# Fire Research Report

**Sparking up an Old Flame: A Process Evaluation of the Fire Awareness and Intervention Programme (FAIP) in New Zealand**

**University of Auckland**

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The Fire Awareness and Intervention programme is a community based treatment programme for children and adolescents who light fires. This process evaluation involved interviewing 68 participants (adolescents, parents and caregivers, programme staff and external agency staff) over a 5 month period between September 2007 and February 2008.

The study aimed to:
- document the operation and characteristics of the programmes;
- examine program delivery practice and processes that contribute to success and failures;
- and identify factors associated with successful programme outcomes.

(This research was done in two-parts. Please see report# 98: 'An Outcome Evaluation of New Zealand Fire Service Fire Awareness and Intervention Programme' for the other outcome on this piece of work.)

# Sparking up an Old Flame:

# A Process Evaluation of the Fire Awareness and Intervention Programme (FAIP) in New Zealand

## Summary Report

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# Acknowledgements

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# Executive Summary

## Purpose

The Contestable Research Fund from the New Zealand Fire Service, together with Auckland UniServices commissioned this process evaluation of the FAIP Programme. The primary objective was to evaluate the effectiveness of the Fire Awareness and Intervention programme which is a community based treatment programme for children and adolescents who light fires.

## Method

Research literature regarding intervention programmes for adolescent fire setters was obtained from Internet sites including Psych Info, Pub Med and a review conducted. Research indicated that interventions for adolescents who light fires generally fall into one of two categories: educational or psycho-social. Education based interventions include provision of fire information and teaching of safety skills. The aim of psycho-social intervention is to address the psychological and social factors associated with fire setting. These interventions include cognitive-behavioural treatments (CBT), enhancing pro-social skills and parent-child relationships. While each of these intervention modalities have shown successful outcomes of reducing fire setting recidivism alone, researchers have begun to advocate for a collaborative approach to intervention (Adler, Nunn, Lebnan, Northam & Ross, 1994).

Since the 1990's the majority of intervention programme evaluations have derived from the U.S.A and the U.K. Thus the reported outcomes of interventions conducted in these countries are positioned within social, legal and cultural contexts that may not be representative of other countries such as New Zealand which has a diverse multicultural population. Reported studies have relatively suffered variable and often short term follow-up periods ranging from immediate post-intervention to two years with most favouring one year. Outcome evaluations typically rely on recidivism rates determined by either official records only or parental reports only to determine their success. This evaluation responds to the lack of information in the literature with regard to experiences of interventions by providing an in depth exploration of the strengths and weaknesses of the Fire Awareness and Intervention Programme.

The process evaluation involved interviewing 68 participants (adolescents, parents and caregivers, programme staff and external agency staff) over a 5 month period between September 2007 and February 2008. The study aimed to: document the operation and characteristics of the programmes; examine program delivery practice and processes that contribute to success and failures; and identify factors associated with successful programme outcomes.

## Results

Overall adolescents and their families reported positive experiences of the services that were provided by the programme.

The results from this process evaluation indicate: (a) the need for a flexible approach to intervention which allows for the practitioner to respond to the unique needs of the child/adolescent and their families, (b) practitioner's qualities of empathy and understanding are crucial for developing rapport with the adolescent and their families, (c) the importance of providing an education based intervention which is tailored to the adolescents age and developmental level, (d) resources need to be updated and used flexibly to respond appropriately to the age and developmental level of the adolescent, (e) inter-agency and intra-agency relationships need to be developed and maintained with formal arrangements for reciprocal referral systems developed in order to respond to the needs of the clients, (f) additional and ongoing training is required for staff of the FAIP, (g) active recruitment of practitioners (in particular those from minority groups) is required to meet the needs of the clients of FAIP.

# Recommendations

**Programme delivery factors**

1. To ensure that current resources are reviewed and updated regularly and to investigate the possibility of using interactive information technology based resources (CD Rom, Internet, Electronic games).

2. To ensure that follow-up contact is carried out after the completion of the FAIP and that further follow-up is arranged as necessary.

3. To develop a fire screening questionnaire that can assist with tailoring the FAIP to the needs of the young person.

4. To implement a trial of the Strengths and Difficulties Questionnaire (SDQ) in 1-2 Fire regions of NZ for 1 year and evaluate the success of this as a behavioural and mental health screening questionnaire.


**Organisational factors**

5. To ensure the continued evaluation of FAIP program success at regular intervals of between 2-5 years.

6. To develop and maintain relationships between the NZFS and Police, Child and Adolescent Mental Health Services, Schools, Youth Offender Treatment Programmes and CYFs.

7. To promote the FAIP within the entire NZFS to ensure all NZFS staff support the programme.

8. To increase awareness of the FAIP within the wider community and professional networks to ensure that early identification and intervention with child and adolescent fire lighters occurs.

9. To ensure the appointment of at least one full time practitioner in fire regions such as Auckland where there are high referral rates.

10. That professional development occurs at regular intervals to ensure practitioner skills are maintained and developed.

11. To incorporate a variety of training methods into the existing training package. This may include utilising professional actors in role plays demonstrating intervention with clients presenting with a variety of needs, which can be viewed on DVD by trainees. This would ensure standardisation of training and respond to 'adult learning principles' such as auditory, kinaesthetic, visual learning styles.

**Cultural Responsivity**

12. To further investigate the need to develop culturally specific resources in collaboration with the National Māori Advisor and the Iwi Liaison Officers (Resources may include the use of Maori myths and legends).

13. To develop a best practice guidance and training package in consultation with cultural advisors for working with Māori families and other cultural groups and to ensure the formal and regular provision of cultural supervision for FAIP staff.

14. To actively recruit practitioners from diverse cultural backgrounds in order to address the different cultural needs of FAIP clients.

## Introduction

Historically, it was only adults who were perceived to deliberately light fires; however international forensic statistics indicate otherwise (Lambie, McCardle & Coleman, 2002). International statistics indicate that many children and adolescents are engaging in deliberate fire setting behaviour. However, examining reported fires presents only part of the problem (Kolko, 1999). Many instances of children engaging in fire setting behaviour go unreported and are motivated by curiosity or boredom. However, curiosity, coupled with lack of fire safety education, often results in houses, cars and school classrooms being burnt down and in tragically results in children dying in the fires that they lit (Hall, 2000).

## Deliberately lit Fires in New Zealand

In New Zealand, the total financial cost of fires is estimated to be around $320 million per year (Goodchild, Sanderson, Leung-Wai & Nana, 2005). Over the past 25 years, school fires have cost the New Zealand Ministry of Education on average NZ$5.2 million annually (Duncan, et al., 2002). "The New Zealand Fire Service reports that 8,517 fires were deliberately lit in 2005" (N. Challands, personal communication, October 11, 2006 cited in Haines, Lambie & Seymour, 2006, p. 9) and "2,022 arson offences were recorded" (L. Mackie, personal communication, August 9, 2006 cited in Haines, Lambie & Seymour, 2006, p. 9). Statistics for the year 2006 report that children under that age of 21 years perpetrated 75% of all arson offences which were recorded and 57% of those were under the age of 17 years (Statistics New Zealand, 2006). During July 2006-June 2007 the Fire Service responded to 624 young people who had been involved in fire setting with 51% of those aged between 11-14 years.

## Interventions in New Zealand

In New Zealand, the Fire Service is the only agency offering interventions for adolescent fire setters. The New Zealand Fire Service runs one intervention programme called the Fire Awareness Intervention Programme (FAIP). The Fire Wise Programme is an education and safety package provided to all schools in New Zealand. The Programme aims to educate the school community with regard to fire safety practices, employing the use of fire safety checklists, practicing fire evacuation drills and ensure that procedures are formalised for recording all incidents of fire.

The Fire Wise Programme is delivered by teachers in conjunction with the school curriculum. In addition, NZFS personnel including a Cultural Liaison Officer are available undertake school visits as necessary. Further information on the Fire Wise programme can be found on the NZFS website (http://www.fire.org.nz).

The Fire Awareness Intervention Programme (FAIP) is an education based intervention programme for young people who have engaged in fire setting behaviour and their caregivers. It includes components such as fire safety education, developing an escape plan and installation of smoke alarms in the child's home. Participation in the FAIP is usually on a voluntary basis except

when a referral to the FAIP via a Family Group Conference instigated by CYFs. The aim of FAIP is "To reduce the incidence of fire play and other related incidents in pre-adolescents, juveniles and at risk adults, by intervention and education, and to investigate the occurrence of fire setting and fire related behavioural problems associated with these groups" (New Zealand Fire Service, 2007).

## The Current Evaluation

The Fire Service by way of the FAIP, has been providing interventions to fire setters in New Zealand for the last 15 years and primarily measures its success by the fire setting recidivism rate. The NZFS determines that any child/adolescent who has completed the FAIP and is re-referred within one year, a recidivist fire setter. If the child/adolescent is re-referred after one year, a new file is opened and they are regarded as a new referral. A more qualitative measure of success is provided by responses from parents to a voluntary feedback form which is provided to parents at the conclusion of the intervention.

As previously stated, understanding of programme success and effectiveness is limited by over-reliance upon recidivism data which is collected on the basis of short term follow up. The New Zealand Fire Service (NZFS) records only those who set another fire within one year as recidivists. If the child sets a fire one year post intervention they are regarded as a 'new client' and a new file is established. Using this procedure alone to quantify recidivism is limited, in that it relies on the child coming to the official attention of the Fire Service subsequent to the intervention. International literature notes that many fires go unreported (Faranda et al., 2001; Kolko, 1988) and thus the recidivism data collected by the NZFS may under-represent the level of recidivism and over-represent the success of the programme.

To date, no process or outcome evaluation of the FAIP has been undertaken. In order to address this, the Contestable Research Fund from the New Zealand Fire Service, together with Auckland UniServices commissioned a process evaluation of the FAIP Programme. This evaluation aims to document the characteristics of the programme, processes by which the programme is provided to adolescents and their families, and crucially this evaluation responds to the limitations of previous research has not sought to investigate adolescents and their parents/caregivers perceptions and experiences of the intervention (Morrison, 2004). Additionally, this study will gather the views of programme staff and staff from external agencies with regard to their experiences of the FAIP.

## Terminology

Fire setting behaviour refers to the deliberate and repeated act of setting a fire with the use of ignition materials such as matches and lighters. Children and adolescents, who set fires deliberately, will often watch the fire burn and then run away (Gaynor, 1991; Haines et al., 2006). Children who set fires often engage in other externalising antisocial behaviour such as fighting and stealing (Brett, 2003; Dadds & Fraser, 2006; Kennedy, Vale, Khan & McAnaney, 2006; Martin, Bergen, Richardson, Roeger & Allison, 2003). Research suggests that adults charged

with arson have typically engaged in fire setting behaviour as adolescents thus early intervention is critical (Gaynor, Huff, & Karchmer, 1986; Rice et al., 1991).

## Developmental Issues

It is important to note that most children demonstrate an interest in fire from as early as 3 years, often having had no direct experience with fire (Gaynor & Hatcher, 1987; Grolnick, Cole, Laurenitis & Schwartzman, 1990; Haines et al., 2006; Lambie, et al., 2002; Putnam & Kirkpatrick, 2005). Young children between the ages of 3 and 5 years will often express their fire interest in a limited way via play, which may include conversations about fire and or, the use of props such as fire hoses or fire trucks (Gaynor, 1991; Haines et al., 2006; Kolko, 1999).

Between the ages of five and nine, children typically express their curiosity or interest in fire by directly engaging in fire lighting behaviour such as lighting and cooking using an open fire (Lambie et al., 2002). Children's initial curiosity about fire can either develop into safe or dangerous fire behaviour (Gaynor and Hatcher, 1987). If children are supervised and taught to handle fire in a safe manner, they develop fire safe behaviours. However when children have a curiosity for fire, and simultaneously experience stressful life events and family difficulties, they are at greater risk of developing unsafe fire behaviours(Gaynor, 1991; Haines et al., 2006; Kolko & Kazdin, 1991; MacKay, Henderson, Del Bove, Marton, Warling, & Root, 2006).

Children who engage in fire setting behaviour in the absence of parental supervision or guidance often do so as a result of opportunity. That is, the incident is usually the result of the child's curiosity, is unplanned, makes use of available ignition implements and results in the child extinguishing the fire and calling for help (Gaynor et al., 1987; Haines et al., 2006). Engaging in opportunistic fire experimentation behaviour for the first time is usually associated with a low level of recidivism; however it does result in fires one third of the time. Thus, the risk level does not always equate with the initial intention (Gaynor et al., 1987; Haines et al., 2006).

## Assessment of Fire Setters

In order to distinguish reliably the possible subgroups of fire setters and facilitate appropriate placement decisions and specialised interventions, assessment of the young person is essential (Kennedy et al., 2006; Muller & Stebbins, 2006; Sharpe et al., 2006). Researchers have identified several essential features of a comprehensive assessment including; a detailed account of the child's experiences with and knowledge of fire, behavioural and cognitive functioning, social and emotional functioning and the family functioning overall (Kolko, Wilcox, Nishi-Strattner & Kopet, 2002; MacKay et al., 2004). In order to distinguish curious fire setting behaviour from more complex pathological fire setting behaviour at assessment, clinicians are advised to investigate the history or frequency of fire setting behaviour, motives, ignition materials, the target and the behaviours. A comprehensive assessment will facilitate appropriate matching of the intervention to the child's level of risk and need.

## Intervention Programmes

Interventions with young fire setters and their families typically involve one of two approaches: educational and/or psycho-social interventions (Kolko, 2002). Fire safety education interventions typically involve didactic teaching of fire safety information with particular emphasis placed on the consequences of fire. Often practical activities such as making emergency calls, designing an escape plan and installing smoke alarms are included (Pinsonneault, 2002; Pinsonneault, Richardson & Pinsonneault, 2002). By contrast, psychosocial interventions involve cognitive-behavioural treatments such as graphing techniques whereby the child is asked to explain the events leading up to and following the most recent fire setting behaviour. Cognitive-behavioural interventions aim to teach the child pro-social skills and enhance relationships (Kolko, 2002).

Research has indicated that both educational and psycho-social interventions have shown effectiveness in addressing the needs of children and adolescents who light fires. Therefore efforts have been made to incorporate both approaches in intervention programmes (Cole, Grolnick & Schwartzman, 1999; Cook, Hersh, Gaynor & Roehl, 1989, Webb, Sakhiem, Towns-Miranda, & Wagner, 1990), though few outcome studies have been reported in the literature (Kolko et al., 2006). In order to disseminate best practice and reduce recidivism, it is crucial to establish whether educational interventions and psycho-social interventions demonstrate the improvements which are expected based on their theoretical framework (Kolko et al., 2006).

There is a prevailing assumption that educational interventions are more effective with children who are categorised as 'curious' fire setters. That is, they engage in fire setting behaviour as a result of curiosity, have access to fire setting materials, and are usually first time fire lighters. Conversely, psycho-social interventions are assumed to be more effective with children who present with characteristics of 'pathological fire setting behaviour'. Pathological fire setters engage in fire setting which is frequent, deliberate and often concealed. Psycho-social interventions seek to improve dysfunctional family systems including parent-child relationships believed to be factors in the development of pathological fire setting behaviour (Federal Emergency Management Agency [FEMA], 1983; Kolko et al., 2006).

These assumptions are designed to aid in matching of treatment to need however there is no empirical evidence to support such assumptions. Research suggests that community based interventions in which agencies collaborate may be the most effective way of reducing the risk of fire setting recidivism. Interventions where the fire services deliver fire safety skills education in addition to psychosocial interventions delivered by mental health professionals can lead to positive outcomes for adolescents and their caregivers (Barreto et al., 2004; Eglintine, Horn & Muckley, 1993; Kolko, 2001, 2002; Lambie et al., 2002).

Table 2 below summarises studies reporting outcomes of educational and psychosocial intervention.

