The Healthy Housing Programme: Report of the Outcomes Evaluation (year two)

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Prepared for:
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Date: September 22nd 2006

ISBN 978-0-477-10028-1
ISBN 0-477-10028-7

Acknowledgements

The contributions of personnel from Housing New Zealand Corporation and Counties Manukau and Auckland district health boards to this report are acknowledged with thanks. Special thanks to Liz McDonald the coordinator for Healthy Housing for all of her assistance.

Household interviews were carried out by Alison Searle, Rebecca Irvine, Fa'asisila Savila, Timoci O'Connor, Danielle Bell, Christina Roebeck, Margaret Hepiri, Sasha Talima, Susannah Taupo, George Anapa, Okusitino Kama, Lise Sione and Ian Hepiri. Heather Coster interviewed some providers. We are grateful for their hard work and perceptive collection of stories from Housing New Zealand's households and providers participating in the Healthy Housing programme.

Associate Professor Philippa Howden-Chapman and Dr Michael Baker from the University of Otago, Wellington Clinical School, Department of Public Health were advisers on the evaluation project.

We would like to thank all Housing New Zealand's households and providers who agreed to be interviewed and share their stories.

ISBN 978-0-477-10028-1 [1]
ISBN 0-477-10028-7

[1] The upper ISBN number follows the international system active from 1/1/2007

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Executive Summary

Aims

This draft report provides findings from the second of a three year outcomes evaluation of the Healthy Housing programme. The aims of the 2006 evaluation are to identify and critically review:

- The evidence that the Healthy Housing programme continues to make a difference in the risk and rate of housing related diseases, conditions and injuries, and improved wellbeing.
- The sustainability of effect of the interventions on the households.
- Any obstacles to the achievement of expected and unexpected outcomes for the Healthy Housing programme.

The evaluation assesses the extent to which the programme has contributed to the effectiveness and efficiency of the collaboration between Housing New Zealand Corporation and district health boards in assessing and meeting housing and social needs; wellbeing and social outcomes (such as sense of comfort in the house, perceived reductions in housing-related illness and accident, income, employment, community participation) for tenants involved with the programme; improved quality of Housing New Zealand's housing stock; the effectiveness of the utilisation of housing stock; any reduction in unmet housing need; and reduction in inequalities in housing.

Methodology

The methodology is described in the appendix to the report. The evaluation methodology draws on the philosophy and culture of the programme: a strengths-based, solution-focused and collaborative approach. An approach known as the Success Case Methodology (SCM) is adapted to determine 'what success looks like' based on a review of programme documentation and the literature around housing and wellbeing. The expansion of the evaluation methodology in this phase (for example, a greater degree of cultural matching between interviewers and households) has contributed to enhanced quality, reliability, and interpretation of the data.

Outcomes

This evaluation is built on information learned in the first year (2005) of the evaluation. The information collected in 2006 has been incorporated into the previous understandings of success based outcomes and obstacles to success. This information was used to further develop the pathways to success model.

This evaluation report further confirms the effectiveness of the inter-sectoral and collaborative approach of the Healthy Housing programme. Indeed, the collaboration between Housing New Zealand and the district health boards, and a wide range of other government and non-government agencies has been further demonstrated as key to the implementation and success of the Healthy Housing programme.

Active participation of families in the decision-making process has been documented as giving rise to greater wellbeing and a sense of empowerment.

Several key outcomes of the Healthy Housing programme are highlighted in this report: First the overall positive effects of the programme on wellbeing have been sustained over the course of the evaluation. Second, the character, quality, and security of tenure of

housing can influence people's social interactions. In turn, these interactions influence social cohesion, trust, and a collective sense of belonging.

It is clear from the 2006 interviews that the Healthy Housing programme has had a positive impact on the households and their general wellbeing. After the Healthy Housing intervention, occupancy numbers (gathered at the interviews) appear to have stabilised. There was only one situation where serious overcrowding had recurred. Households experienced improvements in health with over half of the households reporting a reduction in the frequency of doctor and hospital contact. A reduction in housing-related conditions, diseases and injuries was noted by many households, participants were happier, more relaxed and had an increased sense of comfort in their homes. The Healthy Housing team continue to provide resources to households about how to maintain a healthy home and healthy lifestyle. Day-to-day functioning was also improved significantly for many households. Members of households could spend more quality time together, had more privacy and enjoyed spending time at home. Many households also reported changes in the area of their children's education and play. Finances continue to be a struggle for many households, but there were a number of cases of improved budgeting and financial stability. Twenty-nine of the 39 households interviewed were very happy with the intervention carried out in their home, and the changes were appropriate to the health and social needs of the household.

