New Zealand Fire Service
Research Report

Home Fire Safety Checks Evaluation Phase 1

December 2014

Evaluation Consult

This evaluation examined the effectiveness and impact of the Home Fire Safety Check (HFSC) programme, a key plank of the New Zealand Fire Service's (NZFS) efforts to reduce fire risk by directly engaging householders in their own homes. HFSCs primary audiences are at-risk groups, including low income households, Community Services Card holders, and homes with young children and/ or elderly people.

The overall findings of the report indicate that the HFSC performance towards objectives is good and in some instance is categorised as fair. Particular achievements include the delivery of service to at risk populations which ensures households are protected by a smoke alarm and have information which enables them to respond to reduce the risk and hazards of home fires.

Based on the findings of this evaluation a series of lessons learned have been highlighted and a list of recommendations developed to guide further development of the HFSC at the strategic level. The recommendations include:

- Improve alignment of the administration tools for the HFSC to the Fire Service key messages.
- Introduce specific Home Fire Safety Check training to improve the overall level of interpersonal and communications skills of fire service staff who deliver the HFSC
- Consider alternative methods of resource allocation for delivery of the HFSC, for example, the use of a one fire fighter to deliver the service.
- Share best practice for HFSC delivery between regions.
- Implement a feedback loop, such as a customer satisfaction survey to help inform the Fire Service, and its personnel of the efficacy of the HFSC.
- Consider modifying HFSC policy to ensure each home has sufficient smoke alarms to alert of a fire in all parts of the home

EVALUATIONCONSULT

Final Report: Overview of key findings

Home Fire Safety Check Evaluation

New Zealand Fire Service

18 December 2014

Confidential

Final Report: Overview of key findings

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Glossary

Term	Definition
Activities	Activities are referred to in the evaluation model and identify the particular tasks carried out by entities or agents in the model. The activities draw on the inputs identified in the model and produce one or more of the desired outcomes.
Conclusions	Conclusions point out the factors of success and failure of the evaluated project, programme or intervention, with special attention paid to the intended and unintended results and impacts, and more generally to any other strength or weakness. A conclusion draws on data collection and analysis undertaken, through a transparent chain of arguments.
Cost-effectiveness	Typically conceptualised as the conversion of an investment to an outcome, and encompasses economy, efficiency, and effectiveness. There is no standard methodology to assess cost effectiveness, but ideally it seeks to "indicate which… intervention(s) are best able to achieve the desired outcomes at the lowest cost".[1] In this evaluation, cost-effectiveness is determined by assessing the costs (resources/inputs) against the benefits (outcomes).
Data collection tools	Methods used for collecting information during an evaluation. Examples include surveys, workshops, interviews, focus groups, and literature search and review.
Deductive	A type of logic or reasoning whereby the research starts with a pre-identified theory, hypothesis or framework, which is then 'tested' or confirmed using the information gathered. The structure of deductive research is narrow in nature compared to inductive research which is more exploratory.
Effectiveness	The extent to which a project, programme or intervention's outcomes/objectives were achieved, or are expected to be achieved, taking into account their relative importance. Also used as judgement about the merit or worth of an activity, i.e. the extent to which an intervention is efficient in achieving its intended outcomes/objectives.
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to outputs.
Evaluative monitoring	Evaluative monitoring is the term Evaluation Consult uses to refer to the integrated approach we take to monitoring and evaluation.
Formative evaluation	Evaluation intended to enhance design and performance, most often conducted during the implementation phase of projects, programs or interventions. Note: formative evaluations may also be conducted for other reasons such as compliance, legal requirements or as part of a larger evaluation initiative.
Impacts	Positive and negative, primary and secondary long-term effects produced by a project, programme or intervention, directly or indirectly, intended or unintended.

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[1] HM Treasury, Cabinet Office, National Audit Office, Audit Commission, Office for National Statistics (2001). Choosing the right FABRIC. HM Treasury: London.

Indicator	Quantitative or qualitative variable that provides a simple and reliable means to measure achievement, to reflect the changes connected to a project, programme or intervention, or to help assess its performance.
Inductive	A type of logic or reasoning whereby the research starts by gathering information, in which patterns or themes are identified to formulate a more general theory or conclusions. Inductive research is more open-ended and exploratory in nature, especially at the beginning, compared to deductive research.
Inputs	The financial, human and material resources used for the project, programme or intervention.
Intervention	A specific activity or set of activities intended to bring about change in some aspects(s) of the status of the target population. I.e. a project, programme, or policy.
Model	A diagram or narrative that explains the cause and effect or contribution relationships between the inputs, activities, and outcomes of a project, programme or intervention. Also known as logic model, or intervention logic.
Monitoring	A continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of a project, program or intervention with indications of the extent of progress and achievement of outcomes and strategic objectives.
Outcomes	The likely or achieved short-term and medium-term effects of a project's, program's or intervention's outputs.
Outputs	The products, capital goods and services which result from a project, program or intervention; may also include changes resulting from the intervention which are relevant to the achievement of outcomes.
Performance	The degree to which a project, programme or intervention operates according to specific criteria/standards/guidelines or achieves results in accordance with stated goals or plans.
Performance monitoring	A continuous process of collecting and analysing data to compare how well a project, program, intervention or policy is being implemented towards expected results.
Process evaluation	An evaluation of the internal dynamics of implementing organisations, their policy instruments, their service delivery mechanisms, their management practices, and the linkages among these. Related term: formative evaluation, outcome evaluation.
Project or program objective	The intended physical, financial, institutional, social, environmental, or other results to which a project, program or intervention is expected to contribute.
Purpose	The publicly stated objectives of the project, program or intervention.
Results	See outputs, outcomes and impacts.
Results-Focused Management (RFM)	A management strategy focusing on performance and achievement of outputs, outcomes and impacts.
Stakeholders	Agencies, organisations, groups or individuals who have a direct or indirect interest in an intervention or its evaluation.

Sustainability	The continuation of benefits from a project, programme or intervention after it has been fully implemented, and includes the probability of continued long-term benefits and resilience to risk over time.
Triangulation	The process of testing the consistency of findings across methods and data sources. Patton (2002) identifies four approaches to triangulation - methods triangulation, triangulation of sources, analyst triangulation and theory/perspective triangulation.

Contents

1. Executive summary

The HFSC was launched in 2010 as a strategic move on behalf of the NZFS to profile the importance of reducing fire incidences by directly engaging at risk groups with fire safety in their own homes. Getting fire fighters into people's homes is an approach known in New Zealand and overseas as a successful method to raise fire safety awareness in communities and reduce the incidence and consequence of fire. In mid-2014, the New Zealand Fire Service commissioned an evaluation of the Home Fire Safety Check (HFSC), commonly referred to as the HFSC programme, initiative or service. The overarching objective of the HFSC is improve fire safety outcomes in households with at risk populations through the installation of smoke alarms and the provision of education concerning the risks and hazards of fire, such as the preparation of a fire escape plan for each household. This, in turn, is intended to lead to an equitable distribution of service delivery based on risk, enhanced community resilience, improved fire-safety behaviours, and ensure that reliable information is collected, monitored, and reported. Further, it is intended that HFSC programme will help to align to broader strategic outcomes including improvement in community fire outcomes, enhanced community security, increased integration of urban and rural services, and promotion of internal stakeholder partnerships. The Fire Service aim to achieve that objective of the HFSC through the activities of career fire fighters and by working with volunteer brigades, volunteers, and partner organisations.

This report synthesises the collection and analysis of evaluative information which informs an assessment of HFSC performance. It also highlights what is working well in addition to areas of the programme that could be improved. The evaluative assessment is based on a mixed method approach incorporating the use of data sets, surveys with stakeholders (including interviews), a results focused model, key performance indicators and a merit criteria rubric developed for the purpose of making an overall assessment of the results from the HFSC.

