knowledge, including where to buy fire safety equipment, fire risks in New Zealand housing for those new to it, or of the importance of fire prevention equipment. Focus groups said that some Pacific people did not know how to put out fires correctly; this was reinforced by unsafe suggestions about putting out kitchen fires in the general survey.

Two other barriers identified by informants and focus groups were language and the attitude that "it is not going to happen to me".

Focus groups and general participants suggested public health strategies to deal with these barriers. One suggestion was the Housing New Zealand Corporation has fire and smoke alarms, fire extinguishers and sprinklers installed before tenants move in. A second suggestion was that the Fire Service contributes to fire safety standards in new residential housing.

A third suggestion was for checks of equipment by the Fire Service or smoke alarm installers, or Fire Service involvement in home health and safety inspections. A fourth suggestion was for giveaways of fire extinguishers at Pacific churches and community events.

8.6 Fire prevention education

The affordability of fire equipment was raised as a barrier by all three groups in this study

The three groups in this study made more than 30 suggestions or recommendations about fire prevention education for Pacific communities. Several were general statements of support for fire safety promotion. Workplace education was not mentioned. Specific recommendations follow.

8.6.1 Language

Ten suggestions specifically mentioned the need for verbal and printed fire safety promotion in Pacific languages. This included radio, posters, flyers, videos, workshops and other presentations, and Pacific language newspapers. One comment was that "resources should be written in our own languages so that our elderly can understand". This is imperative, given that elderly people are at high risk of injury from house fires, and that older Pacific people are less likely to speak English and more likely to speak a Pacific language at home.

8.6.2 Modes

Pacific participants in the three parts of this study suggested a sophisticated mix of communication modes and media to reach Pacific audiences, although no email and internet approaches were recommended.

8.6.3 Face-to-face verbal promotion

The importance of face-to-face approaches mentioned in the research was borne out by this study.

Sixteen suggestions mentioned face-to-face health promotion modes, including workshops, seminars, presentations to TOPS and youth courses, open days at fire stations, NZFS approaches to church leaders, integration with the face-to-face health promotion work of existing Pacific health organisations, the organisation of a Pacific fire expo, and a Fire Service presence at events involving large numbers of Pacific peoples. These included Pacific youth camps; flea markets such as those in Mangere, Otara and Avondale; and Pacific festivals.

Many suggestions about face-to-face education involved the NZFS working with existing Pacific organisations and networks. These included Pacific health and social service providers, Ministers and churches, youth groups and Pacific event organisers.

8.6.4 Radio, television and video

Seven suggestions specifically mentioned radio, including Pacific language programmes on NiuFM, 531PI and other stations with a Pacific audience. Three suggestions mentioned television, including promotions aimed at children in the early morning or evening, or on Pacific programmes such as Tagata Pasifika or those on Triangle TV. One mentioned videos.

Participants supported education in schools because of the fire risks facing young children

8.6.5 Printed material

Seven suggestions mentioned flyers, pamphlets and posters aimed at general Pacific audiences. However, one focus group comment cautioned that written material is not as effective as face-to-face education or visual means such as video. One focus group found the Fire Service leaflet provided at the discussion to be too wordy and not specific enough.

8.6.6 School education

Participants in this study supported education in schools because of the fire risks facing young children, unlike Chalmers' Pacific informant. They saw school education as part of a larger fire safety promotion programme that also targeted elders, families and community events.

Key informants and focus groups made four suggestions about education for Pacific children at school, including in early childhood. Focus groups suggested concentrating on those aged three to six, a high-risk age group, using flip cards, pictures and fire magnets.

8.7 Pacific recruitment to the Fire Service

Key informants and focus groups made 12 suggestions about NZFS recruitment of Pacific people. Four suggested promotion through schools, three suggested fire fighters recruit face-to-face at Pacifica and other community events, two suggested stalls at student or career Expos, and two suggested the use of existing Pacific fire fighters as role models.

Two suggested the offer or scholarships, reflecting the unaffordability of post-secondary education for the children of some Pacific families.

9 Conclusions

9.1 Putting Pacific peoples at the centre

A Pacific methodology puts Pacific peoples at the centre of the picture, rather than as one of several minority groups (Health Research Council, 2004). Constantly measuring Pacific peoples against the dominant culture constructs Palagi incomes and health patterns as the norm, and obscures privileges that accrue to members of the dominant culture because of that dominance (Consedine, 2005; Reid, 2004).