**Table 2: Studies reporting outcomes of educational and psychosocial interventions for adolescent fire setters**

| Study | Country | Treatment type and setting | Treatment group (n) | Comparison group (n) | Follow-up period | Recidivism rates |
|---|---|---|---|---|---|---|
| Adler, Nunn, Lebnan & Northam (1994) | Australia | Community. Education and behaviour modification. Random assignment to: 1) Fire safety education & graphing technique 2) Educational reading material | 138 children Aged 5 to16-years-old | Randomised control | 12 months | 57% (n = 79) |
| Bumpass, Fagelman & Brix (1983) | U.S.A. | Psycho-social and education | 29 children Aged 5 to 14-years-old | 0 | 6 months to 8 years $x$= 30 months | 16%  (n = 22/26) |
| Bumpass et al. (1985) | U.S.A. | Psycho-social and education | 150 children Aged 5 to 13-years-old | 0 | 6 months to 8 years $x$= 30 months | 2% (n = 1) |
| Burchill (1984) | U.S.A. | Inpatient. Education and skill development for emotional self monitoring. | 100 children | 0 | 24 months | 0% (n = 0) |
| De Salvatore & Hornstein (1991) | U.S.A. | Inpatient. Education and behaviour therapy. | 52 children Aged 4 to 8-years-old | 0 | 12 months | 2% (n = 1) |
| Faranda et al. (2001) | U.S.A. | Community. Education | 188 children Aged 2 to 17-years-old | 0 | 12 months | 2.1% (n = 4) |
| FEMA (1983) | U.S.A. | Community. Education | 766 children | 0 | 11 months | 1.25% (n = 10) |
| Franklin et al. (2002) | U.S.A. | Inpatient. Education | 132 children aged 4 to 17-years-old | 102 | 8-30 months | 0.75% (n = 1/132) compared to control 36% (n = 37/102) |

| Study | Country | Treatment type and setting | Treatment group (n) | Comparison group (n) | Follow-up period | Recidivism rates |
|---|---|---|---|---|---|---|
| Kolko (2001) | U.S.A. | Inpatient. Random assignment to: 1) Education (FSE), 2) Cognitive-behavioural therapy (CBT), 3) Fireman home visit (FHV) | 46 boys Aged 5 to 13-years-old | Randomised control group | 24 months | All conditions show significant reduction in fire setting: 50% FHV, 24% CBT, 15% FSE |
| Kolko, Watson & Faust (1991) | U.S.A. | Inpatient. Education. Random assignment to: 1) Fire Safety Skills training (FSST) 2) Fire safety and awareness (FAA) | 24 children Aged 4-8-years-old | Randomised control group | 6 months | 58% FAA Group 16.6% FSST Group |
| Nishi Strattner (2003) | U.S.A. | Community. Education and parent training | 219 children Aged 4 to 17-years-old | 0 | 3 months to 3 years | 6% (n = 13) |
| Schwartzmann, Stambaugh & Kimball (1998) | U.S.A. | Community. Psycho-social | 50 children | 0 | 12 months | 7% (n = 4) |
| Williams & Jones (1989) | U.K. | Community. Education. Random assignment to: 1) Fire safety training, 2) Fire safety/fear reduction training, 3) Attention control, 4) Wait-list control. | 48 children Aged 7 to 10-years-old | Randomised control group | 5 months | Improvement in response to emergency fire situation for conditions 1+2 not 3+4 |

## Educational Interventions

Empirical studies evaluating the effectiveness of interventions which use educational approaches have shown positive results. In North America the Federal Emergency Management Agency (FEMA, 1983) undertook an evaluation of interventions with adolescent fire setters. The relatively large study evaluated programmes across eight sites and included 766 children. The programmes involved fire safety assignments and educational discussions. At 11 month follow-up, FEMA found a recidivism rate of 1%, however without a control group it is unclear whether this low level of recidivism would have occurred without intervention.

Faranda, Katsika and Lim (2001) evaluated the Broward County Florida's Juvenile Fire setter Prevention Network's success at reducing recidivism via a fire safety workshop intervention. Authors reported a 2% recidivism rate over a follow-up period of one year. This study suffers similar limitations as that of Federal Emergency Management Agency (FEMA, 1983) in that without a control group and reliance on official records only, it is difficult to determine whether this low level of recidivism would have occurred without intervention.

Similarly low recidivism rates have been found in clinical settings. Burchill (1984) reported a study of 100 inpatient children who had been given an intervention of fire safety education and skill development for behavioural and emotional self monitoring. Also the children and their families received intensive family therapy. None of the 100 children engaged in subsequent fire setting within a two year follow-up period.

In the United Kingdom, Williams and Jones (1989) randomly assigned forty-eight children aged 7-10 years to one of four conditions; 1) fire safety training, who were taught fire safety steps and asked to express them verbally 2) fire safety training/fear reduction training, who were told to use self control statements when provoked by sounds such as hearing a fire burning 3) attention control, who had a discussion, drew picture and wrote stories about fire incidents and 4) waitlist control who were provided with an assessment only. The results indicated significant improvement for only 1) fire safety training group and 2) fire safety training/fear reduction training group at five month follow-up. Furthermore, the greatest maintenance of emergency skills was found in the fire safety/fear reduction group. The authors suggested that when participants engaged in the self instruction, this gave greater meaning and thus effectiveness to the task.

In response to increased admissions to paediatric unit for burns, the Trauma Burn Outreach Prevention Programme (TBOPP) was conceived in Michigan, North America. This programme was evaluated during 1999 by Franklin, Pucci, Arbabi, Brandt, Wahl and Taheri (2002). The TBOPP is a one day, hospital based programme for young people who have deliberately lit one or more fires. Referrals to the programme are received from the county court system, local fire

departments, schools and families. This programme is unique in that it is delivered by a range of professionals including doctors, nurses,  and fire fighters. Emphasis is placed upon individual responsibility for fire setting behaviour, participants are educated with regard to the consequences of deliberate fire and are given the opportunity to view the burns unit. Crucially, caregivers are expected to attend with the children and are provided with fire safety equipment including smoke detectors.

Franklin et al. (2002), randomly assigned children aged between 4 and 17 years to either the 'fire safety education' group (n = 132) or the 'no education' group (n = 102). In some cases, participants in the 'no education' group were granted a single visit from a fire fighter, and in other cases the 'no education' group did not receive any intervention. Participants were followed up for a period ranging from 8 to 30 months. Recidivism rates for the 'fire safety education' group were 0.75% (n = 1) compared to 36% in the control 'no education' group (n = 37). Whilst it may be possible to conclude the success of this intervention in reducing recidivism, it should be noted that this study may have been subject to selection bias. Referrals to this programme were drawn from 'the system' (i.e., courts, fire department and law enforcement agencies) and recidivism rates determined using official records only. Reliance on official records alone may result in under-reporting of behaviour.

Utilising an inpatient sample Kolko, Watson and Faust (1991) randomly assigned 24 children between the ages of 4 and 8-years to one of two intervention conditions; Fire Safety and Prevention Skills Training Group (FSST) or Fire Assessment and Awareness (FAA). The FSST group completed four sessions of instruction regarding the characteristics of fire, safe fire use and personal fire safety. The FAA group completed four sessions involving a fire risk assessment, open-ended discussions regarding the children's recent use of fire and the children were also given a fire safety colouring book.

At six month follow-up, parental reports indicated that 17% of the FSST group and 58% of the FAA group were recidivists. The FSST group reported less fire interest and increased fire safety knowledge and follow up match play was associated with limited fire safety knowledge. Reliance solely on parental reports to determine recidivism is open to social desirability. Thus consideration must be given to the possibility that reported recidivism rates of the participants may have been under-reported.

In the United States, a character called 'Smokey the Bear' was used to educate 52 inpatient child fire setters aged between 4 and 12-years (De Salvatore & Hornstein, 1991). Using a combination of education and behaviour therapy, the children were didactically taught fire safety and the correct way to light matches was modelled. Family participation was encouraged and parents engaged in role plays with their children. Finally the children undertook a written and verbal test in

order to demonstrate competency. One year following intervention, only one child engaged in fire setting.

## Psychosocial interventions

Psychosocial interventions aim to address the psychological and social factors associated with fire setting. These interventions include cognitive-behavioural treatments (CBT), enhancing pro-social skills and parent-child relationships (Kolko, 2002; Palmer et al., 2007). Graphing is one specific technique employed in CBT based interventions, which was piloted by the Dallas Fire Department. The graphing process involves the child recounting the events leading up to and following the most recent fire setting behaviour. The child is then asked to describe any feelings that they have experienced over that period of time which are graphed according to the intensity of each emotion. The aim of the graphing process is to examine the relationship between the fire setting event and the fire setter's emotions in order that a causal relationship is established. Following this process, alternative helpful behaviours can be introduced (Sharp et al., 2006).

Bumpass, Fagelman and Brix (1983) reported results of a small study of 29 children between 5 and 14-years old who had fire setting histories. The intervention utilised a combination of fire safety education and a graphing technique which visually depicted the intensity of each emotion in relation the fire setting incident. The children were taught how to identify the onset of each pattern, how to interrupt it and replace the fire setting behaviour with socially acceptable responses to their feelings. The children were followed-up for a period ranging from 6 months to 8 years with a mean follow-up period of 30 months. Only 4 of the 26 children contacted at follow-up had lit subsequent fires. The authors note that six children had been referred for additional therapy which had not been taken. These six children had subsequently been involved in other antisocial activities such as theft.

Employing the same combination of techniques, Bumpass, Brix and Preston (1985) evaluated the success of this intervention for 150 child and adolescent fire setters between the ages of 5 and 13-years. The follow-up period ranged from 6 months to 8 years with a mean follow-up period of 30 months. The authors reported that three children subsequently lit fires. This study is notable for its comparison of the number of fires set in the community, prior to and after the intervention. Reported fires in the Dallas area dropped by 31% after the intervention. These figures should be viewed with caution as, without provision of a manual and a measure of adherence to the manual, it is difficult to measure which of the intervention types were effective.

Schwartzman, Stambaugh and Kimball (1998) evaluated Oregon's Community Alternatives to Commitment Hazards (CATCH) Programme and reported a 7% recidivism rate at 1 year follow-up. The CATCH programme is an intensive psychosocial programme which is delivered in group format to adolescents aged

13-17-years-old. The intervention was delivered over 16 sessions, by Fire Service professionals and a youth counsellor. The participants were taught to identify feelings, manage anger, question thinking and create a personal fire graph. The parents of participants were taught the same skills that their children are learning and additionally parenting skills. However, without use of a manual, measures of the adherence to the protocol and delivery standardisation cannot be established. Thus it is difficult to ascertain which treatment modalities were effective in reducing recidivism.

Nishi-Strattner (2003) evaluated the Washington County (Oregon) Fire Academy Programme. The programme combined fire safety education and parent training for 219 children between the ages of 4 and 17 years. The children were also taught social skills to enable them to resist peer pressure. The parent training component addressed lack of parental supervision and low use of punishments and rewards which represent risk factors for fire setting. A recidivism rate of 6% was found for the follow-up period of between 3 months and 3 years.

One of the few comparative evaluations has been undertaken in Australia by Adler, Nunn, Lebnan, Northam and Ross (1994). Using a collaborative design which was modelled on Bumpass et al. (1985), 138 children aged 5 to 16-years were randomly assigned to one of two conditions. The intervention group received 3 home visits by a fire fighter which included fire safety education, graphing techniques and behavioural satiation. Additionally, parents received instruction in applying negative consequences if fire setting occurred. The control group received a home visit by fire fighter and were left with educational reading material. At one-year follow-up, the authors found significant decrease in the frequency and severity of fire setting behaviours for both conditions. Of the fire setters who showed improvement, 43% did not re-offend within the following year. The authors concluded that the multifaceted intervention was no more effective than the single home visit by fire-fighters and provision of educational reading material. The child's psychopathology was the only significant factor for fire setting behaviour at one year follow-up. Age, number of fire setting incidents and the number of smokers in the house were not significant. On this basis, Adler et al. (1994) recommended that brief community interventions may be appropriate for fire setters without major adjustment problems however those with major problems should be provided more intensive interventions by mental health professionals.

More recently in the United States, Kolko (2001) undertook a comparative evaluation of 46 boys aged 5 to 13-years. Participants were assigned to one of two skills based groups; Fire safety education (FSE) or Cognitive behavioural therapy (CBT). Participants in the FSE group received an average of 5.5 sessions compared to the CBT group who received on average, 7.4 sessions. The intensive intervention groups FSE and CBT were compared to a group who received a brief intervention consisting of a single home visit by a fire fighter (FHV) as this represented a routine community intervention. Parental reports at

2-year follow-up indicated that all three interventions significantly reduced the frequency of fire setting incidents. Both FSE and CBT showed the greatest reduction in fire setting incidents compared to the FHV. More specifically, the FSE group demonstrated enhanced fire safety skills and the CBT group reported significant decreases in fire interest.

Outcome studies in the literature have reported that interventions falling under two broad categories, education and psychosocial, have demonstrated various degrees of success. However, there are some interventions which have been shown to be ineffective. These are discussed below.

## Interventions thought to be ineffective

Additionally, there are interventions regarded as ineffective in reducing fire setting behaviour. Satiation, which involves children repeatedly lighting fires and extinguishing fires is based on the premise that children's interest in the fire will wane and children will tire of the repeated exposure to the activity (Wolff, 1984). Grolnick et al, (1990) asserted that repeated practice may result in the child feeling falsely competent and 'in control', which is likely to lead to increases rather than decreases in the behaviour.

Other interventions which are ineffectual include instilling fear into a child by lecturing, threatening or using punishments. These interventions are believed to create at best, situational compliance only. That is, compliance only when there is the threat of being witnessed (Cole et al., 2005). The optimal environment for behaviour change to occur is a supportive caring environment where children have been given clear boundaries and limits. In this setting they can safely learn new coping skills and communicate their thoughts and feelings. When children are fully engaged in the change process, motivation becomes internalised and negative behaviours are replaced (Cole et al., 2005; Grolnick et al., 1997).

## Limitations of Research

The relative successes of different interventions must be viewed within the context of the limitations of the reported outcome studies. Since the 1990's the majority of intervention programme evaluations have derived from the U.S.A and the U.K. Thus the reported outcomes of interventions conducted in these countries are positioned within social, legal and cultural contexts that may not be representative of other countries such as New Zealand which has a diverse multicultural population (Morrison, 2006). The indigenous people of New Zealand, Maori comprise 15% and Pacific Island people comprising 7% of the New Zealand population (Statistics New Zealand, 2006), thus consideration should be given to the extent to which international research can be generalised to New Zealand.

Reported studies have relatively suffered variable and often short term follow-up periods ranging from immediate post-intervention to two years with most

favouring one year (FEMA, 1983; Williams & Jones, 1989), Future research should evaluate the effect of treatment length and include more long-term follow-up. Other limitations include the lack of control groups (FEMA, 1983; Faranda et al., 2001) and lack of adherence to a standardised manual (Bumpass et al., 1985; Franklin et al., 2001). The use of a standardised manual to deliver interventions is extremely important as it promotes treatment standardisation and integrity. It is not clear from the literature the specific content which contributes to a successful fire safety education programme and there are no empirically based standards established.

Outcome evaluations typically rely on recidivism rates determined by either official records only (Franklin et al., 2002) or parental reports only (Kolko et al., 1991) to determine their success. Failure to use multiple informants to determine the rates of recidivism means that the statistics may under-represent the actual rate of recidivism and therefore over-represent the successes of the interventions. Future research should ensure that information regarding recidivism is collected from multiple informants.

Existing research reports acts of deliberate fire setting post intervention but very few indicate whether clients have engaged in other antisocial activities (Bumpass, Fagelman & Brix, 1983; De Salvatore & Hornstein, 1991; Franklin et al., 2002). Future research should measure this, given the tendency for fire lighting to co-occur with other types of externalising behaviours.