There are some areas that limit the sustainability of household interventions. Household's perception of obstacles included general property concerns, and continued financial difficulties. Knowledge in households about the relationship between housing and health is still very minimal, however after the intervention, this relationship is often clearer.

Many examples of successful outcomes were presented by providers. One unexpected outcome was where a household chose, after a housing modification that delighted them, to become a homeowner. The providers' identified a wide variety of successful outcomes for the households.

The providers' perceptions of household obstacles included knowledge deficits, risks of re-crowding, harmful practices such as removing smoke alarm batteries, and intervention solutions that were not sustainable. The providers' perspectives of the obstacles include barriers and risks to ongoing success. As in the previous report there were concerns about the regulations related to the application of Income Related Rent and the possibility of 'a large home for life – dependency risk' occurring in large Pacific families. Some issues related to the design, intervention and ongoing maintenance were identified. Contact with the households by the Healthy Housing team immediately after the intervention appears to be evolving into a short term supervisory role (this was not the initial intent of the programme).

Collaboration remains central to the programme and is fostered by relationship building, networking, sharing of information and expertise. There is strong and effective evidence of collaboration at all levels. The Healthy Housing team collaborate by building relationships within the team, with teams internal to the organisations they and the programme rely on, and with external agencies. Establishing a key contact person and appropriate referral processes specifically fosters inter - agency collaboration. Collaboration between Housing New Zealand and the district health boards has positively impacted on the expected outcomes. There was a high level of communication between the agencies directly involved in Healthy Housing. Similarly there were effective communication links with key contacts in external agencies.

The programme remains sustainable. Specifically there is a supportive management environment that champions and leads the programme, and the programme is adaptable and responsive. Executive level support for the programme is evident in all of the organisations involved. The Healthy Housing team continues to have a strong ‘solutions focus’ in their approach to the programme and its implementation. This approach is extended into a ‘strengths based solutions focus’ when interacting with the households. Ensuring the tenants’ needs are identified and their priorities are heard and addressed which is critical to the sustainability of the effects for the programme.

Conclusion

Overall the programme is strong, sustainable and responsive to participant need. It is well on its way to meeting all its objectives. There have been many positive outcomes for the households and service gains for the organisations.

Abbreviations

DHB	District Health Board
RENTEL	Database of Housing New Zealand's tenants
Work and Income	Work and Income New Zealand

1 Introduction

Findings from both provider and household interviews will be presented in this document; the second of three outcomes evaluation reports to Housing New Zealand Corporation (Housing New Zealand). This report presents findings from interviews with households who have been a part of Healthy Housing, and providers involved in the management and delivery of the programme, as well as providers who are used as a result of the findings of the household assessment. The report presents and discusses the characteristics of Healthy Housing that may foster collaboration and sustainability. The evaluation approach is innovative and therefore this report also outlines the methods used in conceptualising and conducting the Healthy Housing programme outcomes evaluation.

1.1 Structure of the report

The report begins with an outline of the background and aims of this outcomes evaluation, followed by a short account of the Healthy Housing programme. The perspectives of the households and providers are presented, followed by an analysis of the successes and obstacles identified. A discussion that links findings with international research and the Evaluation Crosswalk concludes the analysis.

1.2 Rationale and aims of the outcomes evaluation (year two)

Evaluation is a means of assessing the merit, value, and effectiveness of programmes in the light of their objectives. Housing New Zealand's Statement of Intent requires that all programmes be evaluated (HNZC, 2004c) and, in particular, Housing New Zealand has been required to undertake an outcomes evaluation of the Healthy Housing programme. An outcomes evaluation assesses the quality and significance of programme outcomes, both positive and negative (Stufflebeam, 1983).

This second year of the outcomes evaluation continues to build on an understanding of the household journey, examines themes identified during the year one evaluation, and reviews the sustainability of the interventions resulting from Healthy Housing. By the end of year three, the evaluation will have a complete picture of the household journey.

The evaluation aims to identify and critically review:

- The evidence that Healthy Housing has made a difference in the risk and rate of housing related diseases, conditions and injuries and improved well-being
- The outcomes that have been achieved for Healthy Housing
- Any barriers to the achievement of expected and unexpected outcomes for the Healthy Housing programme.