In a discussion about Maori health promotion, the combination of unequal access to goods and services in our society plus health interventions based on total population analyses has been described as "the double whammy" (Reid, 2002). Reid said: "Assumptions based on majority norms do not lead to solutions for high-risk groups" (Fitzpatrick, 2002). This conclusion applies equally to Pacific peoples.

9.2 Summarizing Pacific peoples and fire safety

Pacific peoples are a unique and diverse population in Aotearoa/ New Zealand. They tend to have very low to moderate incomes. Those on very low incomes live stressful lives trying to meet basic needs for food, utilities and often unaffordable rent. These modest incomes tend to be shared among extended families, in other New Zealand households and in the Pacific countries from which the families came. Most families also give to their church.

Many Pacific people live with entrenched disadvantage through a combination of a lack of educational qualifications, over-representation in unskilled jobs, low incomes and a lifetime of rented and sometimes substandard accommodation.

The socio-economic position of Pacific peoples is changing as more New Zealand-born Pacific young people gain post-secondary qualifications, and Pacific adults move into white collar occupations and self-employment

However, international fire prevention literature has identified that without active official intervention, the fire risks facing Pacific peoples on low incomes will remain high (Chalmers, 2000).

Pacific peoples usually maintain strong connections with their extended families, their neighbourhoods, their village groupings and their church communities (Fleming, 1997; Blick, 2003).

Most live in rented accommodation in urban areas where there is a very high demand for affordable housing, deterring tenants from complaining to landlords about substandard or unsafe housing. More than one in ten households has no landline telephone. Pacific peoples often house relatives and visitors for extended periods.

Many Pacific households are large. Rental housing rarely has more than three bedrooms, so large Pacific tenant households are usually overcrowded. They often use garages, caravans and other informal accommodation. A majority of Pacific peoples cook outside.

Pacific languages are commonly used for conversation at home, and literacy levels in English are often low to moderate. Young people in Pacific communities are expected to defer to their elders. Older siblings, particularly brothers, are expected to care for and protect younger siblings.

Fewer than three out of five Pacific people drink alcohol at all; one-third of those who do drink enough to feel drunk at least weekly. How often Pacific people cook while or after drinking alcohol needs to be established.

Pacific peoples prefer face-to-face health promotion, and for Pacific organisations to deliver health and social services. Failing this, they prefer dominant culture organisations to work in partnership with Pacific community and church groups. Their strong action on the meningococcal vaccine indicates the high value they place on protecting children and the effectiveness of "by Pacific, for Pacific" services (Ministry of Health, 2004c; Midcentral DHB, 2005).

Elders are highly valued, and many live with their adult children and grandchildren. Elders and Pacific church officials are often points of contact for approaches by Palagi-run organisations.

9.3 Pacific fire risks and assets

Pacific peoples therefore have a unique combination of fire safety risks and assets. Risks include poor housing, use of temporary accommodation, overcrowding, routines that may often be interrupted, low rates of fire safety equipment, inadequate knowledge of fire safety practices, and a lack of telephones in some houses.

Assets include a high value placed on children and old people, a high degree of interest in fire safety, a high rate of smokers who say they smoke outside, a high rate of households that say they keep matches and lighters away from children, a high rate of those with smoke alarms who say they regularly test them, and close community bonds.

10 Recommendations

10.1 Policy

Puipuiga recommends that the NZFSC -

1. Support improved housing affordability for households on low incomes.
2. Support policies that will promote increased home ownership among Pacific peoples.
3. Work with relevant government ministries to ensure fire-safe housing construction and the use of safe means of heating and lighting.
4. Strongly support adequate data collection on substandard housing and its contribution to fire risk.
5. Strongly support programmes for upgrading aspects of substandard housing that contribute to fire risk.
6. Actively support legislation requiring mandatory installation of hardwired smoke alarms in new dwellings and residential rental accommodation.
7. Strongly support legislation requiring mandatory fire alarms in existing and new rental housing.
8. Actively support development of a low-ignition fire safety standard for cigarettes sold in New Zealand.
9. Collaborate with the Ministry of Consumer Affairs on flammability standards for children's clothes similar to those for sleepwear.
10. Work with the Ministry of Consumer Affairs on flammability standards for bedding materials and upholstered furniture.
11. Consult with Pacific researchers and communities on the necessary Pacific fire data needed to monitor population-based fire prevention initiatives and identify the Pacific groups most at risk.