Finally, while many outcome evaluations have been published, the absence of process evaluations in which evaluators have interviewed people who actually light fires, has been highlighted. Programme evaluations have also neglected to include interviews with those who have delivered the interventions. Interviews with both adolescents as consumers of interventions and practitioners who deliver the interventions would offer new insight into what is currently successful in stopping repeated fire lighting, or what could be successful in reducing the number of deliberately lit fires (Haines et al., 2006).

## Service delivery issues

In conclusion, the literature suggests that interventions are most effective when agencies deliver the intervention from within their particular area of expertise. Therefore, fire safety education is best delivered by the Fire Service, conversely psycho-social interventions are likely to be more effective when delivered by mental health professionals (Adler et al., 1994).
While education and psycho-social interventions have demonstrated success when delivered individually, greater success may be possible when agencies collaborate and engage in aggressive outreach (National Association of State Fire Marshals, 2000; Webb, et al., 1990).

The National Association of State Fire Marshals (2000) evaluated an intervention delivered across four areas of the United States, including Columbus Ohio; Phoenix Arizona; Portland Oregon; and Rochester New York. The interventions all included a combination of safety education, therapeutic activities and follow-up. The evaluation concluded that the success of the interventions was due to strong relationships between multiple agencies. High levels of collaboration exist between Fire Service, schools and law enforcement and in some cases with community organisations. Additional factors which contributed to the success of these interventions included a clear referral system which facilitated early identification of potential fire setters and a flexible approach to the use of resources.

Interventions that are multidisciplinary and collaborative across many community agencies are likely to have the greatest impact. Internationally, deliberate fire setting results in a high financial and social cost both to the individuals who light fires and to the community. It is imperative then that interventions for adolescent fire setters have successful outcomes to prevent further incidences of fire setting. Thus it is critical that intervention programmes are evaluated regularly and their best practice disseminated (Haines et al., 2006).

## Evaluation objectives

As mentioned at the beginning of this chapter, there has been no systematic evaluation of the Fire Awareness and Intervention Programme to date. Moreover, outcome studies dominate the international literature with a focus on recidivism rates as the primary measure of a program's success. In fact there appears to be a complete lack of information available about the contextual factors of programme operations and the processes that influence outcomes. It is therefore suggested that this study is unique because it provides information about the FAIP from those who have first hand experience of it. This information is derived from interviews with adolescent clients and their families who have engaged in the FAIP, as well as programme staff and staff from external agencies.

The aim of the study was to investigate how the FAIP works so that strengths and weaknesses can be identified. This was achieved by reviewing programme documentation such as the 'New Zealand Fire Service Best Practice Guide' and the training manual. A key aspect of this evaluation is that it responds to limitations of previous research which has neglected to investigate the perceptions of those who experience the programme (Morrison, 2004). Interviews were undertaken with four groups, namely adolescent clients, their parents and caregivers, programme staff and staff from external agencies across six geographical sites. Interviews were conducted between September 2007 and February 2008.

The specific aims of the study were to:

1. Investigate adolescent consumer and caregiver perceptions of the extent to which the programme meets their needs.
2. Investigate programme staff responses to the programme, including perceptions of strengths and weaknesses.
3. Investigate stakeholder knowledge and perceptions about the programme
4. Identification of processes to improve the programme which is informed by information obtained from programme documentation, and interviews with adolescent and caregiver consumers, programme staff, and external agencies.
5. Assess the extent to which the programme caters for specific populations groups (i.e., high risk clients), Maori and Pacific Island people (degree to which the programme accesses the target population, especially Maori and Pacific Island clients), females and children.
6. Assessment of the degree to which the programme has quality assurance systems in place.

## Project advisory group

For the purpose of this evaluation the researchers consulted with the Fire Awareness and Intervention Program (FAIP) National and Regional Co-ordinators. Leainne Nathan from Family Start/Department of Corrections and Piki Thomas from NZFS provided cultural support and guidance. Regular meetings were held to clarify ideas about the methodology and to detail how the research would be undertaken in practice.

## Cultural Consultation

One of the key aims of this evaluation was to determine the extent to which FAIP met the needs of adolescents and their families. Maori adolescents represent almost one third of the total number of referrals made to FAIP annually, thus the inclusion of Maori perspectives regarding programme effectiveness was seen as crucial to the evaluation. Piki Thomas the National Maori Advisor from the New Zealand Fire Service, and Leainne Nathan a Cultural Consultant for the Department of Corrections/family Start provided assistance in the development of culturally appropriate questions for Maori participants in order to ensure cultural sensitivity and safety.

# Research Objectives

## Process evaluation objectives

*A. Programme Description*

1. To document the operation and characteristics of the FAIP programme, the environment in which it operates, limitations, and how this relates to best practice.

2. To document the target group (clients). This includes how the programme defines the clients in terms of their risk of recidivism, barriers to them accessing treatment programmes. In addition questions to be answered may include the following: Are Maori and Pacific Island clients getting the same access to treatment or are they being dealt with in a different way by other community services? Are the needs of female clients being catered for adequately?

*B. Effectiveness*

1. To investigate client and caregiver perceptions of the extent to which the programme meets their needs.
2. To investigate stakeholders' response to the programmes, including perceptions of strengths and weaknesses.
3. To investigate the potential efficacy of the therapeutic models and processes used with reference to the international literature and client perceptions.
4. To assess the extent to which the programme caters for specific populations groups (i.e., high risk clients), Maori and Pacific Island people (degree to which the program accesses the target population, especially Maori and Pacific Island clients), special needs, females and children.
5. To investigate the degree to which the programmes have quality assurance systems in place.
6. An important aspect of delivering human services effectively are the staff – hence an important construct is to consider staff characteristics - demographic information; training; experience and what fields; qualifications; supervisory support; treatment orientations and preferences; clinical decision-making etc).

*C. Changes/Recommendations*

1. To identify processes to improve the programmes that will be informed by information obtained from programme documentation, and interviews with programme staff, clients, caregivers and stakeholders.

# Research Methodologies

## Process Evaluation

Qualitative research methods were used, as these permit the exploration of the programme processes and outcomes and highlights programme strengths and weaknesses (Patton, 2002a). Programme documentation such as 'FAIP Best Practices Guide', the 'National Training Manual' and accompanying 'Practical Training Guide', brochures, information sheets and programme handouts were reviewed. The primary source of information for the purpose of this evaluation was interview data collected with four groups; child/adolescents, their parents/caregivers, programme staff and staff from external agencies between September 2007 and February 2008. Interviews were conducted with participants across six fire regions in New Zealand; Arapawa, Auckland, Eastern, Northland, Transalpine and Western regions.

An inductive approach to data analysis was utilised as this permits themes in the data to emerge without the use of predetermined categories for analysis (Braun & Clarke, 2006). Triangulation in qualitative data analysis is crucial to strengthen the validity of findings and involves the comparison of multiple sources of information (Patton, 1987). In this study interview data was compared to file information, the perspectives of FAIP co-ordinators and training staff was compared with programme practitioners and interview responses from adolescents was compared to that of parents and caregivers.



**Figure 1: Fire Regions of New Zealand**
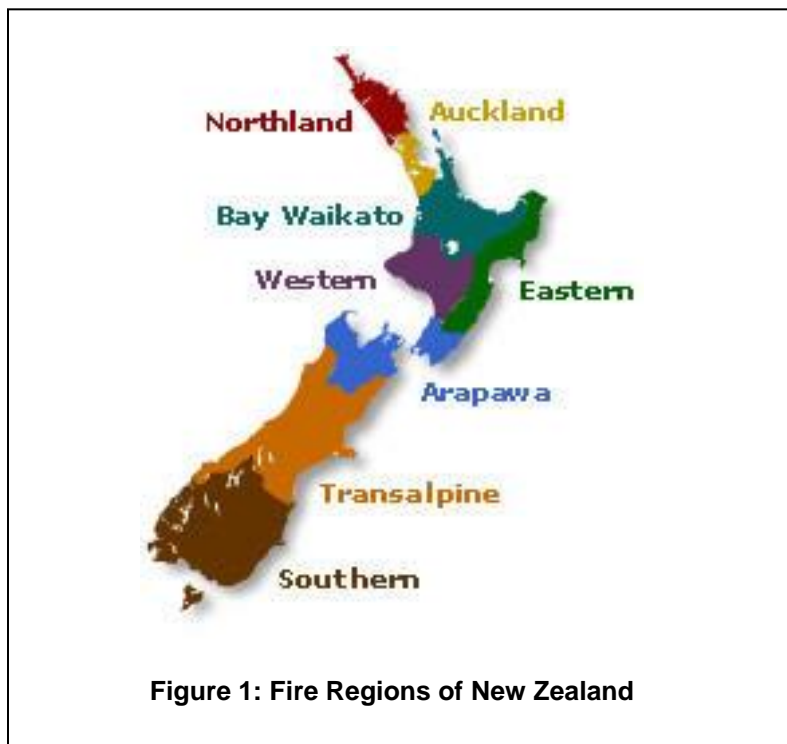
## Participants

The four interviewee groups comprised programme staff (n = 23), adolescent clients (n = 17), caregivers (n = 22) and external agency staff (n = 6). The distribution of interview groups across each programme site is shown in Table 3.

**Table 3: Distribution of Interviews by Programme Site**

|  | Programme Staff | Adolescent Clients | Caregivers | External Agency Staff | TOTAL |
|---|---|---|---|---|---|
| **Arapawa** | 2 | - | - | - | 2 |
| **Auckland** | 4 | 8 | 10 | 6 | 28 |
| **Eastern** | 5 | 1 | 3 | - | 9 |
| **Northland** | 3 | 2 | 2 | - | 7 |
| **Transalpine** | 4 | 4 | 5 | - | 13 |
| **Western** | 5 | 2 | 2 | - | 9 |
| **TOTAL** | 23 | 17 | 22 | 6 | 68 |

## Programme staff

Interviews were conducted with FAIP co-ordinators and practitioners in Arapawa, Auckland, Eastern, Northland, Transalpine and Western regions. The aim of the interviews was to get an overview of the FAIP programme and information about the strengths and weaknesses of the programme. A total of 23 interviews were conducted with programme staff, including programme co-ordinators (n = 6), practitioners (n = 15) and staff from the training team (n = 2). For inclusion in the study, staff had been employed for a minimum of six months. Across all sites, the overall length of employment with the Fire Service ranged from 4 years to 42 years and length of involvement in the FAIP ranged from 8 months to 18 years. The distribution of programme staff interviews by ethnicity and gender are shown in Table 4.

**Table 4: Distribution of Programme Staff Interviews by Ethnicity and Gender**

|  | Total | Gender | | Ethnicity | |
| --- | --- | --- | --- | --- | --- |
|  | Interviewed | Male | Female | Pakeha | Maori |
| **Arapawa** | 2 | 1 | 1 | 2 | - |
| **Auckland** | 4 | 4 | - | 3 | 1 |
| **Eastern** | 5 | 4 | 1 | 3 | 2 |
| **Northland** | 3 | 3 | - | 3 | - |
| **Transalpine** | 4 | 2 | 2 | 4 | - |
| **Western** | 5 | 4 | 1 | 5 | - |
| **TOTAL** | 23 | 18 | 5 | 20 | 3 |

## Adolescent clients

Following discussion with Fire Service staff and members of the research team it was agreed that a sample size of 12 participants at each of the following sites; Auckland, Eastern and Transalpine would be considered appropriate. Of the 12 participants, it was anticipated that 6 participants would be clients who were initially *resistant* to Fire Service intervention and 6 who were open and *engaged* during the Fire Service intervention. Participants were considered to be *engaged* if they presented as motivated and interested to learn at the time of the intervention. Participants were considered to be *resistant* if they presented as low in motivation and disengaged from learning at the time of the intervention.

Additionally, in order to reflect the proportion of Maori clients involved in the FAIP, it was agreed that Maori participants should represent approximately one third of the total numbers interviewed at each site (n = 4). To reflect the proportion of female clients involved in FAIP, it was agreed that a minimum of one female participant should be interviewed at each site. A requirement for all participants selected was that they had to have undertaken the Fire Awareness and Intervention programme in the last 2 years.

It was not possible to reach sufficient sample sizes from the three regions Auckland, Eastern and Transalpine. As a result, adolescent clients from Northland and Western regions were invited to participate in the interviews. A total of 17 adolescent clients were recruited to participate in interviews across five programme sites, Auckland, Eastern, Northland, Transalpine and Western. The demographic details of the adolescents interviewed are given in Table 5.

**Table 5: Characteristics of Adolescent Clients by Programme Site**

| | Total Interviewed | Gender | | Ethnicity | | | Age range | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Male | Female | Pakeha | Maori | P.I. | 6-10 years | 11-14 years | 15-17 years |
| **Auckland** | 8 | 8 | - | 5 | 2 | 1 | 1 | 6 | 1 |
| **Eastern** | 1 | 1 | - | 1 | - | - | - | 1 | - |
| **Northland** | 2 | 2 | - | 2 | - | - | - | - | 2 |
| **Transalpine** | 4 | 3 | 1 | 1 | 3 | - | 1 | 1 | 2 |
| **Western** | 2 | 2 | - | 2 | - | - | 1 | 1 | - |
| **TOTAL** | 17 | 16 | 1 | 11 | 5 | 1 | 3 | 9 | 5 |

Of the 17 adolescent clients interviewed only one was female (5%). It was not possible to recruit others as there are very small numbers of female clients referred in each of the regions and the sample represents all those who agreed to take part in the study. Nationally, female clients referred to the FAIP in the year 2006/07 represent 9% of all referrals. The sample of female clients is representative of the population of female clients engaged in the FAIP. Of the adolescent clients interviewed, 29% (n = 5) were Maori which is representative of the population of Maori clients engaged in the FAIP during the year 2006/07 (28%). The majority of clients were in the 11 to 14 years age group (53%). Adolescent clients in the 11 to 14 years age group make up 51% of all those engaged in the FAIP in the year 2006/07. Nine of the interviews were conducted face to face and eight were conducted via telephone.

## Caregivers

In order to match the numbers of adolescent clients interviewed, I sought to interview 12 caregivers of children who had participated in the FAIP, at each of the following sites Auckland, Eastern and Transalpine. For inclusion in the study, the caregivers had to have a child who had been engaged in the Fire Awareness and Intervention Programme in the last 2 years. All caregivers who were connected to an adolescent who was interviewed, were contacted and asked if they would be prepared to participate in the study. To reflect the proportion of Maori clients involved in programmes, it was agreed that Maori participants should represent approximately one third of the total numbers interviewed at each site (n = 4). It was not possible to reach sufficient sample sizes from the three regions Auckland, Eastern and Transalpine. As a result, parents and caregivers from Northland and Western regions were invited to participate in the interviews. A total of 22 parents and caregivers of adolescent clients consented to participate in interviews across 5 programme sites. Table 6 shows the characteristics of caregivers across programme sites.

**Table 6: Characteristics of Caregivers by Programme Site**

| | Total Interviewed | Gender | | Ethnicity | | |
|---|---|---|---|---|---|---|
| | | **Male** | **Female** | **Pakeha** | **Maori** | **P.I.** |
| **Auckland** | 10 | 1 | 9 | 6 | 3 | 1 |
| **Eastern** | 3 | - | 3 | 2 | 1 | - |
| **Northland** | 2 | - | 2 | 2 | - | - |
| **Transalpine** | 5 | - | 5 | 3 | 2 | - |
| **Western** | 2 | - | 2 | 2 | - | - |
| **TOTAL** | 22 | 1 | 21 | 15 | 6 | 1 |

Of the 22 parents and caregivers interviewed only one was male and it was not possible to recruit others as there are very small numbers of male caregivers who were present at the time of the intervention. Of the 22 parents interviewed 27% (n = 6) were Maori, which is representative of the population of Maori clients engaged in the FAIP during the year 2006/07 (28%). A range of caregiver roles were represented in the sample with 81% (n = 18) being biological parents, one step-parent, one foster caregiver, and two grandmothers. Ten of the interviews were conducted face to face and 12 were conducted via telephone.