The overall findings of the report indicate that the HFSC performance towards objectives is **good** and in some instance is categorised as fair. Particular achievements include the delivery of service to at risk populations which ensures households are protected by a smoke alarm and have information which enables them to respond to reduce the risk and hazards of home fires. Initially the HFSC was intended to recruit at risk populations via mail box drops and a 0800 number but this proved not to be a successful method. In response to the lack of uptake via this channel of promotion fire crews then adapted their approach to the facilitation of partnerships with community organisation who could be conduits to at risk groups, such as the elderly through Age Concern. The data demonstrates the Fire Service have had successful engagement with a selection of partners in particular districts that has facilitated contact with hard to reach, at risk population groups. Fire crews understand the value of the HFSC and have shown a commitment to that value through the promotion of the partnership model. All stakeholders share the view that the programme is important and makes a contribution to better outcomes for households at risk from fire related harm. Some components of the HFSC were highlighted as not working as well as had been intended including the provision of suitable training and the recording of data in SMS (Station Management System) related to home visits. Based on the findings of this evaluation a series of lessons learned have been highlight and the list of recommendations are included

at the conclusion of the report to guide further development of the HFSC at the strategic level. The recommendations include:

- SMS and HFSC form alignment.
  Improve alignment of the administration tools for the HFSC to the Fire Service key messages.
- Specific Home Fire Safety Check training.
  Improve the overall level of interpersonal and communications skills of fire service staff who deliver the HFSC in order to improve effectiveness of the HFSC, including the revision of training material such as the DVD to ensure up to date information is provided.
- Resource allocation
  Consider alternative methods of resource allocation for delivery of the HFSC, for example, the use of a one fire fighter to deliver the service.
- Share best practice
  The delivery of the HFSC is largely decentralised therefore there is potential to share best practice for HFSC delivery between regions.
- Feedback Loop
  Implement a feedback loop, such as a customer satisfaction survey to help inform the Fire Service, and its personnel of the efficacy of the HFSC.
- Home Smoke Alarm Coverage.
  Consider modifying HFSC policy to ensure each home has sufficient smoke alarms to alert of a fire in all parts of the home

2. Overview

2.1. Project aim

This project evaluates success and effectiveness of the Home Fire Safety Check (HFSC) programme at reaching and affecting 'at risk' audiences. The project aims to identify potential improvements to its activities, examine the potential to extend the initiative to other at risk audiences, and improve fire safety outcomes. This will be achieved by working with volunteer brigades, volunteers, and partner organisations. In addition, this project evaluates the effectiveness of the HFSC programme in relation to its contribution to the Fire Service Commission's strategic outcomes. A key objective is to determine whether the programme is delivering appropriate education to 'at risk' audiences resulting in improvements to fire-safety behaviours.

2.2. Introduction to Final Report

This report summarises the findings of the evaluative activities undertaken to answer the overarching questions for the evaluation of the Home Fire Safety Check (HFSC) programme. The contents of the report also provides evidence to support the evaluative judgements that have been made about the value, merit, quality and worth of the programme. The report includes descriptive information which identifies the processes of designing the analytical framework which guided the determination of key findings. For example, the programme's achievements have been assessed against an initial rubric of merit criteria developed with the Fire Service which benchmarks the outcomes related information against a four scale measure of graduated achievement. While this report provides a brief summary of the methodological approach to this evaluation, detailed information about the selection of data sets (Station Management System (SMS)), tools (e.g. logic model) techniques (e.g. survey of HFSC customers) and data collection instruments (e.g. interview guides) is provided in the annex to this report. References to the annex are inserted in to this report of evaluation findings to signpost the location of additional information which will augment the descriptive text of this document.

3. Evaluation Design

3.1. Evaluation Questions and Objectives

The Fire Service commissioned an evaluation the Home Fire Safety Check to answer the following questions:

1. What is the extent of progress/success against the programme model, including identification of the programme theory of change and assumptions?
2. How has the programme been delivered by New Zealand Fire Service (NZFS) personnel nationally and locally (including promotion and penetration to 'at risk' audiences across New Zealand)?
3. What evidence is there of the contribution of the programme to reducing at risk fire behaviour in 'at-risk' audiences?
4. What are the key lessons learned, particularly in identifying the most appropriate and successful delivery method for extending the programme to reach 'at risk' audiences?
5. What is the best approach to developing a best practice partnership model for working with different volunteer brigades and other partners to extend the reach of the Home Safety Check programme to 'at risk' audiences?

3.2. Summary of approach

Evaluation Consult designed the evaluation to provide a mixed method approach to the collection and analysis of data which could answer the evaluative inquiries. The use of qualitative and quantitative data contributed to a comprehensive understanding of how the HFSC was preforming by highlighting multiple perspectives of that performance. The process of analysis included synthesising indicators and measurement with the views and experience of stakeholder groups which included: Fire Service personnel, volunteer brigades, partner agencies, and householders who received the HFSC service. The methodology was implemented in stages of data gathering to build the evidence necessary from which to draw conclusions related to questions of value, merit and effectiveness.

3.3. Summary of methods

Mixed method data collection employed for the evaluation included the methods listed below:

- A PESTLE (Political, Economic, Social, Technological, Legal and Environmental) analysis to enhance the understanding of the context and external factors that influence service delivery.
- Key informant interviews with national and regional fire service personnel to highlight the processes of the HFSC and gather information to inform the requirements of further data collection.
- A review of key HFSC documents (e.g. SMS templates, HFSC training video, NZFS Statement of Intent, promotional material and regional business plans) to identify the regulatory provisions and other contextual information that underpinned/guided the initiative.

- Meetings with NZFS to develop a logic model that diagrammatically represented the activities, outputs and outcomes of the HFSC and showed the theory of change underpinning the programme.

- A video conferenced workshop with key regional staff to refine the logic model of the HFSC programme that was drafted in prior meetings with NZFS and EC.

- A survey of a population of HFSC customers from three locations of implementation namely Wanganui, Rotorua and Tokoroa.

- Group and individual interviews with stakeholders in the selected three locations including data collection with Fire Service management personnel, fire crews and representatives from a selection of organisations identified as partners in the HFSC initiative.

- Statistical analysis of a SMS data set related to the HFSC programme for the 2013 financial year.

- Development of a merit criteria rubric with key Fire Service personnel to establish a benchmarked scale of performance by which to assess the evidence of results from the HFSC evaluation

3.4. Presentation of findings

The findings of this evaluation have been ordered to reflect the incremental stages of the evaluative activities and the exploration of data against the logic model according to the component levels of the programme namely, the activities, outputs and outcomes. The format is intended to show the accumulation of evidence which informed the judgements made in this report. The contribution of the findings to the evaluation questions is discussed in each section and those findings are synthesised at the end of the report to support the suggested recommendations to enhance the achievements of the HFSC programme. Findings are ordered as follows:

1. Theory of Change and Logic model
2. Context
3. Primary/secondary data- Survey results and Case study data- SMS data
4. Merit assessment

4. Background

The NZFS began a Home Fire Safety Check campaign in 2010 with the aim to raise awareness and reduce incidences of New Zealand household fires. Prior to this, the Fire Service were installing smoke alarms and providing fire safety advice in people's homes. From 2010, this service was delivered and branded as 'Home Fire Safety Checks'. This was a strategic move on behalf of the NZFS to profile the importance of reducing fire incidences by directly engaging 'at risk' audiences with fire safety in their own homes. Getting fire fighters into people's homes is an approach known in New Zealand and overseas as a successful method to raise fire safety awareness in communities and reduce the incidence and consequence of fire.

Promotion of the Home Fire Safety Checks were targeted at deprived neighbourhoods. The first campaign focused on Community Service card holders who did not have working smoke alarms. Other operational activities included the approach of installing long life photoelectric smoke alarms because of their advantageous features such as a 10 year life expectancy.

When the HFSC began, the population of 'at risk' clients was recruited via a mail drop which instructed the respondent to contact a 0800 number. Upon contact, communication staff then assigned the task of contacting the respondent to the local fire station through the NZFS station management system so that local staff could phone and book a time to visit. A DVD and supporting material showing how the campaign worked was sent to all fire stations to help familiarise fire fighters with the intervention (New Zealand Fire Service, 2010). Since launching the HFSC, with the expectation that 'at risk' populations would be recruited via a mail drop and processed via the 0800 telephone number, the activities have moved more towards other forms for recruitment (e.g. contact via engagement with partnership organisation). These alternative ways of recruitment have led to more direct contact with the stations rather than referral through the 0800 number. Fire crews have supported community partnerships by identifying strategies of engagement in their district plans and securing suitable Memorandum of Understanding (MoU) with individual organisations.

5. Evaluation Theory

This section outlines the development of the NZ Fire Service results-focused model and theory of change/action in relation to the HFSC) programme. To develop a clear understanding of the current context, key processes, and improvement areas, Evaluation Consult based its approach in line with its good practice evaluation cycle (see Figure 1) of effective planning, monitoring, and reporting.

5.1. Development of a results-focused model

The development of an effective, integrated results focused model requires a thorough planning process to identify what the system sets out to achieve, *what does success look like in terms of the home fire safety check programme*?. It also requires a process that identifies relevant measures (key indicators) and reporting requirements, while considering the broader organisational context. The intent of the model is to highlight individual capabilities, organisational processes, and systems in place that enhance effective decision making and achieve intended change.

By going through the cycle of plan, monitor and change, which aligns with international best practice, such as Program Theory[2], the NZ Fire Service can answer the key evaluation questions. According to this theory, it is important to identify the following:

1. **Theory of Change** – The central processes or drivers by which changes comes about for individuals, audiences or communities. It can be derived from a research-based theory of change or drawn from other sources.
2. **Theory of Action** – The ways in which programs or interventions are constructed to activate these theories of change.