The following are the evaluation objectives for 2006:

- How does state sector collaboration and efficiency impact on expected outcomes?
- Which variables facilitated expected improvements in the health and wellbeing of households?
- Which variables facilitated an expected reduction of unmet housing needs/an improvement in the quality of housing?
- How sustainable is the Healthy Housing intervention?

1.3 Methodology

The evaluation methodology draws on the philosophy and culture of the programme: a strengths-based, solution-focused and collaborative approach. It adapts an approach known as the Success Case Methodology (SCM) to determine 'what success looks like' based on a review of programme documentation and the literature around housing and wellbeing. Evaluation questions were developed directly from the programme logic (see page 15). The evaluation questions were further refined in collaboration with programme providers. Because of the complexity of this evaluation, an Evaluation Crosswalk has been used to structure and categorise the evaluation questions, and indicate proposed data sources for addressing each evaluation question. The expansion of the evaluation methodology in this phase (for example, a greater degree of cultural matching between interviewers and households) has contributed to enhanced quality, reliability, and interpretation of the data. The evaluation methodology is described in more detail in appendix A of the report.

1.4 The connection between housing and health: research background

The home environment can prove detrimental to health. According to several review papers, cold, damp, and mouldy homes contribute to ill health (Breysse et al., 2004; Krieger & Higgins, 2002; Krieger et al., 2002). Cold interior temperatures are an independent factor in morbidity and mortality. Mould and interior moisture provide a nurturing environment for mites, roaches, respiratory viruses, and bacteria; all of which play a role in the development and maintenance of asthma and other chronic respiratory diseases (Breysse et al., 2004; Howden-Chapman, 2004; Krieger & Higgins, 2002).

In addition, insufficient ventilation increases moisture in the home, as well as indoor air pollutants such as tobacco smoke and nitrogen dioxide from inadequately vented or poorly functioning combustion appliances, and can contribute to asthma (Breysse et al., 2004; Krieger & Higgins, 2002; Krieger et al., 2002).

Overcrowding supports interior moisture as well as increases the transmission of a number of infectious diseases, particularly those spread by respiratory means and direct contact, and may also contribute to transmission of skin infections (Baker, Milosevic, Blakely, & Howden-Chapman, 2004).

Structural deficits can have more obvious effects on households. Falls are the primary source of residential injury for children. Lack of safety devices, such as grab bars, safety gates, or window guards, and insufficient lighting on stairs and other areas, are the leading hazards associated with injurious falls (Breysse et al., 2004).

Substandard housing, particularly dampness and crowding, have been linked to poorer mental health and psychological distress (Butler, Williams, Tukuitonga, & Paterson, 2003; Krieger & Higgins, 2002). Furthermore, occupants of substandard housing may be reluctant to invite guests into their homes, leading to social isolation, a condition associated with mortality (Krieger & Higgins, 2002). On a larger scale, housing type influences the quality and quantity of interactions within neighbourhoods, affecting social cohesion, trust, and a collective sense of belonging (Kearns, 2004).

People with low incomes are the most likely to live in substandard housing; yet they are the least likely to have the political or financial capital to invoke change (Breysse et al., 2004; Krieger & Higgins, 2002). The burden of responsibility needs to shift to landlords, homebuilders, renovators, and remodelers to make houses healthy and safe; and

government-supported housing should promote basic healthier housing construction standards (Breysse et al., 2004). Nonetheless, households are best served when they are actively involved in the solution of health problems. In reviewing housing interventions across the US, Saegert and her colleagues (Saegert, Klitzman, Freudenberg, Cooperman-Mroczek, & Nassar, 2003) concluded that involving people more deeply in the solution of health problems, especially by home visits, was especially effective. It improved multiple health outcomes, promoted fuller human development, improved social functioning, and had the potential to increase psychological wellbeing. In order to sustain housing intervention outcomes, an ecological approach (involving professionals, household members, communities, and political units) was recommended (Saegert, Klitzman, Freudenberg, Cooperman-Mroczek, & Nassar, 2003).

1.5 Description of the Healthy Housing programme

1.5.1 Origins

The Healthy Housing programme is a collaborative initiative involving Housing New Zealand and three district health boards: Counties Manukau District Health Board (Counties Manukau DHB), Auckland District Health Board (Auckland DHB), and Northland District Health Board (Northland DHB).

In December 2000, Housing New Zealand, Auckland Regional Public Health Service (a regional public health service operated by Auckland DHB) and South Auckland Health (now Counties Manukau DHB), initiated the programme with the primary aim of reducing the risk of infectious diseases, particularly meningococcal disease, among families residing in Housing New Zealand's properties.