## External Agency Staff

The perspectives of practitioners employed by agencies who work directly with children and adolescents in a variety of areas were also of interest in this evaluation. A total of six participants from Auckland youth agencies were contacted via telephone and interviewed to ascertain the degree to which the agencies were aware of the FAIP. Participants were subsequently emailed an invitation to complete a more in depth questionnaire regarding their views of interventions with fire setters. Table 7 shows the characteristics of external agencies.

## Interview Schedule development

Interview questions were derived from the research objectives and from process evaluations undertaken in the field of sexual offender treatment programme effectiveness (Geary & Lambie, 2005) and '*International interventions for children who deliberately light fires*' (Haines et al., 2006). These interview questions were reviewed by members of the New Zealand Fire Service and the research team to ensure that questions remained open-ended whilst meeting the aims of the evaluation objectives.

Interview schedules for each sample group followed a similar format (see Appendices K to O). The first section of each interview schedule contained questions regarding demographic details of the participant. Subsequent sections

of interview schedules for both adolescents and caregivers contained questions directly regarding their experiences of the FAIP, with questions designed to explore strengths, weaknesses and suggestions for improvement.

Programme staff were asked a series of demographic questions followed by questions designed to explore staff perceptions of the FAIP's strengths, weaknesses and provide suggestions for improvement. Programme staff were also asked questions about training, supervision and organisational support and programme operations. Staff from external agencies were asked to provide an explanation of their core business, whether their agency provides support to adolescents who have set fires; and the extent to which they are aware of the FAIP and make referrals to the programme.

Each interview schedule contained a 'Cultural Services' section with five questions aimed at eliciting responses about the ways in which the programme meets/does not meet the cultural needs of Maori. Only Maori participants answered this section. These interview items were derived from research objectives and from process evaluations undertaken in the field of sexual offender treatment programme effectiveness (Geary & Lambie, 2005) and international interventions for children who deliberately light fires (Haines et al., 2006). Cultural consultation was sought from Piki Thomas from the Fire Service and Leainne Nathan a cultural supervisor for the Department of Corrections to ensure that the questions were culturally appropriate.

## Programme description

The Fire Awareness and Intervention Programme, was started in 1992 in Auckland. The need for a targeted intervention grew out of the increasing number of referrals received by the NZFS from community health organisations, who had been reporting fires that were lit by children. The FAIP has been delivered in a total of eight fire regions of New Zealand and a national co-ordinator has been appointed for the last 10 years.

### FAIP Clients

The FAIP provides intervention for children and adolescents between the ages of 3 and 17 years, their parents. Between July 2003 and November 2007, 2696 young people had received the FAIP intervention. Of these 2696 individuals, 8% were between the ages of 1 year and 5 years (n = 214), 32% were between the ages of 6 years and 10 years (n = 864), 46% were between the ages of 11 years and 14 years (n =1235), 13% were between the ages of 15 years and 17 years (n= 351), and 1% were18 years and older (adults) (n = 31). Sixty-eight percent of clients identified themselves as Caucasian (n = 1842), 25% identified as Maori (n = 685), 4% identified as Pacific Islander (n = 116), and 2% as Asian or other ethnicity (n = 53).

Twenty-seven percent of clients cited boredom (n = 724) and 25% cited experiment (n = 682) as the most common motivation for their behaviour. Another 25% of clients were unable to identify a motivation for their behaviour (n = 680). Ten percent of clients stated that they had a diagnosis of Attention Deficit Disorder (n = 258), 2% stated that they had been diagnosed with Depression (n = 44), 1% had been diagnosed with Anxiety Disorder (n = 22) and 1% were diagnosed with Conduct Disorder (n = 25). Thirty-three percent of clients stated that they had 'multiple problems' (i.e. anger, anxiety, depression, hyperactivity and suicidal/self harm behaviours). Ninety-four percent of clients reported to have understood what they had done (n = 2527), and 11% reported to have deliberately lit the fire (n = 296).

**Intervention process**

The New Zealand Fire Service 'Best Practice Guidelines' outline the following process for delivering the intervention. The Regional co-ordinator is responsible for allocating the case to a practitioner within 2 days of receiving the referral. In regions where there is a sufficient amount of practitioners, two practitioners will respond to the referral. The practitioner will make initial contact via telephone with the parent/caregiver to arrange a time to make a home visit, provide an overview of the intervention and explain the consent process. Best practice states that this process should occur within three days of receipt of the referral. Best practice further stipulates that the intervention will be delivered within ten days.

During the initial visit, the FAIP practitioner will introduce the programme and develop rapport with the child and their caregivers. The practitioner will then explain the limits of confidentiality and gain written consent from the caregivers. Caregivers are then asked to sign an additional consent form at the conclusion of the intervention which confirms their presence during the intervention and their satisfaction with what occurred.

Once consent has been obtained, the practitioner completes the Screening Profile Interview Questionnaire (see Appendix Q). The Screening Profile questionnaire contains demographic information such as age, ethnicity, questions related to fire lighting behaviour. Additionally, there are questions related to mental health history, presentation of other antisocial behaviours and referrals to other support agencies. Information drawn from the Screening Profile aids the practitioner in formulating a strategy for intervention which is matched to the client's developmental level and attends to any additional needs they may have.

Following completion of the Screening Profile, the practitioner will deliver the fire safety education component. The practitioner uses resources such as pictures of structural fires, DVD's and workbooks to raise awareness about the dangerous consequences of unsafe fire use, the speed of fire, and to develop fire safety awareness. Rewards such as badges, stickers, certificates and star charts can

be used to reinforce behaviour change and abstinence from fire setting. Resources are selected by the practitioner according the age and developmental level of the client. In conclusion, the practitioner will invite both the child and caregiver to undertake a fire home safety assessment. Adolescents and their caregivers are supported to design an escape plan together, and note a safe meeting place in case of a fire. Other tasks include identifying and removing potential fire hazards, testing any existing smoke detectors to ensure they are working and if necessary, installing smoke detectors.

At the conclusion of the intervention, the practitioner will arrange to make a follow-up visit to the family. The purpose of the follow-up visit is to review any homework and assess whether behaviour change (fire setting abstinence) has been maintained. At this stage further appointments for follow-up can be made with the family to provide additional fire education. If no further follow-up is required, the young person is provided with a certificate of completion.

The final stage of the intervention is the issuing of a follow-up letter, three months after the programme has been completed. The letter requests feedback from the caregiver about the young person's progress and their satisfaction with the programme.

## FAIP Staff

FAIP is lead by a National Co-ordinator who works closely alongside a National Steering Group. There is a national administrator who is responsible for collating national statistics for the programme. There are co-ordinators, administrative support and practitioners in each of the eight fire regions. Seven of the regional co-ordinators are employed on a part-time basis and there are two full time FAIP co-ordinators (Transalpine and Northland). Most practitioners are employed as part-time FAIP practitioners and also work as fire safety officers or operational fire fighters. Two Clinical Psychologists act as consultants to the FAIP and are available to advise the practitioners with regard to referrals and clients who present with complex needs.

## Staff training

FAIP staff participate in a week long induction and training programme. The training covers; child development and typologies of children who light fires; communication skills (development of rapport); ethics, (limits of confidentiality); assessment (The Screening Profile); fire safety education (resources); legislation and referral to specialist services. Following formal training, new practitioners have the opportunity to accompany experienced colleagues and observe interventions.

In 2005 the first FAIP Conference was held. This has become an annual event, providing practitioners the opportunity to network; share best practice, and hear guest speakers on a variety of topics relevant to developing their practice.

Stakeholders such as Child Youth and Family Services (CYFS), and Consultant Clinical Psychologists of the FAIP have conducted workshops at the FAIP conferences. Best practice guidelines state that supervision will be provided for FAIP staff at 6 monthly intervals.

**FAIP Stakeholders**

Stakeholders of the FAIP include Child, Youth and Family Services (CYFS), Police, Drug and Alcohol treatment agencies, schools, Youth Offending and Mental Health agencies and the public. A formal arrangement has been made between CYFS and the New Zealand Fire Service which outlines a clear procedure and guidelines for the referral process between the agencies.

**Referral Sources**

Nationally between July 2003 and November 2007, the majority of referrals to the FAIP were received from the family members (26%). Referrals are also received from Police (18%), Schools (16%), New Zealand Fire Service (15%) and Youth Aid (13%). The NZFS will acknowledge receipt of any referral made to them by an external agency and provide that agency with information regarding the outcomes as outlined in the NZFS 'Best practice Guidelines'.

**Referrals to Stakeholders**

When clients who are referred to the FAIP present with complex needs beyond the scope of programme, referrals to external agencies are made. Nationally between July 2003 and November 2007, 2% of clients were referred by FAIP staff to counselling services, 2% to the Police and 1% were referred to mental health agencies. Practitioners are able to assist clients to identify appropriate community services for further support. In cases where FAIP practitioners suspect that a child is at risk of abuse or neglect, they are mandated to make an immediate referral to CYFS. Between July 2003 and November 2007, 1% of all clients engaged in the FAIP were referred to social welfare agencies. Additionally, Clinical Psychologists employed by the NZFS are available to support high risk clients who may require further therapeutic intervention to address their needs.

**Cultural Services**

The promotion and development of fire safety programmes in Maori communities in New Zealand is undertaken by four Iwi Liaison officers, and a National Maori Advisor. There is no formal provision for cultural supervision within the NZFS policy however these individuals provide support and guidance on cultural issues across the eight fire regions in New Zealand.

**Evaluating Outcomes**

The FAIP has been operating in New Zealand for 16 years however no process or outcome evaluation has been undertaken in that time. The FAIP records only those children and adolescents who set another fire within one year as recidivists. If the child sets a fire one year post intervention they are regarded as a 'new client' and a new file is established. As an additional measure of success, the Fire Service relies upon responses from parents to a voluntary feedback form which is provided to parents at the conclusion of the intervention.

# Results

## Consumer Perspectives

Adolescents and parents as consumers of the Fire Awareness and Intervention Programme have different experiences of the intervention to those who manage or deliver the intervention programme. For this reason, adolescents and parent/caregiver perspectives are reported separately to staff and stakeholder perspectives. Separation of participant's responses allows for unique perspectives to be presented and retained. Presented in this section are adolescents', parents' and caregivers' perspectives regarding the Fire Awareness and Intervention Programme. Specifically this section will focus on participants contact with the Fire Service, engagement in the programme and aspects of the programme which they believe facilitated change. Adolescents and caregivers are referred to as '*participants'* in this section as they participated in the FAIP evaluation interviews. Themes and sub-themes are highlighted and examples of participant's responses are included.

### Time lapse between Fire Service intervention and feedback

For inclusion into the study adolescent, parents and caregiver participants had to have completed the intervention within the last 2 years. The time lapse between completing the FAIP and participating in the evaluation interviews ranged from 3 months to 19 months with a mean time of 8 months.

### Level and continuity of intervention service provision is positive

Adolescents, parents and caregivers reported a variety of levels of intervention provided to them by the Fire Service. Interventions included; one practitioner providing one visit, to one practitioner providing six visits, or two practitioners providing one visit, to two practitioners providing six visits. In most cases, caregivers and adolescents stated they were satisfied with the level of contact and continuity of service: *"it was good the same one coming… they did offer a follow-up and I declined"*. In one case, a male and female practitioner conducted 3 separate visits and was received positively by the caregiver: *"that was really good, because you get both male and female perspectives"*.

### Fire Awareness and Intervention Programme

Adolescents, parents and caregivers were asked to describe their experiences of the FAIP with specific focus on what worked well and what could be improved (for specific questions see Appendices K and L).

**What works well?**

Participants were asked to describe their experiences of the FAIP and in particular reference to what they felt worked well about the programme. In response to the enquiry "What works well?" both caregivers and adolescents generated responses which fell into the same four distinct themes; practitioner qualities, programme content, programme resources and fire service contact.

### *Practitioner qualities facilitate the development of a sound therapeutic relationship.*

Both caregivers and adolescents cited the non-judgemental and non-threatening, empathetic approach of practitioners as something which encouraged their engagement in the intervention: *"X was able to open up to the fire guy", "they made X feel special"* and from adolescents: *"I was scared about his visit at first but he asked me questions, then it was ok, not scary"*. More specifically parents and caregivers appreciated the *"calm and capable"* presentation of the FAIP staff who delivered the programme without punishment or judgement.

### *Programme content raises awareness and educates participants*

Both caregivers and adolescents reported that the home safety assessment and education components of the intervention had a significant impact in raising their awareness of fire safety. In particular, discussions raised awareness about the consequences of unsafe fire use, ranging from loss of material possessions to the loss of life. Parent sand caregivers reported the impact of discussions *"brought home the seriousness of the behaviour", "the stories were real and worked"*, while adolescents described the impact of discussions; *"I learnt a big lesson"* and *"its good teaching people not to light fires"*. Participants felt that education about the science of fire, the speed at which it spreads and the potential to cause damage raised awareness in young people that had thus far been lacking.

The practical home safety component of the intervention was well received by both caregivers and adolescents. The home safety component involved developing fire escape plans and checking or installing smoke alarms. By using a collaborative approach with the adolescents and giving them responsibility for checking the smoke alarms, practitioners empowered the participants to ensure their future safety: *"they taught me a lot about fire safety by doing an escape plan and showing us where smoke alarms should be", "it was cool, they gave my mum a smoke alarm and they gave them to our neighbours too!"*. The reinforcing nature of homework was a provision that parents and caregivers appreciated: *"it made us discuss it as a family"* and additionally, homework was positively received by adolescent participants: *"they gave me homework which I liked, it was mostly easy though"*.

### *Programme resources are an effective education tool*

Most participants noted that the resources had a significant impact and were highly effective in demonstrating the seriousness and consequences of fire lighting behaviour. Parents stated: *"showing X the pictures made him take it seriously"*. In particular, reactions of adolescent participants to pictures depicting structural fires and/or burn victims, and DVD's showing the speed of fire were effusive: *"those picture were severe…serious"*, *"I was shocked at how quick fire spreads… that Bradford stadium was shocking"*. Most adolescent participants noted that the workbooks provided effective reinforcement for fire safety information that had been previously taught in school: *"good revision for stuff we have done at school"*. Additional resources such as star charts, caps and certificates of completion provided reinforcement for successful completion of learning objectives and were well received by the majority of participants.

### *Contact with the Fire Service is a positive experience*

Overall, participants reported appreciation for the service they received from the Fire Service, specifically noting the level of information provided to them about the programme, and confidential nature of the service: *"they didn't park near the house"*. Caregivers felt supported by frequent and prompt communication: *"The Fire Service called ahead, kept us informed"*, *"prompt service (within a day)…and left a business card, they said call anytime"*.

### Summary of what works well

Many positive comments were received from caregivers and adolescents regarding the FAIP practitioners' ability to engage and develop rapport as a basis from which to conduct the intervention. Many noted that the content may not have bee addressed had it not been for the patience of the practitioner in engaging the young person. The findings suggest that the biggest impact upon caregivers and adolescents in raising awareness of the dangers of unsafe fire use came from the content and resources that were employed. In particular, the use of the visual aids (DVD/pictures of structural fires and dead people) gave further substance to discussions regarding the dangerous consequences of unsafe fire use. Finally, caregivers were grateful for the prompt and confidential support service which was provided by the New Zealand Fire Service.

### What aided learning?

Adolescents and caregivers were asked to comment more specifically on which features of the programme aided learning. Again, the responses of adolescents paralleled that of caregiver participants and fell into three themes; practitioner qualities, programme content and programme resources. Additionally adolescent participants noted the importance of parental support.