Figure 1. Organisational evaluative monitoring.

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[2] Funnell, C.S., & Rogers, J. P. (2011). Purposeful Program Theory: Effective use of theories of change and logic models. Jossey-Bass: United States.

5.2. Theory of Change

The HFSC was developed with the view to help to reduce fire incidence and consequence for all New Zealanders, in particular for 'at risk' populations. The HFSC programme involves both career fire brigade and volunteers. It is intended that the delivery of HFSCs will raise awareness of home fire safety good practice amongst those receiving the service and that house and occupants are protected by the smoke alarm(s) installed. This, in turn, is intended to lead to an equitable distribution of service delivery based on risk, enhanced community resilience, improved fire-safety behaviours, and ensure that reliable information is collected, monitored, and reported. Further, it is intended that HFSC programme will help to align to broader strategic outcomes including improvement in community fire outcomes, enhanced community security, increased integration of urban and rural services, and promotion of internal stakeholder partnerships.

5.3. Theory of Action

The theory of action underpinning the HFSC evaluation is based on the collaborative effort between career or volunteer fire service staff involved in completing the HFSC programme. Current training involves the self-completion of a training DVD, however not all individuals undergo relevant training and there is no mandate for training completion. There is funding for approximately 6,000 long life smoke alarms and a number of additional smoke alarms are donated annually. Individuals interested in receiving a HFSC can contact the NZ Fire Service through the 0800 number or by contacting relevant fire station stations directly. These appointments are then attended to by careers crews or volunteers.

The HFSC programme, and its intended outcomes, is supported by the results-focused model presented on page 9. It diagrammatically presents the key inputs, outputs, and outcomes, with corresponding indicators/measures of performance that were selected by the Fire Service for examination during this evaluation.
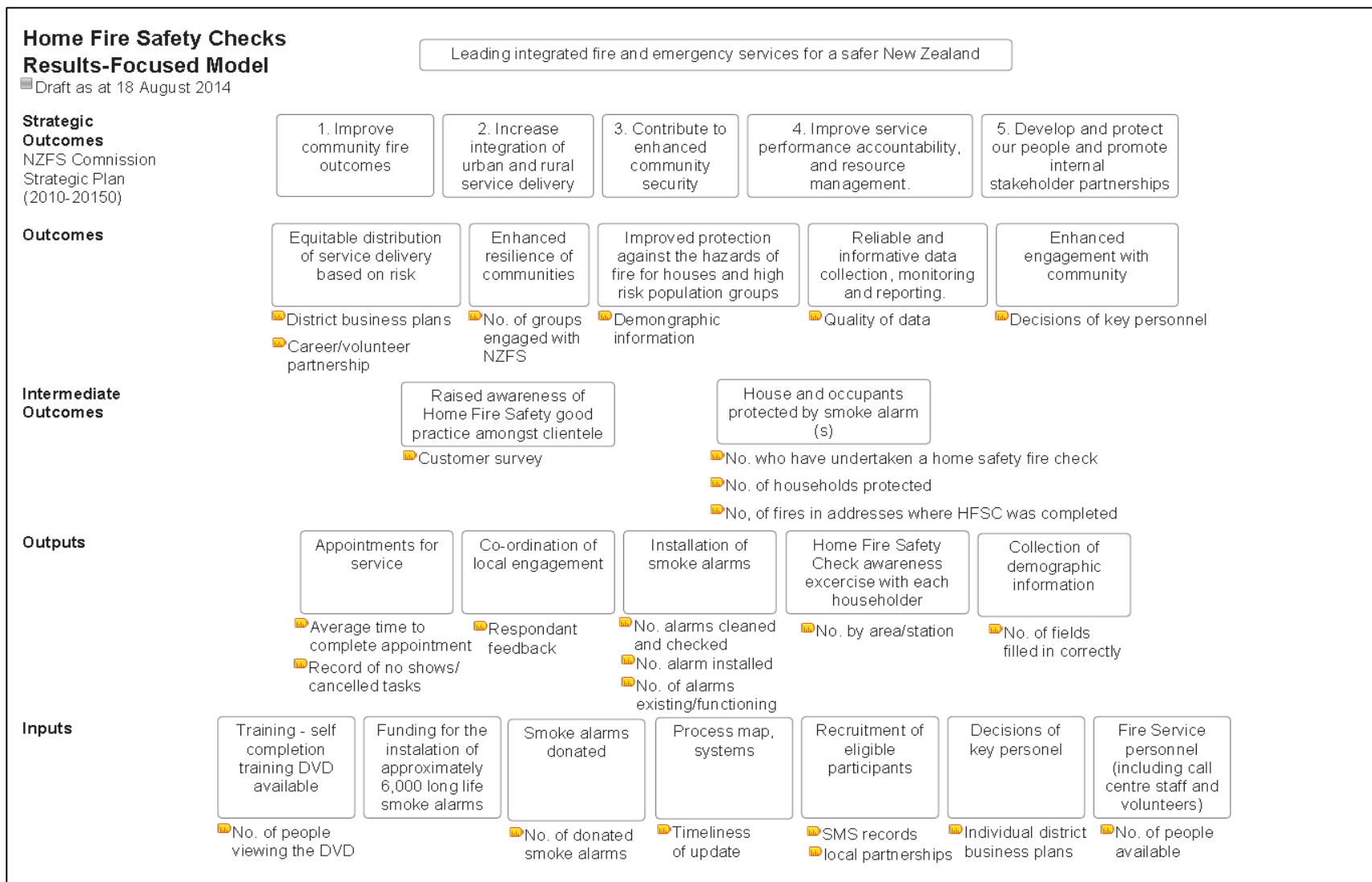
Home Fire Safety Checks
Results-Focused Model
Draft as at 18 August 2014

Leading integrated fire and emergency services for a safer New Zealand

Strategic Outcomes
NZFS Comnission
Strategic Plan
(2010-20150)

| 1. Improve community fire outcomes | 2. Increase integration of urban and rural service delivery | 3. Contribute to enhanced community security | 4. Improve service performance accountability, and resource management. | 5. Develop and protect our people and promote internal stakeholder partnerships |

Outcomes

| Equitable distribution of service delivery based on risk | Enhanced resilience of communities | Improved protection against the hazards of fire for houses and high risk population groups | Reliable and informative data collection, monitoring and reporting. | Enhanced engagement with community |

- District business plans
- Career/volunteer partnership
- No. of groups engaged with NZFS
- Demongraphic information
- Quality of data
- Decisions of key personnel

Intermediate Outcomes

| Raised awareness of Home Fire Safety good practice amongst clientele | House and occupants protected by smoke alarm (s) |

- Customer survey
- No. who have undertaken a home safety fire check
- No. of households protected
- No, of fires in addresses where HFSC was completed

Outputs

| Appointments for service | Co-ordination of local engagement | Installation of smoke alarms | Home Fire Safety Check awareness excercise with each householder | Collection of demographic information |

- Average time to complete appointment
- Record of no shows/ cancelled tasks
- Respondant feedback
- No. alarms cleaned and checked
- No. alarm installed
- No. of alarms existing/functioning
- No. by area/station
- No. of fields filled in correctly

Inputs

| Training - self completion training DVD available | Funding for the instalation of approximately 6,000 long life smoke alarms | Smoke alarms donated | Process map, systems | Recruitment of eligible participants | Decisions of key personel | Fire Service personnel (including call centre staff and volunteers) |

- No. of people viewing the DVD
- No. of donated smoke alarms
- Timeliness of update
- SMS records
- local partnerships
- Individual district business plans
- No. of people available

Figure 2: Results focused model

6. Context

Two main sources of data were used to identify context in which the HFSC operated. One tranche of information emerged from the documentation linked to the initiative and the second was contextual information mainly gathered through a PESTLE analysis. The PESTLE analysis, in turn, informed the interview guide for the first round of engagement with key informants where factors such as regional variation were explored. Important factors emerged from the data sources such as regional variations that included demand for service. Delivery mechanism can be through a partnership model, volunteer fire fighters or career crews. The initial expectation that mail drop and a 0800 service would be the predominant system of referral is not the case. It has been superseded with channels of referral at the local level that result in direct contact with local fire stations. What is evident is that HFSC experience is localised to the community in which it operates.

6.1. Documents

The HFSC is supported by various documentation including the district business plans, promotional material and guides for the recording of information in the SMS database. While there appears to be no specific policy document, there is a good rationale for suggesting an overarching strategic focus could be of benefit to the programme. While the data shows the programme is developing at a local level through the initiative of district based fire service personnel it is also useful to have national view of that development for strategic planning and other purposes. It was evident at the outset of this evaluation that the HFSC did not have an official sponsor in the Fire Service. Clearly, it is important to have personnel with a comprehensive knowledge of the HFSC who could champion the operations and activities at the strategic level of the Fire Service.