The evaluation carried out by Auckland UniServices for the pilot phase of Healthy Housing (January 2001–June 2002) showed that the intervention was associated with a reduction of 33 percent in hospital admissions in the intervention group compared with a geographically-matched comparison group (Auckland UniServices Ltd, 2003). Allied with this was an increase in emergency room and outpatients clinic attendances in the intervention group compared with controls. These findings together point to an increase in early care-seeking (a desirable result for Housing New Zealand's households, who generally underutilise healthcare services given their level of ill health), which could plausibly lead to a decrease in hospital admissions (Auckland UniServices Ltd, 2003).

Over time, the programme's scope broadened to encompass objectives around improving the health and welfare of Housing New Zealand households living in identified areas of extreme health risk and/or crowded conditions through collaborative activities with district health boards and social service agencies. The programme currently has four aims:

1. improved health outcomes for Housing New Zealand's households
2. improved welfare outcomes for Housing New Zealand's households
3. reduction in the risk of housing related health problems
4. improved availability and quality of state housing for larger families.

To achieve these aims, the programme has a number of intervention levels.

- A housing intervention by Housing New Zealand aimed at reducing the risk of housing related diseases, conditions, and injuries.
- A specific housing intervention designed to reduce overcrowding.

- A health intervention by district health board public health nurses aimed at improving household access to primary health care services, and household knowledge and behaviour to improve health outcomes.
- A joint intervention that identifies social wellbeing and support issues, and provides linking and facilitation to the appropriate government and social service agencies.
- Development of household action plans to promote sustainability are initiated by Housing New Zealand as required for households whose houses are extended or who move into new houses. This is a housing services intervention and strictly not a key element of Healthy Housing.

The programme has also been implemented in other areas of Counties Manukau DHB and Auckland DHB. A partnership has also been established with Northland DHB, and the Healthy Housing programme commenced operation in Whangarei, Kaitaia and Kaikohe in Northland. The programme has been acclaimed as a health innovation, winning the supreme 2005 New Zealand Health Innovations Award.

1.5.2 Intervention area and household selection

House selection covers all Housing New Zealand households in an area rather than just individual houses with higher occupancy rates. Intervention area selection is currently based on a ranking exercise in which census area units are scored and ranked according to a combination of criteria. These include:

- crowding data derived from the population census
- deprivation score (NZDep2001)
- hospital discharge data on communicable diseases with a known association with household crowding
- high concentrations of Housing New Zealand houses in the census area unit.

1.5.3 Household assessment

- A joint assessment tool is used to identify health risks and unmet housing needs of households and is administered by a public health nurse and area coordinator in conjunction with participating families.
- The area coordinator focuses on the property: suitability of the house for the family given its size, age and sex composition; outstanding maintenance needs; the presence and condition of ‘health hardware’ (such as the toilet, laundry, and kitchen appliances); the presence of mould and damp; adequacy of fencing on the property; and so on.
- The public health nurse’s focus is on the health (including mental health and disability) of the family and their linkage with appropriate health and social support services.

1.5.4 Action plans

A joint action plan is developed in consultation with team members, tenancy managers and the households. An individualised household management plan is developed and, on completion of the intervention, the household is revisited to ensure familiarity with the new features and maintenance of a healthy indoor environment.

1.5.5 The programme logic

The diagram on the following page presents the programme logic that underpins this programme. It was developed collaboratively with the Healthy Housing management team in 2003. It provides a model of how the Healthy Housing programme works and incorporates the links between the agencies and expected outcomes.