### Practitioner qualities facilitate the development of a sound therapeutic relationship

The skills of the practitioner in their ability to relate to the clients and present programme content in a way that was easy to understand featured prominently in both adolescent and caregivers responses. Parents and caregivers noted the practitioner's willingness to engage with and understand their child: *"he was a young guy so he was able to relate to X"* and *"they tried to understand where X was coming from… there was no telling off"*. Adolescents appreciated the information being presented in a way that was easy to understand and noted: *"the guy was nice to me, helped me understand"*.

### Programme content raises awareness about consequences of fire play

There were many references to the positive impact of discussions regarding the dangerous consequences of fire. Parents and caregivers felt that these discussions were important in raising awareness about the dangerousness of fire, an aspect that they believed their children had not considered prior to the intervention. Adolescents stated that the discussions: *"told me what it could be like if I was to do it again"* and the resulting impact of discussions on adolescents: "*encouraged me not to do it again*". Additionally, caregivers felt that the 'one to one' contact with their children had been helpful and noted that the programme duration was appropriate to hold the their children's attention. In terms of specific content, adolescent respondents stated that they had enjoyed the task of creating an escape plan and appreciated getting smoke detectors installed *"doing a fire escape plan and getting fire alarms was good"*.

### Programme resources reinforce safety messages

Overall adolescent and caregiver participants engaged with the visual resources employed by the FAIP practitioners. Participants noted that the pictures and DVD's had a significant impact in raising their awareness of the impact of fire setting behaviour: *"the ones [pictures] of dead people and skin grafts had huge impact"*, and *"those pictures made me think about how severe it all is", "the videos and DVD's were surprising and shocking"*. Caregivers also stated that they felt the workbooks given to their children were age appropriate and that giving star charts, certificates and a fire badge reinforced the positive work achieved in the workbooks or during the intervention.

### Parental involvement is supportive

Additional comments made by adolescent participants conveyed an appreciation of the presence of their caregiver for support during the intervention: *"having mum there helped, she explained stuff to me"*.

**Summary of what aided learning**

In response the question, "What aided learning?" the dominant theme was again the ability of the practitioner to develop rapport and engage the young person and their family. Both adolescents and caregivers appreciated the time that was spent on building a relationship from the outset and many note that without this, the content would not have been addressed. Again, both caregivers and adolescents stated that it was the use of resources which gave life to the educational content, and this supported learning. Finally, adolescent participants stated that the presence of a caregiver had supported them to learn the fire safety content that was presented to them.

**What could be improved?**

In response to the enquiry "What could be improved?" many caregivers and adolescents were emphatic in their responses and stated that they believed nothing could be improved, they were very satisfied with the service they had received: *"a lovely job", "no need for improvement"*. Parents also conveyed a sense of feeling very grateful for the support and intervention: *"just what we needed at the time", "I was just so grateful that they came"*. Adolescent participants were frequently even more emphatic: *"It was super super good"*. Those participants who did offer suggestions for improvement, generated responses which fell into four distinct themes; programme content, programme resources, early intervention by the Fire Service and information sharing between agencies.

***Programme content should be tailored appropriately***

Comments from a small number of adolescents and caregivers suggested that at times the programme content was not appropriate to perceived level of need. They further stated that the content could have been tailored more appropriately to age, taking into account existing levels of knowledge. A few caregivers indicated that their expectations about the level of intervention had not been met: *"It was just a chat, I was under the impression it would have been more of an intervention"* and further stated that the content had not been pitched at the appropriate age level: *"It was aimed at primary school level and X is 15 years old…those star charts are completely inappropriate; those are for kids, he is 15, how insulting is that?"*. One caregiver felt that completing an escape plan did not add educational value to what they provided as parents: "*X did the escape plan but we are teachers and we do this every time we move anyway"*. Some adolescent participants also stated that the content was: *"boring, repetitive, stuff I have done at school"*.

***Programme resources should be carefully targeted and additional resources added***

While many adolescents and parents cited the programme resources as strengths of the intervention, some participants noted that resources were not used and reflected that had they been used, this may have aided learning: *"No DVD's were shown to us, that would have been helpful"*, *"I didn't see DVD's that would have been good"*, *"I didn't get a workbook…didn't do an escape plan"*.

Conversely, when resources were used, some participants felt that the resources were not appropriate to age or developmental level: "*the workbooks were too easy for X…could have been a bit harder"*, one adolescent participant stated: *"they were way too easy, they only took me five minutes to do"*. Another caregiver indicated that they would have appreciated more time to look at the resources: *"we only looked at pictures for five minutes, we could have had them longer"*.

There were some negative responses from adolescent participants who indicated that the resources were unappealing: *"the DVD was boring… how fast a chair can burn"*, and *"the pictures ok but not too scary"*. Where additional resources were suggested by participants, adolescents' suggestions were reward based: *"bring lollies"*, *"bring fire truck for a ride"*, whereas caregiver responses suggested alternative resources for education purposes: *"seeing a burnt out house, to walk in it and to smell it is different to two-dimensional pictures and may have better impact"*, *"include a visit a fire station, some children might be fascinated by fire trucks and start a fire to see one"*, *"have programmes in school for 13 and 14 year olds"*.

***Early intervention and follow-up by the Fire Service is key***

Parents and caregivers indicated appreciation for the service they received but stated that it would have been helpful if support had been provided earlier: *"contact in the first instance would have been helpful, this is X's 3rd fire"*. Both caregivers and adolescents identified that a follow-up visit would have been helpful in order to reinforce learning: *"workbooks were done and they never returned to collect them/check them"*, one adolescent indicated that they had anticipated a follow-up visit for months after the initial visit: *"no one came back to check my books and I carried them around for months just in case"*.

### *Information sharing between agencies is helpful*

One caregiver made additional comments regarding the lack of information sharing between community agencies and the Fire Service. This caregiver understood the limits imposed on agency's ability to share confidential file information however they felt it would have be useful for the Fire Service to receive this information: *"school didn't share much with Fire Service due to privacy laws but would have helped to inform the Fire Service that X has Autism"*.

## Summary of what could be improved

Whilst many participants emphatically stated that there was nothing that could be improved in the FAIP, a few participants were able to make recommendations for aspects which could be modified. In some instances resources were not used and responses from adolescents and caregivers suggested that they would have appreciated the use of resources to support learning. In other cases, adolescents and caregivers identified that content and resources could have been tailored more appropriately to age and level of need. Both caregivers and adolescents indicated that although FAIP homework had been completed, the practitioner did not provide a follow-up visit in order to check the homework. This had left adolescents and caregivers feeling disappointed and frustrated. Finally, caregivers felt that information sharing between agencies was not sufficient and could be improved in order to support the Fire Service in planning and tailoring the intervention, to suit the needs of the consumer.

## Did the Fire Service respond to any special needs?

Parents and caregivers were asked if the FAIP practitioner responded to any special treatment needs that their child has. The responses clearly indicated that the practitioners responded in a sensitive manner to any special needs.

### *The FAIP practitioners are responsive to special treatment needs*

Parents and caregivers were asked whether their child had any special treatment needs which the Fire Service addressed within the FAIP. While many of the participants stated that their child did not have additional treatment needs, others whose children did have special needs, provided accounts of how the practitioners had adapted content and delivery style to suit the child's particular needs.

Many of the caregivers stated that their child had a diagnosis of Autism or Aspergers Syndrome, which they stated the practitioner has addressed by using primarily *"visual aids"*, *"kept it short and to the point"* and *"used simple language"*. One caregiver emphatically stated: *"X has a really short attention span and he was absolutely captivated, that was all down to the way it was put across"*.

Other participants made positive comments regarding the way that the FAIP practitioner had supported their child with regard to peer pressure: *"I know they talked about how to say no to friends"* and "*they talked about alternatives to being the ring leader"*.

**Summary of the Fire Service response to special needs**

Approximately 30% of parents and caregivers reported that their child was diagnosed with Autism or Aspergers Syndrome (n = 6). Reponses from these parents and caregivers indicated that the FAIP practitioner had done the utmost to adapt the timing, style and content to suits the needs of participants with additional needs. Other parents who children did not have a specialised diagnosis reported that the practitioner demonstrated a willingness to address their child's additional needs as relevant to the fire setting behaviour.

**Cultural needs**

One of the key aims of this evaluation was to determine the extent to which FAIP met the needs of adolescents and their families. Maori adolescents represent almost one third of the total number of referrals made to FAIP annually, thus the inclusion of Maori perspectives regarding programme effectiveness was seen as crucial to the evaluation. All adolescent and caregiver participants who identified as Maori (n = 11), were asked a series of questions designed to illicit the degree to which they felt the FAIP met their cultural needs.

***The programme meets the cultural needs of families***

The majority of participants stated that the practitioners and programme content met their cultural needs *"Yes, as much is required*… there was something in the workbook about fires dug in the ground"*, and only one participant stated to the contrary: *"No, it didn't but I don't see how culture is involved anyway, it's nothing to do with being Maori"*. There was general agreement that although a specialist cultural assessment was not undertaken, practitioners were sensitive to issues of cultural difference. Some participants were unable to detail exactly how this presented: *"they were definitely culturally aware and sensitive but there were no special actions or behaviours, just a sense I got"*. Others were able to be more detailed: *"he asked our ethnicity and tribe"* and further:

> *"Yes, at every stage they asked our permission to do certain activities, he took his shoes off, he asked if there was anywhere that was off limits in our house we appreciated that".*

When asked to detail any aspects of Maori culture they would appreciate being included in the programme, most participants stated that there was nothing that they could identify from a cultural perspective which would have enhanced the programme: *"Nothing, I only expect Tikanga practices in certain circumstances, not this"*. Another participant stated: *"we did karakia before he arrived anyway"*. Only one participant provided recommendations for inclusion:

*"It would be very important, if they used Te Reo to get the pronunciation right… it would be awesome if a European came into my house and used a Maori fable like 'Maui and the fingers of fire' to illustrate the safe use of fire".*

**Summary of Fire Service response to cultural needs**

Many participants stated that they did not strongly identify as Maori and thus did not wish to have a cultural component added to the programme, and or/ they were not able to detail aspects of culture that they would like to see added to the existing programme due to lack of awareness. Additionally, many stated that culture was not relevant as fire setting transcended culture and indicated that the programme addressed all the relevant needs of their child. One participant suggested that incorporating Te Reo would be appropriate if the pronunciation was accurate and further stated that there may be a place to incorporate Maori myths and legends into the education component.

**Conclusions**

The findings show that parents, caregivers and adolescents consider the FAIP to be a positive and supportive experience. Participants were asked a series of questions designed to elicit responses regarding the strengths of the programme and aspects which could be improved. The responses to interview questions generated themes and sub-themes which were frequently common to both caregivers and adolescents.

Aspects of the FAIP which participants identified as strengths included: practitioner qualities, programme content and programme resources. However these aspects were also perceived by participants to be those which could be improved. Participants indicated that the skill and patience of practitioners to engage with young people and develop rapport was a key strength under pinning the programme. They further believed that without rapport, the educational component of the programme would not have been addressed. Additionally, the majority of responses indicated that the educational content of the programme combined with the use of visual resources, had a significant impact in raising awareness of the dangers of unsafe fire use for both caregivers and adolescents.

Although there was general agreement that the FAIP was a positive experience, participants offered suggestions for improvement which included: practitioner qualities, programme content and programme resources. Those participants, who identified areas for improvement in the programme, stated that they had experienced a mis-match between the content delivered and/or the resources used compared to the developmental age and level of need of their child.

With regard to the cultural services provided by the FAIP, the majority of participants indicated that there cultural needs had been met to the extent of their expectations and knowledge. Many reported to not strongly identify with Maori

culture which may explain why so few recommendations were made for improvements in service delivery. One participant did however offer suggestions for improving the cultural services of the FAIP including; delivery the programme by incorporating Te Reo and using Maori myths and legends to deliver the fire safety message.

While there were very few negative comments made about participants' experiences of the FAIP, the possibility that interview data was distorted by reporting biases cannot be ruled out. This is discussed in greater detail later.


## Staff Perspectives

This section examines the Fire Awareness and Intervention Programme primarily from the perspectives of the Fire Awareness and Intervention Programme (FAIP) staff including; Regional Co-ordinators, Practitioners and Training staff. FAIP staff are referred to as '*participants'* in this section as they participated in the FAIP evaluation interviews. Participants were asked a broad range of questions designed to elicit their views about programme strengths and weaknesses, successes and failures, what works well and what could be improved. Participants were also asked more specific questions regarding programme operations.


### Key characteristics of the Fire Awareness and Intervention Programme

Programme staff were asked to describe what they felt the key characteristics of the programme were and responses fell into five distinct categories; outcomes based,
Practitioner qualities, Fire Service reputation, flexible use of resources and reaching out to families.


### FAIP is perceived to work

Participants were very effusive in describing the outcomes of FAIP as key characteristics of the programme*: "we have success that can be measured", "the FAIP serves the community, offers remedy and early intervention"*. Participants felt strongly that FAIP works because it brings about behaviour change beyond reducing fire setting although many stated that it was the decreasing recidivism rate that was a key characteristic of the programme.

### Practitioner qualities facilitate the development of a sound therapeutic relationship

Fire Service staff felt that a key characteristic of the FAIP was the recruitment of passionate, patient, open minded individuals. Many comments suggested that a practitioner's ability to engage the children and families in a *"non threatening/non judgemental manner"*, *"not like a psychologist who is always forming opinions"* was essential. Programme staff stated that practitioner empathy was a key characteristic of the programme and that this facilitated rapport building with the families. Many stated that it was the collaborative approach of practitioners which empowered families to ensure their future safety when using fire.

### The Fire Service staff are well respected and credible educators

Many participants reported that fire fighters are well respected in the community, which enabled them to develop a rapport with families: *"we are really trading on the good perception of Fire Service by the public"*, *"we have a reputation for being credible and confidential", we are the good guys you know, not like the way people feel about Police!"*

Several participants reported that delivering the programme wearing Fire Service uniform was an important aspect of the programme. Participants felt that the uniform is imbued with a sense of respect and further that it: *"transforms the way people listen to you"*. Participants stated that they believed FAIP practitioners acted as positive role models for children who often lacked this influence in their life; *"there is a positive benefit alone, just from spending time with children who don't get much in life"*.

Many spoke of the importance of an education based intervention with central components including the discussion of consequences: *"we talk to them about the other side of fire that no-one else sees-the consequences of insurance costs, and Dad's being sued"*, which they claimed had the effect of encouraging adolescents to take responsibility for their actions. Most participants stated that using real life anecdotes helped establish them as credible educators who were able to provide education from a position of authority which adolescents accepted: *"delivered by blokes who have been there"*.

### A flexible approach to using programme resources is important

The ability to tailor the programme to meet the needs of the family and having access to resources that they could *"pick and choose from"* was highlighted as a key characteristic of the programme. Many Fire Service staff commented on the need to adapt the delivery style, content and use of resources to suit the age and developmental level of the participant: *"workbooks have a great impact for some… others we use pictures to get the message across"*.

***Bringing the programme to families is effective***

Participants frequently stated that providing a free service to "those in need" was a key strength of the programme: "we offer a helping hand to parents in distress, who are lost about what to do with their child... and we are free". The intervention is typically delivered in the home of the family. By reaching out to families in their environment they feel more comfortable and perceive the Fire Service as less threatening: "we go to them, we are not institution based so they feel comfortable". Ultimately when participants feel comfortable, they are more willing and able to engage with the intervention.

Finally, many participants mentioned that it was the 'one to one' aspect of the intervention that was a key strength. Although parents and caregivers involvement is regarded as essential, questions are always directed towards the adolescent. It was clearly felt by Fire Service staff that delivering the intervention to individuals as opposed to a group setting enabled the programme to be tailored to the individual's needs and was thus the most effective mode of delivering the educational intervention.