6.2. PESTLE analysis

A PESTLE analysis was conducted by gathering information from key informants – people who hold breadth and depth of knowledge of the programme and its context. Evaluation Consult gathered information for the PESTLE analysis in a workshop with two key regional based informants. The information guided the development of data gathering instruments used during the evaluation (e.g. client survey, interview guides for fire service personnel and partner agencies). The summary of findings presented in Annex 3 provides information to contextualise the operations and activities of the HFSC initiative.

6.3. Scoping: Interviews with Fire Service

To inform the evaluation, eight interviews were conducted with personnel including career Fire Service officers and volunteer representatives. The key informants were selected by the Fire Service to cover a range of roles, areas and partnership arrangements involved in the Home Fire Safety Checks. Most respondents (5) were Fire Risk Management Officers. The table in Annex 5 provides a summary list of the key findings from interview data. The table also identifies the considerations given to those findings in regard to the development of a results-focused model for the HFSC.

7. Primary and secondary data and key findings

This section provides an overview of some of the key findings from the survey, review of SMS data, and case study data collection. The information assists with determining the extent of progress/success against the programme model, and the contribution of HFSC to reducing fire related harm to households defined as 'at-risk' audiences.

NZFS provided SMS data for the period beginning January 2011 until September 2014. The data set for one year was selected in order to provide baseline data that can easily be tracked and compared on an annual basis. The year 1 April 2013 to 31 March 2014 was examined for this report. Data that fits this criteria is defined as *a Home Fire Check visit has a completed date within the time period*.

7.1. Limitations of findings

During the case study fieldwork fire service personnel acknowledged some level of discrepancy in the SMS recording which was attributed to the non-completion of documentation attached to the HFSC. In several instances crews identified conducting the HFSC visit without doing the paperwork. In addition personnel also noted that where the paperwork was undertaken it was not necessarily complete for various reasons including: the obscure placement on the document of particular inquiries, lack of clarity regarding the inquiry and a reluctance on behalf of some fire fighters to ask specific questions of householders that are in the HFSC documentation. The data collected and reviewed in this evaluation indicated the SMS records are not entirely accurate and although the discrepancy might be small, the statistical outputs have an undetermined level of response error. Currently, it would appear, that the completion of activities related to the HFSC could be under reported and demographic records are not always included in the SMS responses from fire crews regarding the delivery of service.

7.2. Review of SMS data sets

The findings in Annex 6 are the summary of SMS data in relation to the HFSC results focused model for the year 1 April 2013 to 31 March 2014.

7.3. Client Survey

A 10 minute online survey was designed to identify, to what extent, the HFSC programme is effective in terms of its delivery and process, and whether clients perceived that they changed their behaviour as a result of the Home Fire Safety Check (HFSC) information received. Individuals who had consented to be contacted by the NZFS at the point of service delivery received a mailed letter outlining the purpose of the research and that they may be contacted by the project team to complete the survey

Three case study areas were selected for the distribution of the survey, including: Rotorua, Tokoroa, and Whanganui. A total of 114 households received a letter informing respondents they had the option to complete the survey independently online (based on the link provided in the mailed letter) or would be contacted directly for a telephone survey by a project team member. Due to resource limitations researchers set a target sample of 10 respondents per case study area, and overall, a total of 38 people completed the survey. Due to the small

sample of respondents the survey results are not representative of the population in the case study areas and are not statistically generalizable.

7.3.1. Demographic profile of survey respondents

Based on the 38 respondents who completed the survey, the majority (71%) were female, and of European (57%) or Maori (33%) ethnic decent. The largest group of respondents (30%) were aged between 45 -54. Over half of all respondents reported they had 1-2 household members, with most households including children (59%).

7.3.2. HFSC delivery and process

Ten items assessed the overall delivery and process of the HFSC programme. Overall, while respondents reported hearing about the HFSC through friends/family, community organisations, and the fire service crew, the majority stated 'other' as an option. This included a range of partner organisations or programmes, such as the Salvation Army, Plunket, Birthright, and Koutu 'Safer Houses' programme. Most commonly (47%) of the HFSC's took place between 3-5 months ago.

Most respondents strongly agreed that the HFSC was a helpful service (84%), was timely (79%), and felt the service was easy and clear (84%). Respondents reported that they either somewhat agreed (11%) or strongly agreed (89%) to the service being important, with most reporting that the fire crew provided clear advice on a range of areas, such as preventing fires (79%), what to do in a fire (76%), advice on escape plans (76%), and the importance of smoke alarms (89%).

Overall qualitative responses to an item relating to the how the HFSC was done generated positive responses. For instance:

[They were] really friendly and interested. They took a lot of care to assess the house and look everywhere. I was really impressed…

They were brilliant. They came, they were clear and helpful…

7.3.3. Raising awareness of home fire safety and behavioural change

A key intermediate outcome of the HFSC is *raising awareness of homes fire safety practice amongst clientele.* The survey provided an opportunity to also identify, to what extent, client awareness levels and behaviour were influenced as a result of the HFSC. Ten survey items were designed to assess respondents' awareness of risks, and to identify potential behavioural change.

Findings indicated that the majority strongly agreed that they felt they were more aware of the risks/hazards that may cause a fire in their home (74%). In addition, approximately 84% reported that they strongly agreed that they understood the benefit of having an escape plan, and 87% reported they had a plan in place, and that people in the household were aware of the plan (83%). Further, 67% reported they had made changes to their home. Qualitative responses to what they have changed to make their home safe from fire included: purchasing a fire extinguisher, not overloading power sockets, cleaning heat pumps, turning appliances off at the wall, ensuring right number and positioning of smoke

alarms, ensuring accessibility of exit doors, removing lighters and matches away from reach of children.

Most respondents (79%). stated they had spoken to others about the HFSC programme (including family and friends). The majority (73%) indicated that they checked their smoke alarm, and 87% indicated that their smoke alarms were currently working.

Overall, respondents were positive about the HFSC programme, stating that the process was timely and efficient, with useful information on fire safety provided.

7.4. Case Studies

To gain further information to inform the results-focused model, three case studies were selected to gain a richer understanding of at risk populations and to identify, to what extent, the Home Fire Safety Check (HFSC) programme is reaching and affecting 'at risk' audiences.

7.4.1. Key informant interviews

Interviews were conducted with Fire Service Officers, including crews and management, volunteer representatives, and HFSC partner organisation in Rotorua, Tokoroa, and Whanganui. The key informants were selected by the Fire Service which covered a range of roles, and partners involved in delivering the HFSC Programme. These interviews involved a semi-structured face-to-face approach with participants (either individually or in groups), with interviews lasting approximately 45 minutes.

Participants were provided with an information sheet which gave an overview of the purpose of the data collection, a consent form, and a copy of the interview guide (see Annex 7).This ensured that the specific questions were fit-for-purpose based on a person's role/position. The interview guide was prepared in consultation with the project sponsors prior to delivery.

7.4.2. Emergent findings from interviews

The interview data was analysed with the view to identify data which informed key areas within the results focused model including:

1. Training
2. Appointments for service
3. Co-ordination of local engagement
4. Raised awareness of HFSC good practice
5. Reliable and informative data collection, monitoring and reporting

7.4.3. Training

A key input of the programme is to ensure there is adequate availability and completion of *training*. The majority of those interviewed reported that there is no formal training associated with the HFSC, apart from an initial DVD that is available to new recruits. Those who have received the DVD training felt this was quite some time ago, and some reported that the information is likely to be out dated or not aligned with current practice. On the job training was viewed as the primary mode of learning of the HFSC processes and requirements.

The majority felt that refresher training with a focused approach would be beneficial (e.g. on effective communication and interaction practices). This would ensure that key fire safety messages that are shared with clients are consistent, and that the HFSC is completed appropriately, and that information is accurately inputted into SMS.

7.4.4. Appointments of service

An important output in the results model is *appointments of service*. Interview responses indicated that appointments for service can vary depending on the area. For instance in Whanganui, the majority of appointments are not operating through the 0800 number, but focus on referrals from partner organisations or direct client contact with the fire station.

In Rotorua and Tokoroa, appointments are also often made through direct contact or through referral agencies. This was particularly evident through the 'safer houses programme', which was a regionally based initiative that involved approximately 600-700 house visits over a period of four days. Respondents from all case study areas identified that the 0800 letter drop had quite a low success rate and was considered a poor use of resources.