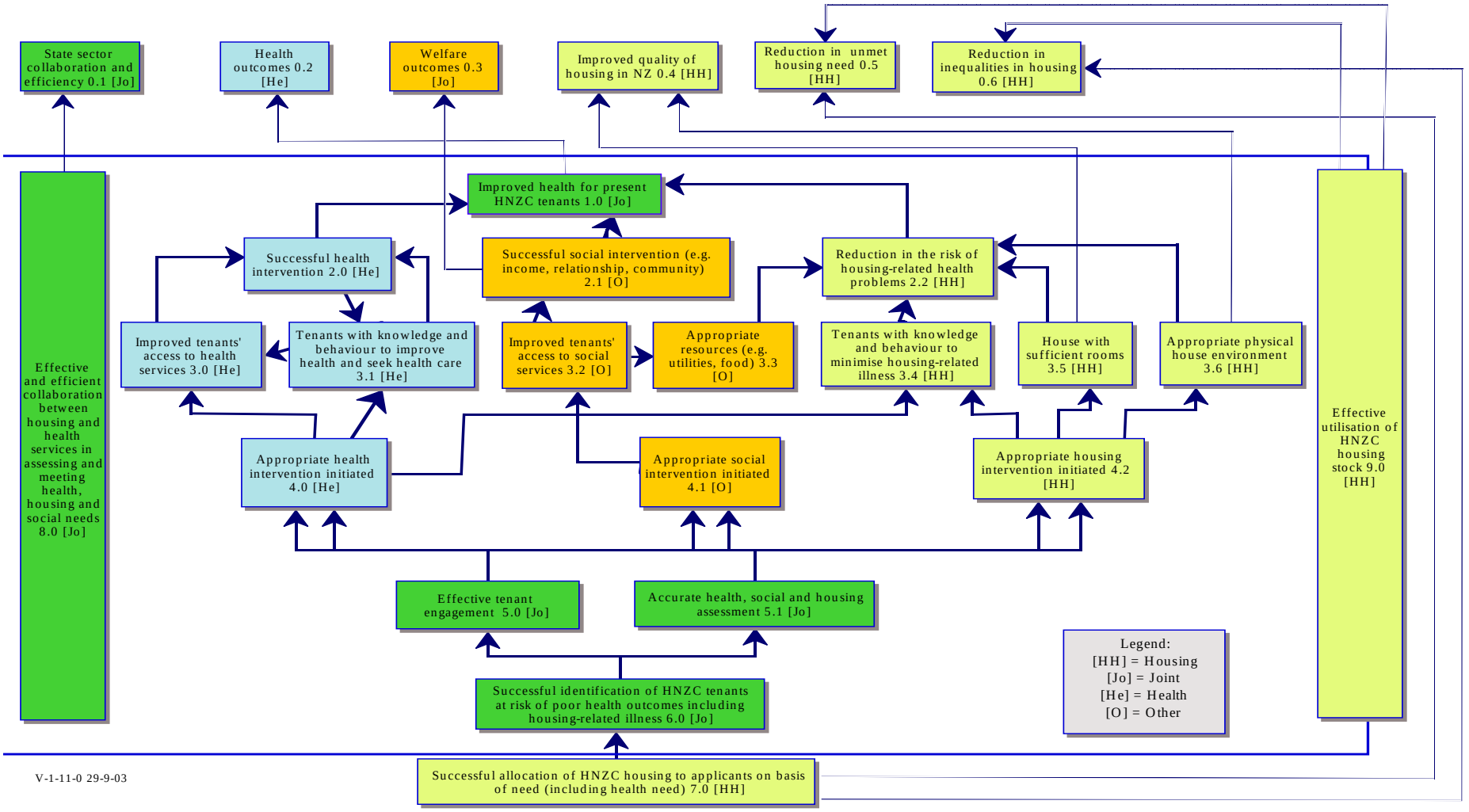


Figure 1 *Programme logic for Healthy Housing*

2 Household stories

As a means to gain a more complete understanding of the households involved in the evaluation, a selection of summary stories have been included in this chapter.

The interviewers were asked to provide a summary story of the households they interviewed to provide a context for the rest of the interview. These stories present who is living in the home, what has happened with the Healthy Housing programme, and the circumstances the household faces.

Story one is about a two-person family where the Healthy Housing programme made changes to the house to make it more accessible for the mother. Story two looks at a large family who experienced positive health and educational changes as a result of extensions to their home. Story three follows a family who have experienced positive health changes; an update from 2006 shows that the household's health continues to improve. Story four is of the dramatic change that occurred for a family when they moved into a warm, dry home. Story five looks at a large family living in a house that has been modified by Healthy Housing and how their household situation has improved in many areas. Story six is about a solo mother of five children, who transferred to another home with more space, they talk about the positive benefits for the wider community; the update indicates continued benefits for the family. Story seven looks at the overall improvement in health and social factors for a large family, leading to changes in the way household members think; the update shows they are still experiencing the positive changes. The final story talks about the positive impact Healthy Housing has had on a family's ability to host family meetings.

2.1 Story One

This family of two consisting of the mother and her daughter who is also her caregiver live in a two bedroom Housing New Zealand house which was modified by Healthy Housing in July of 2005[2].

The daughter said that her mum had a mild stroke before she had a heart operation in 2003. She was diagnosed in 2004 with cancer of the uterus and also is diabetic.

The house needed alteration because of the mother's need to use a wheelchair. The daughter said that the design of the house has made a big difference for them both because it has made it more accessible for her mum's wheelchair.