## Summary of staff perceptions of the FAIP's key characteristics

Programme staff identified 5 themes in describing the key characteristics of the FAIP. There was strong agreement that a practitioners' ability to convey empathy and establish trust was a key aspect of the programme and further that it encouraged the development of rapport with families. The participants also highlighted the ability of the Fire Service to reach out to families in their homes and provide an intervention as a major strength of the programme. They stated that visiting families at home allowed those in need to receive support in circumstances which they may not otherwise be able to access it. Finally, there was strong agreement that delivering an education based intervention which involved the discussion of the consequences of unsafe fire use was essential. Participants felt that these discussions were brought to life by the flexible use of resources and the use of first hand anecdotes from fire fighters.

## What is most effective in stopping deliberate fire setting?

In recognition of the unique perspective the Fire Service staff have in relation to children and families, staff were asked to detail what they believe to be most effective in stopping this behaviour. In total, five themes were identified.

### Practitioner qualities facilitate the development of a sound therapeutic relationship

Again participants highlighted the need for practitioners to be highly skilled and well trained in order to develop rapport and engage the adolescent participants. Comments also reflected the importance of *"demonstrating empathy and understanding"*, taking a *"non judgemental", "straight talking approach"*. One participant detailed how they engage a young person *"I try to find the hook, something they care about then I talk about the consequences of their behaviour for that person"*. Participants also noted that importance of having the skills and ability to tailor the programme to the young person's need and developmental level *"you have to think on your feet a bit and work out where they are at, tailor it to that"*.

### An Education based programme is essential

Comments from many participants highlighted the need for interventions to be education based, *"teaching fire safety really works"*. One participant noted that importance of educating parents and caregivers in the intervention and further stated that the majority of young people did not report to have set fires deliberately: *"they often don't do it deliberately-they are opportunistic so we teach parents to remove the opportunity"*.

Central to the education component of the intervention is the discussion of the dangerous consequences of fire play. Participants stated that discussion of consequences encourages young people to see their behaviour in a broader context: *"I talk about the possibility of injuries and the impact on their siblings… something they can relate to"*. Further, this approach encourages young people to take responsibility for the future safety of themselves and their family: *"we encourage them to see that they are the authors of their own future"*. Again, many participants highlighted that 'what works' is having an education based intervention which is delivered face to face by Fire Fighters in uniform as this lends support and credibility to the content being delivered.

### Programme resources are effective if up to date and age appropriate

Using visual aids such as videos/DVD's and pictures was regarded as an effective way to convey safety messages however most participants noted that they would appreciate up to date resources: *"Videos and DVD's are effective but our resources need updating"*. Additionally it was noted that the use of available resources needs to be flexible, ensuring that they are age appropriate: *"games are good for young ones"*, *"using real life anecdotes helps them to see that the danger is real"*, *"star charts motivate the little ones"*.

### High quality, early intervention service is crucial

Many responses indicated that in order to stop deliberate fire setting, education about the dangerous consequences of fire should begin in schools at the earliest opportunity and be followed up with FAIP intervention, delivered by the Fire Service to families in their home. Participants believed that the Fire Service maintained its *"good reputation"* for intervention because *"we say what we do and doing what we say"* and this has the effect of *"putting parent's minds at ease"*.

### The Fire Service cannot do it alone!

Many responses indicated awareness that the FAIP staff are not solely responsible for ensuring behaviour change. Participants were mindful that interventions to change behaviour work best when the young person is engaged and motivated to change and when the young person has *"a supportive home environment… that is the key really, otherwise it all gets undone"*. Many participants also recognised that in cases where the young person's level of need was beyond the scope of Fire Service intervention, interagency co-operation is the key to supporting behaviour change.

### Summary of what was perceived to most effective in stopping deliberate fire setting

A high quality, early intervention service was seen as critical to ensure success in stopping deliberate fire setting. Again the ability of the practitioners' to engage and develop rapport with families prior to delivering the education component of the intervention was seen as critical factor. As previously mentioned, participants stated that the use of resources to give life to the educational content is successful but noted that they need to be kept contemporary and used as appropriate to age and developmental level.What is least effective in stopping deliberate fire setting?
Many of the participants had difficulty identifying what is least effective in stopping deliberate fire setting and many emphatically stated: *"nothing that we are currently doing!"* In spite of the difficulty many participants had in shifting perspective away from solution focussed, three distinct themes emerged.

### Punitive Practitioner approach is not effective

Some participants stated that caregivers had told the young person that the Fire Service was coming to punish them, an approach which could seriously hinder the development of rapport between the young person and practitioner: *"parents have asked me to give their child a good clout around the ears... I told them that was not what I was here for"; "I'm not there to kick butt even though it's what the parents want"*. Clearly participants believed that a punitive approach was not effective: *"shouting/yelling/authoritarian approach doesn't work"*, *"we don't do bullying and scaring"*.

***Programme content and resources must match age and level of need***

Practitioners noted that the current content may not be appropriate for young people with more complex or additional behavioural needs; *"Education alone won't work for hard end cases"* and *"written material alone doesn't shift knowledge into action"*. Again the importance of matching resources to the young persons age and developmental ability was raised: *"the stories we read them are not relevant to all age groups"*, *"what is the point of using workbooks if they can't read, we need to try another resource"*, *"I'm not convinced of the effectiveness of the photos of dead bodies/burnt houses"*. Practitioners recognised that in cases where content and resources are poorly matched to the age and ability of the young person, a likely outcome is disinterest and disengagement in the process.

***Lack of action or support for intervention is ineffective in stopping fire setting***

Many participants stated that at the community level: *"doing nothing…no education regarding the consequences of fire lighting"*; *"ignoring and turning a blind eye"* is obviously ineffective in stopping fire setting. On an organisational level, participants stated that there was a lack of promotion of the FAIP and that promotion was crucial to ensure its long term viability and success in stopping deliberate fire setting: *"if we aren't out there, how will they know to access our support?"* Reflecting previous comments about the importance of parental support, participants stated that if parents don't support the intervention by providing the necessary co-operation and reinforcement, long term behaviour change may not occur.

## Summary of what was perceived to least effective in stopping deliberate fire setting

There was general agreement that the most ineffective course of action in attempting to stop deliberate fire setting would be to take no action at all. Other comments indicated a general agreement that a punitive approach to intervention would not result in successful outcomes. Finally, comments suggested that where practitioners fail to appropriately match content and resources to the participant's age and developmental level, a likely outcome is disengagement from the content thereby reducing the effectiveness of the intervention.

## Programme factors which are critical for success

Participants were asked to recall a young person who had 'done well on the programme' that is: a young person who had engaged with the content, completed the tasks and subsequently ceased unsafe fire play. Participants were asked to identify which programme factors they believed to be responsible for the success in this case. Overall, five distinct themes emerged: practitioner skills and approach, practitioner training and development, education based intervention, use of programme resources and parental support.

### Practitioner skill and approach determines success

Again, it was the approach taken by the practitioner in delivering the educational content that was seen as critical to the success of the intervention. Approaching the intervention in a *"non judgemental manner"*, *"demonstrating empathy and understanding"*, helped the practitioner relate to and engage the young person *"we get on their wave length and try to understand their world"*. In spite of parents and caregivers requests for the FAIP staff to punish their children, participants felt strongly that this approach would not be appropriate or successful and stated that a *"respectful, non threatening approach"* worked best. Many participants stated that success they could recall was attributable to them providing a one to one intervention with the young person and taking a collaborative approach: *"as opposed to coming into their house and telling them what to do, judging them"*. Some participants highlighted that their success during the intervention was due in part to the mere act of *"spending time with children who don't get much…doing it for the right reasons"*.

### Practitioner training and development is crucial

Many talked at length about the recruitment and training of practitioners with *"the right qualities… nurturing them"*. Participants felt strongly that practitioners who have the necessary passion for behaviour change, understanding and empathy were being actively recruited in the Fire Service. Further, participants felt that practitioners who possessed these personal qualities were critical for the success of the programme and must be supported and developed *"we need training at the 2$^{nd}$ and 3$^{rd}$ level, encouragement to go further"*. Concerns were raised that in order to maintain the passion and drive for programme delivery, practitioners need to be supported with: *"training opportunities for ongoing development and up-skilling"*. It was of concern to several participants that *"only the self motivated do study…this should be driven nationally"*.

### Education based intervention which is flexible has a positive impact

Many participants attributed the success they had experienced with young people to the provision of education based intervention with the biggest impact coming from discussions regarding the consequences of unsafe fire play. Several participants stated that their ability to speak credibly from direct experience about the consequences of fire had a significant impact on young people. One participant stated that it was the flexibility of the content which permitted them to address other related concerns from the young person. The practitioner stated that having the ability to address concerns such as peer pressure motivated fire play had contributed to the success of the intervention in this instance: *"I just tried to impress upon him that he is the author of his own future and discussed the consequences of being lead by the group"*. Another participant stated that having the flexibility to deviate from the order of the questions on the screening profile was positive and facilitated greater rapport building with young people *"rather than robotically ask each question in order, I just use it as a guide, a tool"*.

### *Programme resources engage participants*

Resources were seen as useful education tools by most participants which got young people engaged and interested:

> *"I had a young female client… she was tough, she burnt her whole house to the ground because she believed her dead mother visited her… she didn't want to do the programme but games got her engaged and eventually we got there".*

There was strong agreement that the resources should be reviewed approximately every two years to ensure they are relevant to young people: "the DVD's are great but the footage is old and could be updated".

### *Parental engagement is crucial*

When asked to identify which programme factors were critical for a young person's success on the programme, family support was clearly identified. Parents and caregivers have their needs met by the intervention as *"they had somewhere to take their problem"*. Additionally, the involvement of parents and caregivers ensures that they receive the same fire safety message and are able to continue to reinforce the message on a daily basis, without which, long term behaviour change becomes difficult.

### **Summary of the programme factors which are considered critical for success**

In addition to the recurring themes of practitioner skill and delivery style; education based content; and the use of resources a further two unique themes were identified as critical factors for successful outcomes; practitioner training and development; and parental engagement. Practitioner training and ongoing development was seen by participants as essential to maintain the high level of skills and motivation which enables practitioners to deliver high quality intervention. Additionally, parental support was seen as critical for the ongoing maintenance and reinforcement of learning undertaken during the FAIP. Without parental support, long term behaviour change was deemed to be difficult.

### **Programme factors associated with poor outcomes for clients**

Participants were asked to recall a young person who had 'not done well on the programme' that is: a young person who had not engaged with the content, not completed the tasks and showed no behaviour change. Participants were asked to identify which programme factors they believed to be responsible for the poor outcome in this case. Overall two broad themes emerged: programme factors which were regarded as factors associated with the process and content of intervention delivery; and external factors which included; factors outside the

programme processes or content such as lack of parental support, gang affiliations and peer pressure.

### Environmental factors contribute to poorer outcomes

The vast majority of participants indicated that it had been external factors which were responsible for any negative outcomes for the young person during and following the intervention. Participants cited influences such as a *"chaotic home environment"*, *"parents with gang affiliations"*, *"parents not giving a consistent message"* and *"peer pressure"* as factors which produced poorer outcomes both during and post intervention. In cases where the young person was influenced by these factors, participants felt that it was unlikely that the positive fire safety messages delivered during the FAIP would be reinforced or maintained.

### Young person's additional needs and/or attitude contributes to poorer outcomes

Participants recalled interventions with young people who had presented with significant antisocial attitudes and beliefs which resulted in anger and lack of engagement from the start of the intervention *"they were anti authority figures generally and viewed the Fire Service as just another intrusive agency"*. The presence of antisocial attitudes and beliefs in young people combined with lack of support for the Fire Service intervention from parent's results in poor outcomes such as limited or no intervention. Additionally, several participants stated that they had worked with young people who had been diagnosed with a mental health or medical condition, such as ADHD and some of whom were on medication: *"which made them lethargic"* and others who: *"could not focus or sit still long enough"* for the intervention to be conducted.

### Disengagement contributes to poorer outcomes

Many participants found it difficult to identify programme factors which contributed to poorer outcomes for clients however the most frequently cited factor was the delivery style of the practitioner. There was general agreement that a practitioner who demonstrates *"poor understanding"*, *"low empathy"*, utilises a *"rigid delivery style"* or *"robotically delivers the programme"* will most likely result in disengaged and disinterested adolescents and families. Disengagement can also occur if the content is too difficult for the young person due to the practitioner: *"pitching the content at the wrong developmental level"* and workbooks can be intimidating if literacy is a difficulty. Again the need for resources to be kept up to date: *"so that the kids can relate to them and not switch off"* was highlighted by several participants.

### *Lack of intervention time and follow-up contributes to poorer outcomes*

Participants identified that poorer outcomes occurred when they had not been able to conduct sufficient visits or provide adequate follow-up: *"one or two visits were not enough, the family needed ongoing work"*. Participants felt that although they were aware of the need for additional visits to the family, they did not feel that they would gain approval or support from management to conduct the necessary visits. It was felt that the inability to provide the appropriate level of service was being driven by: *"inefficiencies in the system...monitoring overtime"* and *"time constraints imposed by management"*. A clear need was identified for the Fire Service to secure additional funding to relieve financial pressure and allow full provision of the FAIP to those in need.

### *Referrals must be appropriate and reciprocal*

Some participants stated that where there had been poor outcomes, this was due in part to the Fire Service receiving inappropriate referrals. Referrals had been received by the Fire Service where the level of need of the young person exceeded the scope of FAIP and believed that the referral was forwarded to the Fire Service as: *"a box ticking exercise... also because we are free"*. Often young people who are referred to the FAIP have additional and complex needs with multiple agency involvement. In these cases participants felt that providing support at the same time as multiple other agencies would be: *"too intense to add us as another support agency"*. For those adolescents and families with complex needs beyond the scope of the FAIP, the Fire Service will made referrals to external agencies.

Comments indicated that these referrals were often poorly received, even refused:

> *"referrals to other agencies is diabolical, X Hospital has refused Fire Service referrals to their clinical department due to their own volumes of referrals… often there is also concern over who pays for their service".*

These comments highlighted a clear need for stronger inter-agency working relationships. Additionally, many participants reported that their community lacked somewhere to send families to access additional support and participants believed that this resulted in poor outcomes for children.

**Summary of the programme factors perceived to be associated with poor outcomes for clients**

The factors which were identified as contributing to poor outcomes for programme consumers fell into two distinct categories; programme factors and external factors. With regard to external factors, participants felt that in situations where children and adolescents were exposed to low levels of family or peer support, it was unlikely that the positive fire safety messages delivered during FAIP, would be reinforced or maintained. Additionally, the influence of gang culture and its prevailing antisocial attitudes were seen to be a negative backdrop from which to attempt to establish behaviour change in adolescents.

In terms of programme factors, comments indicated that poor outcomes begin with inappropriate referrals made to agencies as a result of mis-matching the target group to the intervention. Other comments cited the impact of practitioner's ability to engage young people; tailor the programme to match their developmental level and; level of need as moderators of successful outcomes. There was agreement that where this did not occur, poorer outcomes were a likely result. Finally, practitioner cited the intervention dosage as contributing to poorer outcomes, particularly where interventions were too short in duration.

**Barriers to treatment**

Participants were asked to identify any potential barriers to completing the FAIP, for five distinct target groups: children under 10-years, children over 10-years, high risk adolescents, female adolescents and ethnic minority adolescents. Participants were also asked to make suggestions about ways that these barriers could be removed for each target group to ensure greater engagement in the intervention.

*Children under 10-years*

The majority of participants stated that there were no barriers to children under 10-years completing the FAIP however some stated that there may be limitations to children under 4-years engaging with the FAIP due to low cognitive ability: "some are too young to understand the material, they don't need a full FAIP, we could see them on the spot and give them some promotional material".

Again, concerns were raised about the impact of using dated resources such as disengagement: "children won't identify with the resources", "pictures in the workbooks that we use for the little ones are so dated, they will not be interested in them".  Suggestions to improve engagement using resources included: "a CD Rom for older kids… we have to move with the times… with technology". Suggestions were also made to develop: "additional activity books for 4-5-year-olds and one for 6-9-year-olds" as it was felt that this was a gap in the provision of resources.