The average time to complete an appointment is reported to vary, but can take 30-45 minutes to complete. Most fire crew reported that this is dependent on the situation and the client. The fire crews in all areas recognised the importance of conducting the HFSC, and often go out of their way to assist those who have other questions or requirements. However, the majority, especially those in Whanganui and Rotorua reported that conducting the HFSC can be resource intensive and time consuming, especially as a crew of four fire fighters is often required. Fire fighters do not consider this a good use of resources. Additionally, when demand for HFSC is high crews need to prioritise their work load and this highlights the inefficient method of delivery using a fire truck and full crew. Management personnel are conscious that fire stations have set targets for the number of HFSC they are expected to complete.

Overall, the majority of respondents felt that the HFCS process was clear, specifically in relation to managing appointments through SMS. An exception to this view related to one partner organisation who were making appointments for HFSC with the local station without informing their clients of that appointment. Across all case study areas some personnel expressed frustration with the prioritisation of HFSC against other work activities in periods of high demand which are often linked to media coverage of a fire related event. For instance, some fire fighters were concerned that the NZFS can manage an increased number of referrals, in a timely manner that may come through partnership programmes, such as Koutu in Rotorua.

7.4.5. Co-ordination of local engagement

Another important output of the programme is the *co-ordination of local engagement.* It was evident from interview responses that the coordination with the community was a positive aspect of the HFSC, with most fire crew and management reporting operational benefits. The fire crew viewed the interaction and community engagement as advantageous to promoting the role of fire service in conjunction completing the HFSC. Further, it was viewed that on-going partnerships and involvement in fire safety programme activity is essential to raising awareness and keeping the community informed of the availability of the HFSC programme and smoke alarms.

Interviews highlighted a number of successful partnerships. For instance in Tokoroa, several presentations have been delivered via partnership agencies, such as the SKIP programme and Salvation Army enabling the FS to reach a range of people regarded as 'at risk' audiences such as low socio economic households with young children. In Rotorua, local engagement is further enhanced through the Koutu 'safer houses initiative' and other community project (e.g. Rental Accommodation Association), while in Whanganui, engagement through Plunket, Age Concern and Birthright has been shown to be effective. In addition, a number of new organisations are in the process of developing partnerships with the Fire Service in these case study area. In Wanganui, for example, a new relationship with the Rent Centre (targeting 400 homes) is being negotiated which is particularly pleasing for fire personnel because it creates opportunities to focus on the responsibility of landlords provide fire safe housing.

Partnership agencies, including NZ Police, Rotorua District Council, Plunket and Birthright reported a positive and open relationship with the NZFS, and feel that the HFSC's help to improve the fire safety of people from lower socio-economic areas and other individuals at risk. However, on-going awareness is important, and in Rotorua, it was identified that the NZFS involvement in local council strategic planning would be beneficial to maintain and enhance local engagement at the right level(s).

Overall, there is the view that the success of the HFSC will require a multi-agency approach to improving local commitment and engagement.

7.4.6. Raising awareness of HFSC good practice

Raising awareness is an important intermediate outcome in the HFSC results model. Key informants felt that the HFSC programme was quite effective at raising overall awareness of home fire safety. However, the tangible benefits and being able to identify actual behavioural change was raised as a potential issue. In particular, it was acknowledge that it can be difficult to understand whether individuals receiving the service are really taking it seriously or view the service as another 'freebie'. However, it does seem from the client survey results, individuals do report changes to their home fire safety behaviour. It is recognised that identifying tangible benefits is often difficult to measure as no formalised follow-up is undertaken once HFSC appointments are completed. Changes are, therefore, likely to be incremental over time.

Further feedback would be useful on how clients felt about the process and whether it meant a change in their behaviour. Fire crews in particular expressed an interest on receiving this information noting that without feedback they only have injury related statistics as a means to measure their performance. Other concerns raised included knowing where the smoke alarms were being implemented, as there is no official audit of the process. It is at the discretion of the fire station and fire crew involved to ensure the right number are being installed and ordered. Another concern was raised in relation to the lifespan of life long (10 year) smoke alarms, which in some cases, do not often last for longer than 2 years. To date the Whanganui fire station have estimated the long life fire alarm to have a 3% failure rate based on the return of non-working alarms. A further concern was raised about the number of smoke alarms allocated for each HFSC, sometimes a single smoke alarm is insufficient to cover all areas of fire risk in a home and more than one is needed to fully protect a home.

While most people felt that going through the HFSC sheet was relatively easy, there were some questions that were perceived to be less relevant, and in some cases, potentially intrusive. The delivery is also dependent on the fire crew involved, with some feeling they can provide in-depth information while others may not always align to the check sheet or feel comfortable to go through the list in detail. It was evident that the context of the situation can influence how the HFSC is delivered.

It was viewed that while the HFSC and availability of a smoke alarm installation is targeting 'at risk' audiences, most felt that the programme should be available to all New Zealanders. Further, it is recognised that some at risk population clients may be illiterate, and knowing whether these individuals fully comprehend key messages can be difficult.

7.4.7. Reliable and informative data collection, monitoring and reporting

The ability to collect data and report the right information is important to the overall effectiveness of the HFSC, and is a key outcome in the results model. The usefulness of SMS had a few mixed views. While most felt the SMS was a useful system, some reported feeling that completing the HFSC through SMS is quite time consuming. Some concerns were raised about the misalignment between HFSC questions and what is required in SMS (and vice-versa). Volunteers in Tokoroa reported that they do not often input the data in SMS as it is a complex task, and can be time consuming, but do have the support from the Fire Risk Management Officer or Volunteer Chief Fire Officer to complete HFSC appointments.

There was general agreement that there could be improvement between the HFSC form and SMS, ensuring it is more logical, that all fields can be completed, and can be reviewed. In addition, some felt that use of technology (e.g. portable tablets) may assist with gathering and reporting information in a more streamlined manner. This would avoid duplication, and additional time that is often experienced when transferring HFSC information between the paper and electronic form.

For some informants, the HFSC demographic questions can be viewed as unfair, quite intrusive, and most questioned whether all the information was necessary to report. Some concerns were raised in relation to getting access to the right people. For instance, in the Rotorua and Tokoroa, it was often viewed that the population is transient, thus making it difficult to maintain appointments, or to reach the right people to share and gather information.

In terms of business planning and targets, there are Key Performance Indicators that are cascaded down from National Head Quarters. Different priorities may vary across different areas, but the overall focus of fire personnel was to target at risk areas/individuals.

8. Merit assessment

In advance of synthesises of the evaluative data a table of merit criteria (see Annex 9) was developed in collaboration with the Fire Service for the purpose of an overall assessment of the findings. The areas of assessment align with the standards developed by OECD-DAC, the categories are, relevance, effectiveness, sustainability and impact. Each category has factors that align to the logic model (see page 9) and the intended output/outcome of the programme. Effectiveness, for example, refers to the extent that the HFSC activities have protected households from the risk of fire through the installation of smoke alarms and the completion of the fire risk checklist that occurs with each visit.

A four scale rubric was used to identify the graduated levels of achievement for each factor of merit represented as either an excellent, good, fair or poor result. Each scale of the rubric specifies a performance standard which matches the grade of achievement. An excellent result in regard to efficiency, for example, represents optimal performance including high levels of satisfaction amongst stakeholders

Summaries of the assessment of the evaluation data against the merit criteria are as follows.

8.1. Relevance

Annex 9 identifies the graduated scale of performance for the awarding of a merit rating. The summary of data that guides the selection of a **high** rating for the area of relevance is as follows.

All groups of stakeholders, including the "at risk" population of survey respondents agreed that the delivery and services provided by fire fighters was an appropriate way to promote fire prevention and survival. Fire Service personnel were of the view their professional knowledge and recognised expertise amplified the impact of the HFSC thus maintaining the New Zealand Fire Service 'brand' as a trusted conduit with local communities. Community partnerships have proved successful at spreading the message of the service to 'at risk' populations and increased the demand for HFSC at stations who have formed those partnership arrangements in their local community. Although some fire service personnel suggest they are not confident that the reach of the HFSC programme is as wide as it could be for at 'risk' audiences, they were also of the view that fire fighters were best placed to lead the activities when those 'at risk' audiences presented. Fire fighters regard their skills and knowledge as an essential component to the successful implementation of the HFSC and that they are best positioned to lead and assist other organisations with an interest in fire safety. In maintaining that best placed position, the ongoing development of community partnerships was widely promoted as the mechanism to extend the reach of the HFSC to 'at risk' audiences.

8.2. Effectiveness

Table 1 identifies the graduated scale of performance for the awarding of a merit rating. Accompanying the table is a summary of data that guides the selection of **good/fair** as the rating for the area of effectiveness.