She said the house is easier to clean and it's a bit warmer now compared to their previous home. The daughter said that her mum is happier and healthier apart from her cancer and diabetes. As a caregiver, she doesn't feel tired like before when she had to carry her mother around the house. There are still parts of the house that need to be altered for easier access, but they are both happy with the overall changes.

During the interview with this household, the daughter looked very happy and relaxed. She was telling us that families and friends, when they first came to visit them in their new home, admired how clean, warmer, and comfortable the house was. The interviewee said that now she felt so confident and relaxed when people come to the house because it's clean, warmer, and comfortable. It was obvious that she kept the house clean and tidy and that they are happy in their new home.

[2] Some of the stories have been modified to protect the identities of the families who participated.

2.2 Story Two

This participant was very warm and friendly the morning of the interviewers visit. The house was a well-kept and clean environment.

She has her father living with them, who is retired and has heart problems, and her partner and four children. One of the children has heart problems and another has physical disabilities.

The renovations included a second bathroom and toilet, an extra two bedrooms and an extension to the lounge. She said that this was a big improvement from the previous home that they lived in.

This new neighbourhood and the environment was also a big improvement on the previous address. The neighbours were very friendly and caring when they moved here five months ago. They welcomed them with cakes and other food items when they moved in.

She has noticed big changes in the health of the household. The children have settled in at their new school. Both she and her partner have noticed that the children are eager to go to school and their interest in learning has grown. They are very keen to learn, which was not the case at the previous school.

All of the household get on well together. Since they have moved to this address they have noticed that more family members visit them.

2.3 Story Three

Story from interview in 2005

The interviewee has been living in this house for 15 years. She is a solo mother with six children between the ages of 4-19 years old. Her brother and mother also live in the house.

The main reason why Healthy Housing got involved with this household was due to overcrowding. The interviewee said that she used to have many family members living in her house. Because of the Healthy Housing her house is no longer overcrowded. She likes the fact that she doesn't have so many people living with her because she is now able to spend more time with her children and do the things that she enjoys doing without the problems caused from other relatives living with her.

Before Healthy Housing was involved the interviewee said that she preferred not to stay home because the house was always in a mess due to the overcrowding. Now she loves cleaning her house and takes great pride in it. She is also no longer ashamed to have family and friends over as she feels her house is now more tidy and homely.

The interviewee said that when the house was overcrowded there were too many bad influences, such as drinking and smoking, which would lead her to follow suit. However, since the Healthy Housing intervention the interviewee no long feels the need to drink or smoke. The interviewee and her children are now devoted to Christianity and love going to church all the time.

From this interview, it was easy to see that the interviewee was very happy with her new life, thanks to the recommendation implemented by Healthy Housing.

Updated from interview in 2006

Since the last interview in June 2005, she has seen much change in the health of her children. Before, they were visiting the doctor at least once a month. In the past year, she can only recall visiting the doctors once. Her children suffer from asthma and eczema, however they rarely use their inhalers because of her own remedies as well as the improvements that have been made to her home. The installation of vinyl throughout the hallway and the carpet throughout the main living areas has meant that it is much cleaner and there is less dust.

She takes great pride in her home and this was evident upon arrival. Her family is still actively involved with their church and she is very happy with the changes that have been made to her home.

2.4 Story Four

This family has three children, a six-year-old daughter and two-and-a-half-year-old twin boys. In the past, the twins' situation was considered life-threatening (meningitis, bronchitis, low oxygen levels, and asthma). Due to their respiratory conditions, the twins were frequently admitted to hospital, requiring the mother to be with either one or both of them while the partner looked after the child or children at home. As a result, the partner was unable to work and the daughter was not able to go to school on a daily basis. Therefore the family faced financial hardship. The family's living situation was very stressful, but they had no response to repeated requests for help to Housing New Zealand.

Healthy Housing got involved with this family in 2004 and quickly moved them because of their living conditions and the life-threatening health situation the children were facing. The mother said that two days after they moved into the new house, which was warmer and bigger, they (the parents) could see the difference in the children—they were no longer lifeless-looking and were more aware of their surroundings.

Since the family moved, the children are happier and healthier with fewer visits to the doctors and the hospital. The father is able to go back to work and financially support the family, enabling them to buy vegetables, fruits, and meat, and what the family needs. The daughter is going to school daily. She enjoys playing hockey and is very happy nowadays. The family is coping much better financially, physically, and mentally with their present situation, and they are happier and healthier.