Several participants identified that the need for parental consent to undertake the programme may be a barrier for children under 10-years: *"unfortunately if parents don't agree we can't force them"*. Participants suggested that the potential barrier caused by parents not providing consent could be overcome by: *"delivering the FAIP in school on a one to one basis"*.

### Adolescents over 10-years

Again, the majority of participants indicated that there were no factors within the programme which presented barriers to adolescents over 10-years completing the programme. Some participants stated that factors external to the programme may present a barrier to completion including: peer pressure and caregiver consent, and intra-personal factors such as cognitive ability, anti-authority attitudes and beliefs may present barriers. Of these factors, peer pressure was most frequently cited as a potential barrier *"if their peers give them a hard time"*, *"it's not cool to tell your friends"*. Participants were mindful that adolescents over the age of 10-years are increasingly influenced by the attitudes, beliefs and actions of their peers: *"often they won't open up to us because they were with friends when they lit the fire and they don't want to have to 'dob' their friends in"*. Additionally, participants stated that if an adolescent's support network includes peers and caregivers who hold antisocial beliefs and attitudes it is *"unlikely that they will support that young person to make positive changes in their behaviour"*.

### High risk adolescents

Many participants asked for clarification regarding characteristics of high risk adolescents. High risk adolescents were identified as those who demonstrated additional and complex behavioural needs and/or those who had recidivist fire setting behaviours. Several participants were not able to identify any factors which would prevent high risk adolescents from participating in the FAIP and some stated that they had not come into contact with any adolescents who presented as high risk. Participants who had experience and contact with high risk adolescents cited the lack of caregiver support for the programme as a major barrier.

Participants stated that motivation of high risk adolescents impacted their ability to engage with the programme and that often they presented as *"disengaged from the beginning"*. In order to address lack of motivation and engage reluctant adolescents, participants stated that more time was spent build rapport: *"maybe we just kick a ball around for a bit and talk about normal stuff not fire stuff"*.

Participants noted that high risk adolescents often presented with complex needs beyond the scope of Fire Service intervention *"often they are on drugs and alcohol"*. Comments from many participants indicated an appreciation for the support provided by Consultant Clinical Psychologists Ricki Tan and Dr Ian Lambie. While there was agreement that high risk clients often required referrals to specialist support agencies, comments reflected difficulties in multi-agency

working *"they often have too many agencies already involved"* and/or *"some agencies won't let go of clients so that we can also work with their clients...Maori immersion clients for example"*. There was general agreement that Inter-agency relationships could be strengthened: *"both CYFS and the Fire Service are too confidential, we don't share information enough"* and *"everyone is silo working, we need to do more work together"*. One participant also suggested that the Fire Service might develop: *"a better working relationship with the youth prison… but by then it might be too late?"*

### Female clients

The vast majority of responses indicated that they either had not encountered a female client or believed that there were no barriers to female adolescents completing the FAIP: *"no, its gender neutral"*. Some participants raised the possibility that female consumers may have been subjected to physical, sexual or emotional abuse from males and thus may have sensitivity to working with male FAIP practitioners. Suggestions for addressing these potential barriers included: *"check for abuse history and match with a female if required"*, *"we are able to do gender matching in our region, not sure about others"*. One participant suggested that the FAIP programme is not appropriate to female consumers as: *"our programme won't address their needs… they tend to be motivated by revenge and the programme does not deal with this"*.

### Ethnic minority clients

The majority of participants stated that there were no barriers to ethnic minorities completing the programme. Some participants however, recognised that some minority groups may not speak English as their first language and may face difficulty in understanding the FAIP practitioners. Participants noted the lack of resources in multiple languages as a limitation of the programme.

One participant highlighted deeper implications of the impact of culture:

> *"some of our families come from countries and experiences in their home country where the Fire Service is aligned with Army, so we have a tough time engaging them in the intervention… they are fearful of the Fire Service because they think we are just like the Fire Service in their own country-authoritarian"*.

Participants identified that some ethnic minorities had links to gang cultures which were likely to negatively influence the adolescent and would not provide the support necessary to sustain behaviour change.

**Summary of perceived barriers to treatment**

Participant responses to identification of barriers to treatment for target groups yielded two distinct themes centred around; access to clients and engagement processes. Participants identified that gaining access to clients was often difficult and stated that barriers occurred as a result of peer pressure, lack of parental consent or other agencies refusing to release their clients for additional treatment. Suggestions for removing these barriers included; greater education in the community about the purpose and success of the FAIP; and delivering the FAIP in schools in order to gain access to the target group (children and adolescents). Other perceived barriers to intervention related to engagement with adolescents and their families. Engagement and rapport with adolescents and their families was perceived to be moderated by several factors such as: access to up to date resources including interactive, computer generated resources; gender and culture matching; cultural sensitivity and ensuring the FAIP content is matched appropriately to age and development ability.

**What additional services should be added?**

Participants were asked to detail what services they feel should be added to the FAIP to which the majority of responses were: *"nothing should be added"*. Those participants, who did make suggestions, clearly indicated that current practices or services should be adapted or developed as opposed to adding new services to the FAIP: *"we need to get the basics right first- national consistency, national monitoring, national co-ordination, analysis and evaluation"*. Four themes were identified: training and development of practitioners, provision of full-time staff, updated and flexible content and resources and greater promotion of the programme.

***Training and development for Practitioners is critical***

Many comments referred to the need for practitioners to have access to training and development opportunities at regular intervals: *"my last training was 10 years ago"*. One suggestion for improvement was the provision of refresher training at regular intervals following the initial induction training. Overall there was a clear need was identified for training opportunities to be identified and driven nationally to ensure that standards of excellence in delivering interventions continued.

***Referrals must be appropriately targeted***

Comments from participants identified a clear need to ensure that referrals received by the FAIP were appropriate in that the FAIP was able to appropriately respond to the adolescent's level of risk and need. Participants stated that they were spending too much time responding to referrals for children or adolescents who did not require an intensive intervention: *"we need to spend less time with clients who only need short sharp chat about the consequences"*; *"some don't need the full FAIP, just a chat, and give targeted intervention to those who really*

*need it"*. One participant suggested that Fire Crews could share to responsibility for intervention with the existing dedicated FAIP Practitioners: *"why don't we have a short version of the intervention, delivered by fire crews on the spot and FAIP can deal with more serious cases?"* Others felt that they were responding to more complex cases which required increased intervention time: *"we need more time with clients…more than 2 visits in some cases but then we are required to justify this to management who are watching the timesheets"*. With regard to more complex cases, some participants stated that they would be interested in providing: *"additional mentoring support, but I'm not sure if it's a Fire Service thing"*. Finally, several participants referred to the need to ensure that inter-agency relationships were strengthened, to ensure additional support reached families in need.

### Provision of full-time staff is critical

A clear need was identified for the recruitment and retention of full-time regional Co-ordinators and practitioners. Participants reported that recruitment of full time staff:

> *"would allow and ability to see what needs to be done i.e.) up-skilling for practitioners, constant networking with referral partners and quicker decision making".*

### Content and Resources should be updated and used flexibly

Many comments reiterated a clear need for resources to be updated. One participant stated that they would appreciate access to a laptop to take to the intervention, as some of the families do not have power and battery powered laptops would allow the DVD resources to be accessed by more families. Other participants suggested the addition of a station visit as part of the education component of the programme and greater emphasis placed upon the consequences of fire setting within the Fire Wise programme in schools as a primary prevention strategy.

Finally, several participants stated that the Screening profile contained many extraneous questions that they felt uncomfortable asking and took too long to complete. Many participants stated that they would prefer fewer items and more useful questions. Some stated that they omit questions that they don't understand the relevance of. Participants suggested modifications to the Screening Profile: *"we need to take out the questions regarding abuse history… that lead us down a path we aren't qualified to deal with"* and other stated *"we are not counsellors, why do we need to know all that stuff?"*

***Promotion and support of the FAIP is critical for the longevity of the programme***

Some comments indicated that while FAIP staff enjoy good peer support, they do not feel supported by other New Zealand Fire Service staff: *"it's a bit us and them, they think we do the touchy feely stuff"*. Participants felt that this *"us and them"* division exists because of a lack of understanding about the FAIP. In order to encourage *"more buy-in from colleagues"*, participants suggested that opportunities should be made available for: *"operational crew to 'buddy' up with FAIP colleagues… if they understood it more they might promote it!"* One participant suggested that Operational Crews could support the FAIP by: *"placing more emphasis on following up suspicious fires, we need them to take seriously the investigative aspects and get more thorough details of children involved in fires"*. Other comments suggested that advertising the FAIP more on television may result in greater numbers of families who are in need, accessing appropriate support from the NZFS.

## Summary of additional services which should be added

Participants clearly indicated that the FAIP would benefit from a focus on the development of existing services as opposed to the addition of services. There was strong agreement that the programme would benefit from the recruitment of full-time staff and participants also felt strongly that existing staff should be provided with opportunities for training and development in order to maintain a high level of service provision. Additional comments reflected the need to ensure that participants remained engaged with the resources. It was felt that this could be achieved by updating resources and using them flexibly; adapting them to age and level of need.

## Cultural services of the FAIP

Programme staff were asked a series of questions regarding the cultural services provided by the FAIP and asked to rate them on scale of 1 = 'not at all'; 2 = 'sometimes'; and 3 = 'always'. Responses produced mixed perceptions regarding the importance of addressing cultural needs during the course of the intervention. (For specific questions see Appendices K to O).

***A mixed perception of the importance of culture when conducting an intervention***

Many participants spoke at length about the importance of being sensitive to issues of culture when conducting an intervention. Further, the majority of participants stated that they believed that consideration of culture to be of great benefit to the programme consumers. Participants described the importance of cultural awareness in terms of the impact upon developing rapport and gaining trust: *"if you can see someone else's perspective, it helps"* and *"it makes them*

*feel at ease…supports engagement"*. Another participant detailed their efforts to be culturally sensitive: *"I try to be aware- I always take my shoes off"*.

A different view was expressed by others who reported that cultural differences are not relevant in the delivery of FAIP: *"a match is a match, we deal with fire lighting not culture"*. They argued that fire lighting behaviour transcended culture: *"everyone's the same with the lights out"* and further stated that to alter current practice based on culture would not benefit anyone: *"I would hate to see us make a big effort culturally, it's the message that's important not the messenger"*.

### A mixed perception of the availability and utility of cultural supervisors

Some participants stated that there was no, or very little Maori cultural supervision available for the FAIP practitioners: *"I go to colleagues for advice when I need it"*. Others reported that cultural supervision was available from the Iwi Liaison officers: *"I could go to the Iwi liaison officer…there is one Iwi liaison officer between 2 regions"* but cited their reluctance to access this support: *"we share one Iwi Liaison with another region so they are geographically nowhere near us"* and another participant stated: *"I could go to the Iwi Liaison but we wouldn't use them due to confidentiality issues"*.

## Cultural services could be improved

Those who perceived culture to represent a significant issue in delivering the FAIP made many suggestions for ways that FAIP can improve the cultural services it currently provides. Themes fall into four broad categories: Recruitment; training and support; programme content and resources; and inter-agency relationships.

### Active recruitment of diverse cultures is essential

For those participants who perceived culture to be a significant factor in delivery of the FAIP, cultural matching was considered to be a positive approach. This idea was limited by the lack of diverse practitioners currently employed by the FAIP: *"we work hard at matching culture"*, *"we don't do this enough…we just don't have the luxury"*. Comments indicted that the NZFS should take steps to ensure the diversity of FAIP staff which would in turn facilitate cultural matching and the possibility of greater engagement in the FAIP.

### Cultural training and support should be specific and on-going

A clear need was identified for the provision of specific training regarding diverse cultures: *"there is no specific training and only the proactive find out"*. Currently, practitioners receive two hours Maori cultural awareness training from an Iwi Liaison Officer during their initial training and induction week. Comments from participants reflected a desire to have more comprehensive training which addressed diverse cultures relevant to FAIP practice. Another recommendation was the provision of 'training up-dates' every 2-3 years post induction.

### *Programme content and resources could be more responsive to culture*

Participants recognised that the Fire Wise Programme for year 1 and 2 is available in Te Reo Māori (Maui Tinei Ahi) and suggested that it may be appropriate to include cultural components in the FAIP and/or deliver the Fire Wise programme in Kohanga. Many participant spoke of the need to undertake research to ascertain the demand for resources to be printed in Te Reo as this was currently unclear: "*we need to know what their needs are and how we can meet those needs*". Other participants suggested that resources could be printed in multiple languages to further reach out to diverse communities.

### *Stronger Inter-agency relationships would benefit ethnic minority groups*

Many participants identified that ethnic groups may not be aware of the potential support available to them via the NZFS and FAIP due to language barriers. Participants highlighted the need to undertake more aggressive outreach to migrant community and settlement groups which would enable these groups to access the support of the FAIP should they require it.

### Summary of staff perceptions of the FAIP's cultural services

Participants presented comments which highlighted a mixed perception of the importance of cultural sensitivity in programme delivery. Some participants stated that issues of culture were unimportant in addressing fire setting behaviour because they believed that fire setting behaviour transcends culture. Others stated that demonstrating an awareness and sensitivity to issues of culture was an important aspect of programme delivery as it enhances rapport building and supports engagement with programme consumers.

For those participants who felt that culture was an important aspect of the FAIP, suggestions for improvement of the cultural services of the FAIP were offered which included: access to training and development opportunities for staff to gain specific knowledge about different cultures including Maori culture; active recruitment of ethnic minority staff to enable provision of cultural matching during intervention; provision of multi-lingual resources, including workbooks and DVD's, and developing stronger relationships to agencies who support migrant communities which it was felt would ensure greater access to FAIP for these communities.

### Conclusions

The findings show that programme staff are positive and passionate about the FAIP. In particular, they believe in the ability of the programme to raise awareness about the dangers and consequences of unsafe fire use and effect behaviour change in individuals who have deliberately set fires. Participants were asked a series of questions designed to elicit responses regarding the strengths of the programme and aspects which they believe could be improved. The

responses generated many themes and sub-themes many of which recur throughout each interview.

There was clear agreement by participants that one of the key strengths of the programme was the skill and ability of the practitioner in developing rapport with adolescents and their families. In particular it was felt that a non-judgemental, non-threatening approach supported rapport building and engagement. Some participants noted however that levels of engagement can be moderated by factors such as cultural sensitivity and whether the programme content is presented at a level appropriate to age and ability.

 In order to develop and maintain the skills necessary to respond to the needs of the programme consumers in a flexible manner, participants recognised the importance of training and development. A clear need was identified for training and development opportunities to be identified at the national level, with refresher training provided at regular intervals. In particular, those participants who believed culture to be a key factor affecting engagement suggested that they would welcome additional training with regard to the traditions and customs of a variety of cultures.

The importance of using techno-savvy resources which would increase appeal and engagement of adolescents was highlighted by many participants. Many noted that using the resources had a significant impact in adolescents and families and reinforced the seriousness of the consequences associated with unsafe fire use. However a clear need was identified to keep resources relevant to programme consumers to ensure levels of engagement are not lost and thus result in poorer outcomes.

Finally, many participants stated that greater promotion of the programme in the community would result in greater awareness of the aims of the FAIP and knowledge of the target population served by the FAIP. It was hoped that this increased knowledge might result in more appropriate referrals to the FAIP by community agencies and further encourage families to access the services of the FAIP for support.

While there were very few negative comments made about FAIP staff experiences of the programme, the possibility that interview data was distorted by reporting biases cannot be ruled out. This is discussed further in the final chapter.

## External Agency Staff Perspectives

This section examines the Fire Awareness and Intervention Programme primarily from the perspectives of the stakeholders from various youth community agencies. Representatives from the youth agencies who kindly participated in the FAIP evaluation interviews are referred to as '*participants'* in this section. Participants were asked questions designed to elicit the level of contact that their agency has with adolescents who deliberately light fires; their level of knowledge and understanding of the FAIP, and to what extent a reciprocal referral process operates between the agency which they represent and the New Zealand Fire Service.