	(High)	(Good)	(Fair)	(Poor)
Effectiveness	▪ All stakeholders agree that service ensures that there is increased early warning from smoke alarms of fires. ▪ All stakeholders agree that the service ensures that clients understand the risk of fire in their own home and how to manage that risk. ▪ At least 80% of clients believe they have modified their fire safety behaviour as a result of the home fire safety check. ▪ Effectiveness of planning - a risk relevant number of home fire safety checks is planned and completed in all districts. ▪ Most (90%) of HFSC are delivered to at-risk audiences.	▪ Most stakeholders (75%) agree that service ensures that there is increased early warning from smoke alarms of fires (agreement must include client and service delivery). ▪ Most stakeholders (75%) agree that service ensures that clients understand the risk of fire in their own home and how to manage that risk (agreement must include client and service delivery). ▪ Most clients believe they have modified their fire safety behaviour as a result of the home fire safety check. ▪ Effectiveness of planning - a risk relevant number of home fire safety checks is conducted in each of the three (Whanganui/Tokoroa/Rotorua) areas. ▪ Most (80%) of HFSC are delivered to at-risk audiences.	▪ Client and Service delivery stakeholders agree that service ensures that there is increased early warning from smoke alarms of fires ▪ Client and Service delivery stakeholders agree that service ensures that clients understand the risk of fire in their own home and how to manage that risk. ▪ At least half of the clients believe they have modified their fire safety behaviour as a result of the home fire safety check. ▪ Effectiveness of planning - a risk relevant number of home fire safety checks are planned in each of the three (Whanganui/Tokoroa/Rotorua) areas, at least (80%) of which are completed. ▪ Most (51%) of HFSC are delivered to at-risk audiences.	▪ Either Client or the Service delivery stakeholders agree that service ensures that there is increased early warning from smoke alarms of fires. ▪ Either Client or the Service delivery stakeholders agree that service ensures that clients understand the risk of fire in their own home and how to manage that risk (agreement must include client and service delivery). ▪ Less than half of clients believe they have modified their fire safety behaviour as a result of the home fire safety check. ▪ Effectiveness of planning - a risk relevant number of home fire safety checks are planned in each of the three (Whanganui/Tokoroa/Rotorua) areas, less than half of which are completed.

Table 1: Merit criteria rubric for effectiveness of the HFSC

8.2.1. Early warning of fires from smoke alarms

There is overwhelming agreement amongst stakeholders that smoke alarms provide early warning of fires and increase the protection of New Zealanders from the risk of fire related harm. Receivers of the HFSC support this view as does the NZFS personnel. The installation of long life smoke alarms is regarded as making a significant contribution the increased protection of New Zealanders from the risk of fire related harm by extending the active period of smoke detection for up to ten years, in contrast to the previous devices which had an activity period of between one to two years. In addition evidence from SMS records show that 80% (N=13,278) of the HFSC visits include some activity related to improving smoke alarm performance, including installation, cleaning and checking, replacing batteries or relocation.

The SMS records regarding fire related incidence show 64% of smoke alarms installed in homes were successfully activated in fire incidences and 24% of fire incidences occurred where a smoke alarm was installed but failed to activate. Reasons linked to failure included the alarm not being located in the room of the fire's origin.

The combination of evidence from SMS records and primary data indicates that early warning of fire from smoke alarms does not occur in *all* circumstances. However, that rate that it occurs can be determined as **good** against the merit scale.

Note that according to the records from a case study area the long life smoke alarms have a 3% failure rate. It is unclear how this compares to the national population or how to position a measure of failure against an acceptable level of quality assurance. The quality assurance of alarms was raised as an area of information awareness that could be of interest to fire fighters and the NZFS more generally. Quality assurance awareness is potentially one juncture of information that could be used to further promote the HFSC programme, and its objective of improving to fire-safety behaviours, to the committed fire fighters who implement the service.

8.2.2. Delivery to at risk populations

The analysis of SMS records (N=13,278) for the 2013 financial year indicate that slightly less than three quarters (72.7%) of HFSC were delivered to at-risk households, the majority of which were homes of the elderly (50.4%), followed by low income homes (38%), homes with children under 5 years old (10.8%) and homes of students (3.3%). The overall rate of delivery is less than the performance measure for a good assessment but is closer to good than the 51% benchmark for fair. Clearly the efficiency of delivery to at 'risk' audiences is nudging against a good rating and a modest increase in the numbers of at risk households receiving the service will escalate the performance rating beyond **fair** to good.

8.2.3. Understanding fire related risk

Results of the survey of respondents who received the HFSC indicate that they felt more aware of the risks/hazards that may cause a fire in their home with almost three quarters (74%) suggesting they strongly agreed with that outcome. Fire crews too, strongly believe that the HFSC activities they perform promote a higher level of fire safety awareness amongst 'at risk' audiences. However, data collected from some crews also suggested some individuals receiving the HFSC are focused on the installation of a free smoke alarm and appear less interested in the fire safety messages, the implications of which are that the

awareness of risk/hazard will not always enhanced as a result of service delivery. Such instances demonstrate that the audience must be interested if there is to be a teachable moment and in some situations, involving particular individuals, the teachable moment is less likely to happen. However, taking into consideration the most common experience of fire crews in conjunction with the survey feedback the HFSC is determined to have a **good** performance rating concerning increasing the understanding of fire related hazards with 'at risk' audiences.

8.2.4. Behaviour change

Data collected via the survey indicates that householders have modified their behaviour as a consequence of receiving the HFSC. Two thirds (67%) of respondents agreed that they had made changes to their households following a visit by fire crews. In addition more than 80% identified their household had a fire escape plan in place in the event of a fire, and that people in the household were aware of the plan (83%). Based on this evidence the behaviour change assessment is determined as **good**.

8.3. Efficiency

Table 2 identifies the graduated scale of performance for the awarding of a merit rating. Accompanying the table is a summary of data that guides the selection of **good/fair** as the rating for the area of efficiency.

	(High)	(Good)	(Fair)	(Poor)
Efficiency	▪ 100% of smoke alarms have been delivered to homes that have been screened as at-risk audiences. ▪ 100% of homes targeted are at risk audiences. ▪ 100% of at risk homes visited at homes by crews have a working smoke alarm installed. (Either by FS or have already installed). ▪ 95% of home fire safety checks are delivered within expected, reasonable times.	▪ 100% of smoke alarms have been delivered to homes that have been screened as at-risk audiences. ▪ 80% of homes targeted are at risk audiences. ▪ 100% of at risk homes visited at homes by crews have a working smoke alarm installed. (Either by FS or have already installed). ▪ 90% of home fire safety checks are delivered within expected, reasonable times.	▪ 100% of smoke alarms have been delivered to homes that have been screened as at-risk audiences. ▪ 80% of homes targeted are at risk audiences. ▪ 80% of at risk homes visited at homes by crews have a working smoke alarm installed. (Either by FS or have already installed). ▪ 90% of home fire safety checks are delivered within expected, reasonable times.	▪ 100% of smoke alarms have been delivered to homes that have been screened as at-risk audiences. ▪ 80% of homes targeted are at risk audiences. ▪ 60% of at risk homes visited at homes by crews have a working smoke alarm installed. (Either by FS or have already installed). ▪ 90% of home fire safety checks are delivered within expected, reasonable times.

Table 2: Merit criteria rubric for efficiency of the HFSC

Measures of efficiency are drawn from the statistical analysis of SMS data. That information indicates that 80% (N=13,278) of visits showed some activity related to improving smoke alarm performance, including installation, cleaning and checking, replacing batteries or relocation. Moreover those visits occurred to households which met the criteria of at risk as evidenced by use of a community service card or the presence of a variable amongst household occupants that place them in an at risk category, e.g. children under the age of 5. When aligned to graduations of performance for delivery of smoke alarms to at risk homes the rubric indicates this is a **good to fair** result.

It appears that there is no standardised time period by which to judge the timeliness of the service which is the period from contact to service delivery. This is in part due to the recognition that HFSC delivery needs to be flexible to accommodate fire related activities which have precedence over the resources of fire crews. Some areas such as the Waikato have specified a standard delivery time of three weeks. The SMS data shows the average time to complete an appointment was 12.7 days. The median time was 1 day. A small proportion (7%) of appointments occurred with more than 2 months between appointment and completion date. When aligned to graduations of performance for delivery time the rubric indicates this is a **good** result.

8.4. Sustainability

Table 3 identifies the graduated scale of performance for the awarding of a merit rating. Accompanying the table is a summary of data that guides the selection of **good** as the rating for the area of sustainability.