> The mother said, "My partner and I want to express our deepest gratitude to Healthy Housing—had they not intervened it would have been a very sad tragedy because my children were that close to losing their lives because of ongoing health problems. The house is easy to clean, warmer and bigger and we could not be happier living here. We are slowly getting back on our feet—my partner's working, the children's health problems are under control, my daughter is happy attending school and enjoys playing hockey. I also have asthma, but now I never felt so good and healthy in such a long time."

During my visit to the family home, the twins were actively running around playing with their toys looking very happy, like any normal two-and-a-half-year-olds.

2.5 Story Five

Story from interview in 2005

A Tokelauan family of 10 are living in a house that has been extended by Healthy Housing. Before the changes the whole family experienced poor health – particularly flu, colds and diarrhoea. They had high levels of stress and were unhappy with their house because it was severely overcrowded and the children would always fight. Healthy Housing extended the house and added bedrooms and an extra bathroom and toilet.

They have fewer visits to the GP and no more cases of diarrhoea and feel this is because of the changes that were made to the house. The family as a whole are happier and are involved more in community activities, and they feel more able to open up their home. The children are at home more, rather than just walking the streets and are doing very well in school. The parents have also taken a more active role in their children's education. They are always receiving complements about how nice their house is and have a great sense of pride in their home.

The mother is pregnant with twins and is not working, the father has been unemployed for six months. He stopped working to help his wife with the children and the housework. Money has always been an issue for the family and now that the house has been extended they are paying more in electricity and have been informed that their rent will be increasing in the near future. Once the major bills are paid for there is little left for other things such as food, school expenses and other bills.

Even after the extensions on the home, the parents are sleeping in the lounge so that their children can have their own space, considering the twins will be arriving in a few weeks – the house is still not big enough for this soon-to-be family of 12.

Update from interview in 2006

According to the parents after the modification made to the house by Healthy Housing their health and social life has been a lot better than before. The younger children now have infrequent visits to the doctors. The only illness was the flu but apart from that the children have been well and healthy. The older children's education has improved a great deal because they now have their own rooms which enables them to study without being disturbed by the younger ones. Family visits and functions are more frequent now compared to before because of the large spacious living room and the rest of the house.

The parents were very grateful with the alteration because their living situation has changed and this has been a positive effect on the family in terms of their health and social wellbeing. Although their living situation has been sorted the family is now confronted with financial hardship because they are paying more on electricity bills.

The parents said they are financially struggling but the important matter is that they are able to pay off important bills and buy affordable food for the family. Male parent said "we are struggling and just managing not like other families who are in a more serious situation than we are and I'm thankful that we are ok".

2.6 Story Six

Story from interview in 2005

The interviewee is a solo mother of Samoan origin who has been residing in New Zealand for around 10 to 15 years but still has limited English and other educational skills. She is currently undertaking courses to increase her educational capabilities and is unemployed. She has five children who all still live at home. The two eldest children have finished school and are both working. The eldest child has a partner and child of two years, both of which are also residing in the home. The next two children are still at school, the older one in her last year of high school (18 yrs) and the other in middle school (11 yrs). The interviewee's youngest child (four yrs) is still at home, is not attending preschool but should be attending primary school in the New Year. The eldest son's partner is at home sharing childcare responsibilities.

Healthy Housing has had a significant impact on the physical, social and psychological wellbeing of the whole family. They (the family) were provided with a larger home that is more spacious with each child having their own bedroom. This meant easier physical movement and airflow through the home thus less crowding and 'lots of fresh air… to breath easier'.

The interviewee felt that Healthy Housing was important for the health of all people in the community. The programme encouraged and inspired people to care for their homes and gardens and that 'the programme is useful for big families', like her own Samoan family.

Update from interview in 2006

The household continues to experience positive benefits from the changes made to their home. The interviewee is less anxious about the children hurting themselves because of the changes to the house structure and she finds it easier to clean the house and look after the children. The children are actively involved in sport and church activities.

The mother recognises the importance of having space for everyone and acknowledges that it is good for the health of the family members.

2.7 Story Seven

Story from interview in 2005

The couple, in their mid to late 50's, are of Samoan origin and have lived in South Auckland for over 20 years. They have lived in their current home for around 20 years after moving from Otara. Neither is employed but the woman does childcare for one grandchild (two yrs) at home and also cares for her husband who has been ill with heart disease for a few years now. They have four children and two grandchildren living in their home. The eldest daughter is employed full-time, the next two children 21 and 18 are both doing courses. Their youngest child (11 yrs) and the older of the two grandchildren (seven yrs) are at school. All of the children were born in New Zealand.