### Knowledge of the FAIP is limited

Out of the six youth agencies contacted, five have had contact with children or adolescents who have deliberately lit fires. Only one agency interviewed had every refused admission to their own programme (drug and alcohol) on the basis that the young person had deliberately set fires. Furthermore, only one out of the six youth agencies stated that they were aware of the FAIP programme and indicated that they do currently make referrals to the FAIP. All of the agencies whose views were canvassed stated that they would be very interested to obtain more information regarding the FAIP and one agency indicated a desire to do collaborative work with a view to designing a joint intervention programme.

## Triangulation data

Triangulation is a process by which the consistency of information across multiple sources of can be cross checked and thus the validity of qualitative data is strengthened (Patton, 1987). In this evaluation, interview data was compared to file information, the perspectives of FAIP co-ordinators and training staff was compared with programme practitioners and interview responses from adolescents was compared to that of parents and caregivers. Presented below is an example of the triangulation of data in which an adolescent perspective and caregiver perspective are compared, and data obtained from interviews is compared to file information.

## Demographic information

JB is a 16-year-old male who identifies as NZ European. JB resides at home with his biological mother, father and two brothers. JB has lit 2 fires, the first was at age 14 when he lit a fire in a bin next to the school tuck shop, and the second was at age 15 when he set a fire in the public toilets of a tennis club. JB undertook the FAIP in October 2006 and participated in an interview as part of the current FAIP evaluation in February 2008.

## Interview data

JB's father GB was contacted via telephone in the first instance, to gain consent for both JB and GB to participate in the FAIP evaluation interviews. Once consent was obtained arrangements were made to undertake the interviews face to face at the family home. GB was present for the duration of his son's interview however was not able to undertake the interview on the same day due to time constraints. Another date was arranged to conduct an interview with GB via telephone.

## Caregiver perspective

GB made many positive comments regarding the FAIP with regard to the content and delivery. In particular he stated that: *"the face to face contact, shaking of hands, the commitment they asked of JB was excellent"*. With regard to what could be improved, GB stated that providing a follow-up visit would have been positive in order to reinforce what had been done on the programme: *"there was no second visit to check that it is still in his head"*.

GB was asked if his son had any special treatment issues which were addressed by the FAIP to which he provided the following information:

> *"JB is a follower who needs support to say no to them [his friends], the programme didn't cover that"*

> *"in fact they [Fire Service] treated him like he lit the fire but he didn't, he was with a friend who lit the fire in the tennis courts"*

*"there was that other fire in the bin at school, but that was minor… the school said that the whole school could have burnt down but I think that is a bit of an exaggeration"*

*"JB just needs to say no to his friends, that is all"*

In terms of the overall impact of the programme and contact with the Fire Service GB noted: *"he got the message I think, having one person visit was enough, he didn't need two"*. In summary, GB made many positive comments regarding the content and delivery of the FAIP. However GB indicated that his son was motivated by the influences of his peers to light fires. He further suggested that his son's recidivistic fire lighting behaviour could be prevented by providing strategies to address peer pressure, something that he felt was not addressed by the programme.

### Adolescent perspective

JB provided information regarding the last time he deliberately lit a fire which was at age 15, when he received a charge of 'Arson' for lighting a fire in a toilet block of a tennis club. As a result of the 'Arson' charge JB spent three months in a boy's home. JB further volunteered that he was also known to the Police for 'assault', 'disorderly behaviour' and for 'burglary' on a liquor store when he was 13-years-old.

With regard to the fire set in the toilet block of the tennis club he stated that he had been motivated to set the fire as a means of concealing a crime and explained:

> *"I was drunk with a mate and we stole a first aid kit from a local Primary School…my friend tried to burn it [first aid kit] because it was evidence and it almost burnt down the entire toilet block of the tennis courts".*

JB stated that mostly he could not recall the work he had done during the FAIP as he was *"hung-over at the time"*. In terms of the content of the FAIP, JB stated that he:

> *"only answered a few questions and stuff, there were no workbooks or handouts or anything…and I did community service-chopping wood at the Fire station".*

JB volunteered information regarding his first incident of fire lighting in which he had undertaken at age 14. He explained:

> *"I lit a piece of paper and put it into a bin and the bin burnt… fire went up the wall of the school tuck shop… the bin was next to the wall".*

With regard to what had motivated to light the fire at school he cited revenge:

> *"I didn't like the school, I wanted revenge, to see all the teachers running around worried"*

> *"the school is too strict, the teachers didn't like me, I wanted revenge from a teacher who left a scar on me from dragging me down the hallway"*

JB was asked to identify his thoughts and feelings; before the fire setting incident: *"excited and angry"*; at the time of the incident: *"adrenalin rush"*; and after the fire: *"I was laughing and running, I was happy and then gutted after the punishment"*. When asked whether there was anything that could have prevented him from lighting the fires he stated categorically: *"nothing"*.

In summary, JB indicated that he was motivated to set the fires out of revenge and in order to conceal a crime. JB was unable to identify any aspects of the FAIP which had been helpful to him and was very clear that there was nothing that could have prevented him from setting either of the fires.

## Fire Service File Information

Additional information was gathered from Fire Service File documentation with the purpose of cross checking information provided in the interviews and thus strengthening the validity of the data. File documentation matched demographic details provided by both JB and GB in the interviews and further validated details of the fire setting incident which took place in the toilets of a tennis club. File documentation cited: 'boredom' and 'just for fun' as motivation for the fire setting. File documentation indicated that JB had a diagnosis of ADHD. The file also detailed additional needs: "anger, poor concentration, learning difficulties" and provided details of additional problem behaviours:

> *"alcohol abuse, often bullies, threatens or intimidates others; has been physically cruel to people, vandalism/violence towards property, drug abuse, often initiates physical fights, group offending, often lies, running away from home"*.

The file information also noted that JB was referred to the FAIP by the Police and had additional involvement from CYFS, GP, Justice and Counsellors.

## Summary

Triangulation in qualitative data analysis is crucial to strengthen the validity of findings. In this study interview data was compared to file information, the perspectives of FAIP co-ordinators and training staff was compared with programme practitioners and interview responses from adolescents was compared to that of parents and caregivers. Client files held by the NZFS contain information gathered from parents, caregivers and the adolescent using the Screening Profile. Comparison of this file information with qualitative data obtained from interviews with JB and GB in this case, yielded discrepant

information with regard to motivations for fire setting behaviour and perceptions of the FAIP. Therefore importance of triangulation of qualitative data in programme evaluation is critical in order to strengthen the validity of findings.

GB presented the perspective of a parent who believed the FAIP to be a comprehensive intervention programme which was a positive experience overall. GB's perspective of his son's fire setting behaviour was that it was motivated by peer pressure. This was an aspect which stated he would have like addressed in the FAIP, in more detail. By contrast, JB's perspective of the FAIP was that it was a brief intervention, requiring him to *"answer a few questions"*. JB stated in contrast to his father, that his motivation for the fire setting had been to conceal a crime and revenge and further, that nothing would have prevented him from setting the fires. While GB presented information which suggested that JB was a teenager who was behaving under the influence of peer pressure, NZFS file documentation presents a picture of a young person, with complex needs, presenting with a catalogue of problematic behaviours. It is important to note that data obtained from interviews in this study form only one important component of qualitative data analysis. The validity of information collected in this study is strengthened by the comparisons made between interviews from multiple informants and file documentation held by the NZFS.

# Conclusions

## Key Successes of the FAIP

The qualitative data yielded rich descriptions of the successes of the Fire Awareness and Intervention Programme. Key findings suggest that adolescents, parents and caregivers believed that the FAIP had been a positive experience and that they had derived significant benefits from their participation in the programme. Comments from programme staff demonstrated an overwhelming passion for the FAIP and willingness to offer recommendations which might ensure its continued success and evolution.

**Specific key successes of the FAIP were:**

1. Practitioner qualities facilitate engagement in the intervention

2. Providing home based intervention is positive and effective

3. Engaging parents and caregivers is important

4. Resources make a powerful impact in most cases[*]

5. Flexibility of practitioner delivery and tailoring the intervention to the adolescent's ability is important

**Key Areas for Improvement of the FAIP**

Whilst the qualitative data yielded rich descriptions of the successes of the FAIP, the purpose of any programme evaluation is to consider areas for improvement and make recommendations which might ensure its continued success. Presented here are key findings which identify areas for development and improvement of the FAIP with suggestions for improvement drawn directly from participant interviews. Recommendations fall broadly into two categories: Programme delivery factors and organisational considerations.

***Programme Delivery Factors***

Recommendations for improvement which fell into the category of programme factors include aspects of participant engagement which are moderated by programme content and use of resources

1. Content must be appropriate to developmental level and level of need[*]

2. Resources need to be regularly reviewed and updated

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[*] Resources (in order of preference) included: 1) DVD's, 2) pictures of fires and 3) workbooks.

[*] Need refers to factors such as the seriousness of the current incident and the number of previous incidents of fire setting

### *Organisational considerations*

Recommendations for programme improvement which fell into the category of organisational considerations include: recruitment and training of staff; support and promotion of the programme; inter-agency networking; and allocation of resources via efficient referral processes.

1. Inter-agency relationships need to be strengthened

2. Greater support and promotion of the FAIP is required

3. Allocation of resources is aided by clear referral processes

4. Training and development of FAIP staff ensures a high quality service

## Cultural Services of the FAIP

### *A mixed perception regarding the cultural services of the FAIP*

1. Additional Cultural Training is required

2. Active recruitment of practitioners from diverse cultures is required

3. Programme content and resources could be more responsive to culture by including Maori myths and legends to convey fire safety messages

## Strengths and Limitations of the Evaluation

Comprehensive data was obtained from sixty-eight interviews with four different groups of interview participants, across six different geographical sites in New Zealand. These factors are a major strength of this study as it facilitated comparison of the interview data obtained from parents and caregivers, adolescents, practitioners and staff from external agencies.

Researchers have claimed that only Maori should research Maori, and this has resulted in Maori being excluded from research samples (Tolich, 2002). The inclusion of Maori perspectives regarding programme effectiveness was crucial given that Maori account for one third of all referrals to the NZFS annually. Accordingly, one third of the participants in this study were Maori. The inclusion of Maori in this study necessitated the consultation of Maori cultural advisors to attend to issues of cultural sensitivity and safety when interviewing Maori.

Studies which employ qualitative research methods are vulnerable to issues of objectivity and bias; sample selection; and generalisability. These factors are given due consideration here. Whist it must be acknowledged that complete objectivity in qualitative research is impossible, I took several steps to ameliorate potential biases (Spencer, Ritchie, Lewis & Dillon, 2003). All participants were provided with information regarding the purpose of the study, the limits of confidentiality and given an opportunity to ask questions. This allowed them to

make an informed choice about their participation in the study. No interview was conducted prior to receiving written consent.

During the interviews I remained mindful of my own ideas and beliefs about interventions which come from my experience as Programme Facilitator, delivering rehabilitation programmes to medium risk offenders at the Department of Corrections. I was aware that my experiences in the field of interventions might lead me to give selective attention to topics which interest me and or responses which confirmed my preconceived views about the programme. In order to reduce the effect of any potential biases and enhance the reliability of the data, I presented broad themes to my supervisor. In collaboration with my supervisor we further refined the broad themes and reached a consensus.

The initial sampling design of this study included the recruitment of both 'engaged' and 'resistant' participants. However, there were difficulties in reaching adequate sampling numbers of participants across all programme sites and thus it was not possible to purposefully select both 'engaged' and 'resistant' participants. Had this been achieved, a more balanced perception of the FAIP may have been presented. Accordingly it must be acknowledged there may be a bias inherent in the fact that those who agreed to participate in this study did so, on the basis that had previously had a positive engagement with the Fire Service.

Finally, generalisability is a limitation inherent in qualitative research and as such, consideration should be given to the setting in which this study was undertaken. The FAIP operates in New Zealand across eight distinct fire regions, all of which present diverse geographical, cultural and social challenges for the delivery of intervention for deliberate fire setting. It is hope that enough detail has been provided here to allow the readers to determine the extent to which the New Zealand context may be applied to different settings.


**Directions for future research**

Using a process evaluation framework, this study investigated adolescent and caregiver perceptions of the extent to which the FAIP programme met their needs, reduced the likelihood of further fire setting; and investigated FAIP staff and external agency responses to the FAIP programme, including perceptions of its strengths and weaknesses. In order to enhance and extend the information provided in this study with regard to cultural services of the FAIP, further targeted research should be conducted. A process evaluation of the FAIP with special emphasis given to the perceptions of Maori and Pacific Islanders experiences of the programme could enhance understanding of 'what works' in reducing the incidence of further fire setting. Due consideration should be given to the possibility that research undertaken by a person of matched cultural identity to those being interviewed may yield richer sources of information.

Future research should be directed to conducting an outcome evaluation of the FAIP in order to determine whether attendance at the FAIP resulted in a reduction in lower rates of recidivism. These objectives fit with the key element in the New Zealand Fire Service's strategic direction of reducing the incidence of fire, reducing the consequence of fire for people, property, and the environment. Any outcome evaluation would need to take into account the fact that Western Region does not currently input data into the National database and thus will not provide a complete picture of the success of the FAIP.

A comprehensive outcome evaluation might include a medium and long-term evaluation of recidivism, which is then compared to recidivism rates reported in international literature. It may be important to assess participant's progress with regard to a variety of different developmental domains including: psychological, behavioural, social, educational, family and system factors. On the basis of the outcome evaluation, recommendations could be made to the NZFS in order improve programme effectiveness with specific emphasis on variables which predict engagement, programme completion and predict positive outcomes such as lowered recidivism.

# Recommendations

The following recommendations are made for the development of the Fire Awareness and Intervention Programme and fall into three categories: programme delivery factors, organisational factors and cultural responsivity.

**Programme Delivery Factors**

1. To ensure that current resources are reviewed and updated regularly and to investigate the possibility of using interactive information technology based resources (CD Rom, Internet, Electronic games).

2. To ensure that follow-up contact is carried out after the completion of the FAIP and that further follow-up is arranged as necessary.

3. To develop a fire screening questionnaire that can assist with tailoring the FAIP to the needs of the young person.

4. To implement a trial of the Strengths and Difficulties Questionnaire (SDQ) in 1-2 Fire regions of NZ for 1 year and evaluate the success of this as a behavioural and mental health screening questionnaire.

**Organisational Factors**

5. To ensure the continued evaluation of FAIP program success at regular intervals of between 2-5 years.

6. To develop and maintain relationships between the NZFS and Police, Child and Adolescent Mental Health Services, Schools, Youth Offender Treatment Programmes and CYFs.

7. To promote the FAIP within the entire NZFS to ensure all NZFS staff support the programme.

8. To increase awareness of the FAIP within the wider community and professional networks to ensure that early identification and intervention with child and adolescent fire lighters occurs.

9. To ensure the appointment of at least one full time practitioner in fire regions such as Auckland where there are high referral rates.

10. That professional development occurs at regular intervals to ensure practitioner skills are maintained and developed.

11. To incorporate a variety of training methods into the existing training package. This may include utilising professional actors in role plays demonstrating intervention with clients presenting with a variety of needs, which can be viewed on DVD by trainees. This would ensure standardisation of training and respond to 'adult learning principles' such as auditory, kinaesthetic, visual learning styles.

**Cultural Responsivity**

12. To further investigate the need to develop culturally specific resources in collaboration with the National Māori Advisor and the Iwi Liaison Officers (Resources may include the use of Maori myths and legends).

13. To develop a best practice guidance and training package in consultation with cultural advisors for working with Māori families and other cultural groups and to ensure the formal and regular provision of cultural supervision for FAIP staff.

14. To actively recruit practitioners from diverse cultural backgrounds in order to address the different cultural needs of FAIP clients.

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