	(High)	(Good)	(Fair)	(Poor)
Sustainability	- Additional resources[3] for the HFSC service will become available. - The HFSC Service has commitment from key strategic decision makers and operational personnel	- Current resources for the HFSC service are viable for the foreseeable future. - The HFSC Service has commitment from key strategic decision makers and operational personnel	- Current resources for the HFSC service are viable for the short-term (xx months). - The HFSC Service has commitment from either key strategic decision makers or operational personnel	- New resources for the HFSC service are required to ensure the service's continuation. - The HFSC Service lacks sufficient commitment from key strategic decision makers or operational personnel

Table 3: Merit criteria rubric for sustainability of the HFSC

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[3] Resources includes funding and human capital

Data collected during key interviews with fire crews and senior staff conveyed a wide spread sense of commitment to the HFSC. All staff saw value in its implementation and believed it made a significant contribution to protecting at risk populations from the risk and hazard of fire. Interviews with senior Fire Service management conveyed the expectation that the current level of resourcing for the HFSC would continue into the future.

Personnel also expressed the desire for additional resources to meet high levels of demand for service at particular times, such as during media exposure, which caused some stations to have a backlog of appointments. Some fire crews suggested there ought to be a dedicated staffer to implement the programme rather than the expectation they would include it as part of their normal activities. Particular mention was also made of the desire to provide households with more than one smoke alarm. Fire fighters showed an awareness of the requirement to have a smoke alarms in multiple places in a house, such as hallways, and bedrooms, to meet best practice provision of early warning to occupants in the event a fire. Currently fire crews are limited to installing one long life smoke alarm in houses whereas, in their view, there was greater benefit from having multiple devices. Our understanding of resource provision indicates that it is currently unlikely that additional smoke alarms will be made available despite fire fighters believing there was a need to install more than one device in each house undergoing a HFSC.

8.5. Impact

Table 4 identifies the graduated scale of performance for the awarding of a merit rating for impact. The evaluation did not include the extraction of this statistical indicator from the SMS data base. However, the Fire Service can readily extract this information and determine the assessment of impact in relation that metric. It might be the case that the rubric for impact could be expanded upon to include some other measurement for consideration. We suggest that this approach be considered as part of the strategic planning and decision making that will follow this report.

	(High)	(Good)	(Fair)	(Poor)
Impact	▪ No fires, deaths or injuries occur where they have had home fire safety checks.	▪ No deaths or injuries occur where they have had home fire safety checks	▪ No deaths but some injuries occur where they have had home fire safety checks	▪ Deaths and/or injuries occur in homes where there has been a home fire safety check.

Table 4: Merit criteria rubric for relevance of the HFSC

9. Results-focused model: colour coded by achievement

The following model (See Figure 3) provides a diagrammatic representation of performance related information to show the extent to which components of the HFSC are producing results which contribute to the overall objective of changes in the fire safety in New Zealand homes. The model aligns the evaluation results with the merit criteria rubric and identifies performance by a colour coded representation in a traffic light system. Green components of the logic model show where the HFSC can report evidence of activities, outputs or outcomes that show good performance. There are graduations of that assessment as shown by the variations of green, lighter shades and borders which are used to show where the data has also suggested there is room to improve on the 'good' rating. The orange hues are areas where performance is fair and there is substantive evidence of room for improvement. Together the green and orange signal areas where there are lessons learnt from this evaluation.

The following colour codes form the legend for the model depicted on page 25.

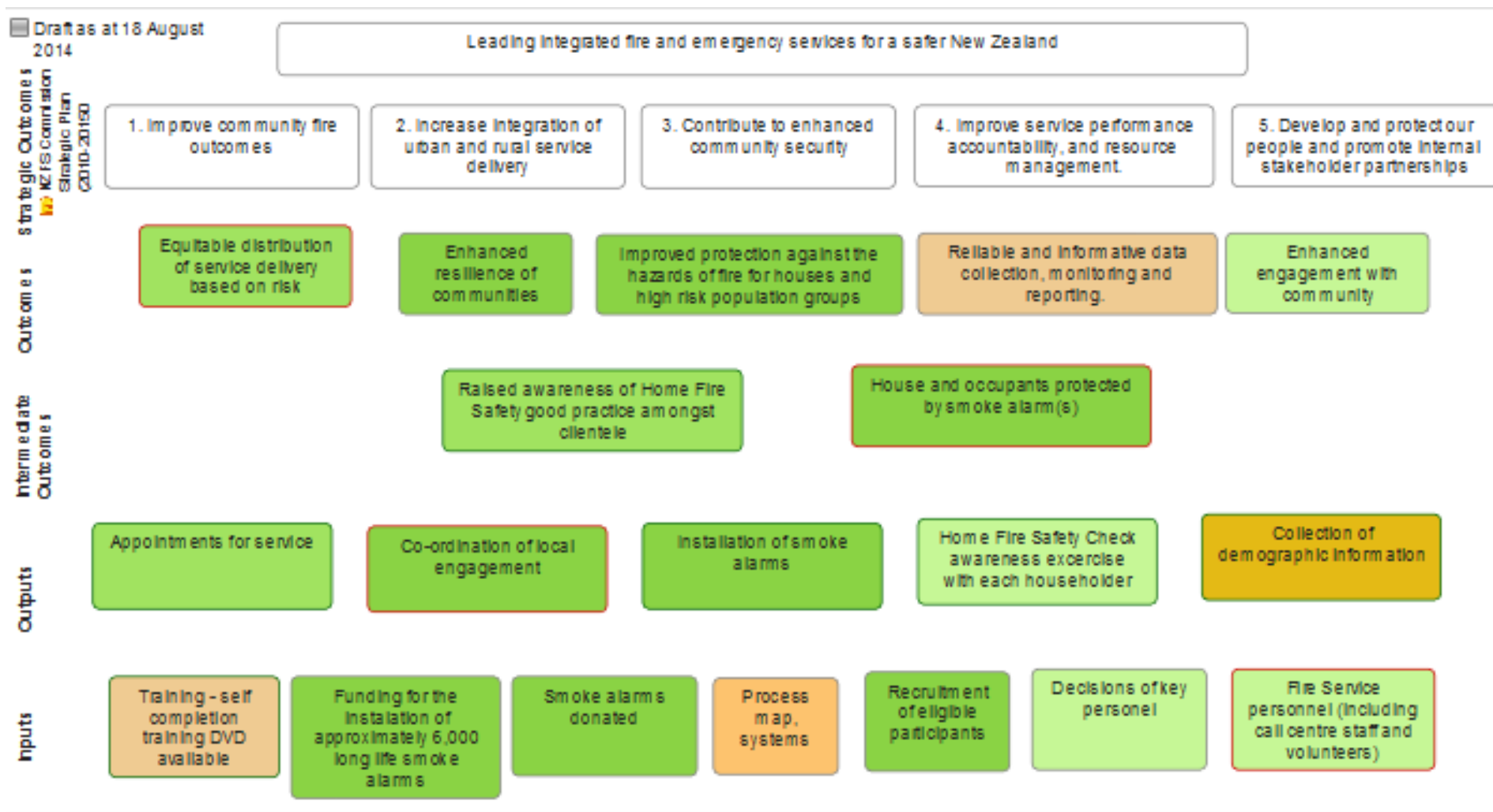|	Performing well		Performing well but room, for leverage to improve		Performing well, some data gaps
	Room for improvement		Review/reconfigure/revise		

Figure 3: Results model colour coded by performance

10. Lessons Learned

Question five of this evaluation inquired as to the best approach to developing a best practice partnership model for working with different volunteer brigades and other partners to extend the reach of the Home Safety Check programme to 'at risk' audiences. The following factors have been identified from the qualitative data collected during interviews which relate the development of a best practice partnership model. The points made offer NZFS some guiding principles to consider in the development of a framework which could support the partnership model that operates through the HFSC.

1. **Apply stakeholder management strategies with all Partners.** Partnership relationships are most effective when they are actively managed and maintained, including the careful management of communication with partners. In Rotorua, selected Fire Service personnel are allocated HFSC Partners for whom they represent the Fire Service. They have responsibility to understand Partner needs, to communicate regularly on behalf of the Fire Service, and are available to the Partner at known times/shifts.

2. **Leverage partners resources in communicating home fire safety key messages**. Dissemination of key home fire safety messages can be leveraged through educating partners to deliver them to their clients on behalf of the Fire Service. In Wanganui, for example, a new relationship with the Rent Centre (targeting 400 homes) is being negotiated which creates opportunities educate landlords on their responsibility to provide fire safe housing. In Rotorua, the NZFS's participation in a council led, safer communities groups is seen as effective in communicating key fire safety messages to agencies such as Police and ACC. It was identified that greater NZFS involvement in local council strategic planning in the future would be beneficial to maintain and enhance local engagement over the long term.