10.2 Supportive environments

Puipuiga recommends that the NZFSC -

1. Work with the Insurance Council of NZ to reduce premiums for home owners and landlords of rental properties who install hardwired smoke alarms and sprinklers.
2. Develop and support programmes enabling free installation and maintenance of smoke alarms in Pacific households.
3. Investigate ways to reduce the cost of fire prevention technologies.
4. Collaborate with other agencies to include fire safety in programmes (for instance, the Healthy Housing Programme) aimed at improving the wellbeing of people on low incomes (Rankine, 2005, p20).
5. Collaborate with other agencies that regularly visit homes, offering training to assess fire safety so that these risks can be assessed alongside other risks to health.
6. Collaborate with agencies working to reduce overcrowding in private and state rental housing.
7. Offer strong support for Pacific stop smoking programmes, and ensure that these programmes disseminate the fire risks associated with smoking, matches and lighters.
8. Work with local authorities and Pacific churches in areas with high Pacific populations to provide fire-safe umu in church grounds and public spaces.

10.3 Strengthen community action

Puipuiga recommends that the NZFSC -

1. Work with Pacific communities in Manukau, Porirua and other centres of Pacific population to develop Pacific community injury prevention programmes focussing on fire safety and other issues identified by the communities.
2. Develop a programme with Pacific communities for door-to-door distribution of smoke alarms in low-decile census area units with significant Pacific populations. This could be incorporated into the injury prevention programmes, or modelled on the Otara Ambassadors' Programme (Rankine, 2005, p23).
3. Develop a multi-media, multilingual fire safety promotion programme with Pacific communities that focuses on the development and practising of escape plans, installing and maintaining smoke alarms, the dangers of inadequately extinguished cigarettes, children playing with matches or lighters, cooking after drinking alcohol, how to put out kitchen, outdoor and other fires safely, as well as other fire risks identified by the communities. This programme should involve focus groups of target audiences, such as Pacific single mothers, elders and caregivers of young children, to develop and test resources for their population groups. It should aim to stimulate discussion and action in Pacific communities, and could canvas the concept of a Pacific Fire Safety festival or week.

4. Work with Pacific communities and manufacturers and retailers of stainless steel cookware to encourage replacement of aluminium pots with stainless steel among low income Pacific households.

10.4 Personal skills

Puipuiga recommends that the NZFSC -

1. Work with Pacific preschool teaching networks to develop fire safety education materials in Pacific languages as part of the curricula for Pacific language nests.
2. Work with Pacific primary and secondary teaching networks to develop fire safety education for schools with a high proportion of Pacific pupils that builds the knowledge of older siblings who supervise or care for younger brothers and sisters.
3. Develop a fire prevention programme with Pacific communities aimed at Pacific children and youth who like to play with fire.
4. Offer training in fire safety education for Pacific health promoters.
5. Investigate the feasibility of contracts for ongoing fire prevention education in Pacific communities by Pacific health promotion organisations.

10.5 Community networks

Puipuiga recommends that the NZFSC -

1. Develop reciprocal relationships between NZFS fire safety staff and Pacific leaders and organisations. This could include the delivery of free fire prevention equipment through Pacific churches and community organisations.
2. Work with Pacific alcohol and drug and health promotion agencies to integrate fire awareness into harm reduction programmes about alcohol and other drugs.
3. Develop, implement and evaluate a Pacific recruitment strategy for Pacific fire fighters, including stalls at Pacific community events and the use of existing Pacific fire fighters at career expos and schools with high proportions of Pacific students.
4. Collaborate with public health staff in district health boards, the Ministry of Health and local authorities to monitor and advocate for fire safety as a health issue, and investment in fire prevention.

11 Glossary

Fakalea Tonga – Tongan language or speech

Fale – House

Gagana Samoa – Samoan language or speech

Hangi – (Cook Islands) Earth oven

Koha – (Cook Islands) Donation or gift

Lotu – (Niue, Samoa, Tokelau and Tonga) A prayer or grace for a meal.

Lovo – (Fiji) Earth oven

Matua - Father/parent

Mea 'ofa – (Tonga) Gift

Motu - Island

Palagi – Person of European ancestry

Puipuiaga - (Niue) Safety

Tama - Son

Taupou – (Samoa) A daughter of a high chief chosen for a special position in the village or family

Te reo Kuki Airani – Cook Islands Maori language or speech

Toa - Warrior/s

Umu – (Samoa) Earth oven

Vagahau Niue – Niuean language or speech.

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