3. **Leverage partnerships to access target audiences at multiple points of contact.** Effectiveness of the HFSC is improved when access to target audiences through HFSC partners allows for contact prior to a HFSC visit. Benefits include an increased likelihood of a HFSC visit uptake, the HFSC visit acting to reinforce key home fire safety messages already presented, and target audiences being more receptive to advice for behaviour changes for individuals in the homes. For instance, in Tokoroa, fire risk/fire safety presentations have been delivered via partnership agencies, such as the SKIP programme and Salvation Army to 'at-risk' audiences such as low socio economic households with young children. The presentation concludes with an invitation for a HFSC visit, which receives an enthusiastic response and improved fire safety behaviours following completion of the visit. In Rotorua, local engagement is enhanced by Fire Service participation in community events such as community fairs: demonstration fires combined with promotion of home fire safety key messages are followed by invitations for Home Fire Safety Checks which receive broad uptake.

4. **Utilise a broad range of partners to reach all target audiences.** Partner organisations are effectively utilised by the fire service to reach target audiences in all three case study areas, Tokoroa, Rotorua and Whanganui. However, there is a suggestion that the Fire Service is only 'scratching the surface' of comprehensively reaching the target demographic. This is because Fire Service contact with the HFSC target audience is dependent on the existence of a relationship between the client and a Partner organisation. Therefore, if the target audience does not access Partner organisations'

services there is a diminished possibility of reaching them. Further, lessons from the Te Kotahitanga programme, and the "Safe as Houses" event in Rotorua suggest that a blanket, door to door, coverage is more likely achieve greater penetration of the target audiences.

10.1. Recommendations

In addition to identification of lessons learned in relation to best practice for working with partners and volunteer brigades to extend the reach of the HFSC, the evaluation has highlighted further recommendations to improve the Home Fire Safety Check initiative:

1. **SMS and HFSC form alignment.** Improve alignment of the administration tools for the HFSC to the Fire Service key messages. This should encompass:
    − Design of the checklist for the HFSC visit so it is relevant and in accordance with the Fire Service's key messages. For example the message "keep an eye on what you fry" can be used as an introduction to discuss fire safety when cooking.
    − The SMS data, and data entry form should mirror the checklist and include a "not applicable" variable where relevant.
    − the use of a tablet to record data electronically will reduce administrative burden and is therefore likely to improve data collection.

2. **Specific Home Fire Safety Check training.** Improve the overall level of interpersonal and communications skills of fire service staff who deliver the HFSC in order to improve effectiveness of the HFSC: Currently career and volunteer crews rely on ad hoc HFSC training provided by some senior fire fighters and the underpinnings of their general training. Moreover, the DVD is considered dated and offers information concerning the completion of SMS data that is contradictory to some good practice such as completing the demographic data at the station as opposed to on site in the home. We suggest that the DVD information is updated and more is done to facilitate the interpersonal skills fire crews need to implement the HFSC especially risk assessment capabilities.   We have identified two potential ways in which this could be achieved:
    − Select fire service personnel with existing high levels of interpersonal and communication skills as designated personnel to conduct HFSC
    − Deliver skills training for interpersonal communication skills to achieve a base level for sufficient number of staff.

3. **Resource allocation.** Consider alternative methods of resource allocation for delivery of the HFSC. Methods that have shown to be equally effective include:
    − Delivery in pairs by the Fire Risk Management Officer and volunteers in Tokoroa, using ordinary Fire Service vehicle.
    − Delivery by a single officer, who registered with the fire service call centre, the beginning and end time, of a similar type visit under the FIAP intervention, in Rotorua.
    − Further, a suggestion was made that a watch's "spare man" deliver the HFSC, rather than a full crew with fire truck.

4. **Share best practice intra-regionally.** The delivery of the HFSC is largely decentralised therefore there is potential to share best practice for HFSC delivery between regions. For example, there are likely to be lessons learned from Taneatua about delivery of the HFSC to rural Māori.

5. **Feedback Loop.** Implement a feedback loop, such as a customer satisfaction survey to help inform the Fire Service, and its personnel of the efficacy of the HFSC.
6. **Home Smoke Alarm Coverage.** Consider modifying policy to ensure the HFSC ensures each home has sufficient smoke alarms to ensure alert of a fire in all parts of the home. SMS data shows.

11. Next Steps

Following acceptance of the final report of the HFSC evaluation, Evaluation Consult will update the evaluation proposal for Phase 2, to be conducted in 2015. This will ensure that the Phase 2 approach is fit-for-purpose and will assist in gathering meaningful information. In addition to the aforementioned lessons learned and recommendations outlined in Section 11, we have outlined the next steps below. It is important to recognise that some of these next steps suggestions are beyond the scope of this engagement. Evaluation Consult have the expertise and experience to assist NZFS where possible.

11.1. Planning and methodology for next phase

- **Case Studies.** This report provides an overview summary of three case studies: Rotorua, Whanganui, and Tokoroa. The NZFS will need to ascertain whether the same or additional case studies should be selected as part of Phase 2 in 2015. Key considerations may include:
  - Selection of new areas/regions to provide a greater breadth of information to assess the HFSC, especially urban or rural areas with different characteristics and at risk populations. Further, this approach may provide an opportunity to identify what is currently working well and improvement areas for different population groups and the implications for the HSFC delivery.
  - Repeating research across the three current case study locations to provide a longer term view of the effect of HFSC programme. This will assist to identify whether any changes may have occurred over time, and if any HFSC programme changes have had an impact over time.

- **Customer Satisfaction Surveys.** It is recognised that Evaluation Consult have undertaken an initial customer satisfaction survey as part of the current programme review. However, the NZFS currently do not have a survey tool in place to capture customer satisfaction specifically to the HFSC programme. Therefore, we suggest the following considerations are taken into account:
  - Repetition of the current customer satisfaction survey within the methodology of the phase 2 of the HFSC evaluation to align with the case studies and provide robust evidence-based information through data triangulation. However, it is recognised that this data will be collected only during the planned data collection period (May – September 2015).
  - Implementation of an ongoing customer satisfaction survey by the Fire Service to provide a regular feedback loop about the effectiveness of the delivery of the HFSC and impact on client fire safety behaviours. While this is currently out of scope for this engagement, Evaluation Consult can discuss the potential to develop a standardised and robust customer satisfaction survey that could be implemented by the NZFS on a quarterly, six monthly or annual basis.
  - If the Fire Service elects to implement a customer feedback mechanism, further considerations of how to implement the survey must be made, especially in relation to what information will be gathered, when the information will gathered, and by whom. The ability to gather and interpret information to feedback to key stakeholders will also determine the success of rolling out a survey of this type.

- Consideration of sample and timing is critical for accurate customer availability and recall, for example an annual survey would require a customer to accurately recall and event that may have happened 12 months in the past. In addition, customers will need to provide consent in order to be surveyed post the completion of a HFSC. The SMS system will need to ensure consent is captured.
- Time will need to be set aside by the NZFS to identify what key questions to incorporate (or to further develop) as part of the client survey. This will include considerations for implementation (e.g. development, delivery and collation of findings, interpretation, and feeding back results to key stakeholders).
- Contact mechanism for example email surveys require the collection of email addresses.

- **Review of SMS and HFSC form.** As outlined in this report, concerns have been raised in relation to the misalignment between the HFSC list and SMS. Further refinement of the HFSC form will be required, which may include further emphasis of key NZFS messages, and ensuring items are fit-for-purpose, and that the mode in which information is captured is more streamlined to avoid duplication. For instance, consider adopting a tablet approach to enable information to be entered automatically into SMS.

- **Refinement of merit criteria.** Although an initial merit criteria has been developed for this review, it is recognised that the NZFS will need to further refine the merit criteria to ensure overall standardisation and accuracy. At present, the criteria is reported at a high-level, and more specific details will need to be discussed and identified.

11.2. Training and resourcing

- **Developing appropriate training of the HFSC.** Training is currently limited and Fire Service staff have indicated that training in specific areas, such as interpersonal skills may be beneficial. Most training is completed on the job and further consistency in the way the HFSC is delivered would help to improve overall quality.

  In addition, it has been reported that information within the HFSC training DVD may be out dated, and it is recommended that the NSFS review existing training materials and identify areas of training that would further enhance the delivery of the HFSC for key staff. As outlined in the lessons learned/recommendation section, developing innovative ways to engage with the community through effective training will help to increase the overall profile of the NZFS and ensure there is the capacity and capability of staff.

- **Resource and capability.** To ensure the overall sustainability of the HFSC programme, the NZFS will need to review the current allocation of resources when undertaking the HFSC service. Concerns have been raised, in some locations, in relation to the number of staff and resources required to complete a HFSC and the installation of smoke alarms. While the HFSC is viewed to provide an opportunity to engage with the community, the prioritisation of resources is important given other operational demands that are required of the Fire Service crew.