Healthy Housing has impacted significantly on the health of their family. It seems that the changes somehow inspired them to live healthier lives, it allowed the family members to live ‘freer lives’.

Since the alterations relationships have improved dramatically and now ‘everyone is closer’. The children are ‘happy to come home’ and actually ‘spend more time at home’ now that it isn’t so crowded. This has a flow on effect for educational, social and cultural outcomes both inside and outside of the home. In terms of education, everyone has their own room where they can either study or take time out. Also the children are ‘actually attending’ their respective educational institutions. This improved social integration is also evident in the children’s involvement in church youth activities like camps and sports, and their increased enthusiasm to see extended family members more often.

In addition, interaction with the wider community has also increased in terms of visits to the home. Having the extra space also meant that the family could also celebrate important occasions like birthdays and other family gatherings. The family have very regular contact with family and friends who are within walking distance of their home but this was always the case.

The eldest daughter felt that thanks to the programme she now felt in the state of mind to go out into the work force after being unemployed for about two years.

Update from interview in 2006

The household are still experiencing the positive effects of Healthy Housing despite both parents having significant health issues. The family have more interaction with the wider community and are more involved in sport and church activities and the father continues to have better health than before Healthy Housing involvement.

2.8 Story Eight

Within their Mangere home live the Grandmother (86 yrs), her daughter, and four grandchildren and some great grand children. The house has had extensions and upgrades in the living area, kitchen and an extra bathroom and bedrooms added.

The family is proud of their new home and find great satisfaction in the improvements of the house. The overall relationships in the house have not changed between the family members, there is increased interaction between the family as the house is now big enough to host and accommodate family meetings. The family also expressed more satisfaction about remaining at home rather then going out, and believe that Healthy Housing was a main force behind gaining the improvements. They are incredibly satisfied with what they have received, and express the need for the Healthy Housing project to get involved with family relatives.

The house is kept clean and tidy and is well maintained. The eldest daughter stays at home to look after the mother while her daughters and two nieces work. Overall the family is well and healthy, and the household overall appears to be quite satisfied and happy with the improvements.

3 Household journey

3.1 Overview

This chapter presents the perspectives of the 39 households that were interviewed in 2006. They were interviewed for their perspectives on a range of topics, including the Healthy Housing intervention, their health, the wellbeing of the household, and household coping. (See Appendix B for the interview schedule.) Excerpts from the interviews have been included and are presented verbatim where possible.

By conducting repeat interviews in 2006 and again in 2007, we can monitor the journey of the households' experience of the Healthy Housing intervention over time. Currently, one household has been interviewed within the first year of the joint assessment, 24 within one and two years, 16 within two and three years, 18 within three and four years and six longer than four years since the joint assessment. By the end of the third year, it is expected that 20 households will have had three interviews and 15 household had two interviews (see Table 18, p83).

In the first year evaluation, the majority of households concluded that their experience with the programme had been a positive and beneficial one for their health and wellbeing. The most common outcomes identified included:

- increased empowerment
- a reduction in illnesses such as asthma
- improved comfort of their home
- a general sense of social wellbeing and functioning within the household.

The household's perception of outcomes often revolved around the tangible changes made to their home, such as additional bedrooms, bathrooms, and structural modifications.

Again, in 2006, there was an overall sense of satisfaction with the changes made to homes and the subsequent changes on health and wellbeing. The most common outcomes expressed by households include positive changes to health and general sense of wellbeing, improved family functioning, and living conditions. In addition, improvements in education and play were experienced by many households.

Where relevant the following sources of data are used to add depth to the information included in this chapter: the Counties Manukau District Health Board database of anonymized information from the joint assessment Housing New Zealand's database of tenants (Laing, Bernacchi, Baker & McDonald, 2006), the 2006 Counties Manukau DHB presentation (Jackson, Woolston, & Papa, 2006) about hospitalisation reductions.

3.2 Household participation in the evaluation

Twenty households from Wiri and Otara were re-interviewed for a second time in 2006 along with 19 new households from Mangere (see Table 1). Of the 39 households interviewed in 2006, 35 agreed to being contacted in 2007 for additional interviews. Most of the households interviewed have been Pacific peoples. In 2006 four Maori households were interviewed.

Table 1 Summary of households interviewed in 2005 and 2006 by suburb

	Interviewed 2005	Interviewed 2006
Otara	13	10
Wiri	12	10
Mangere	N/A	19
Total	**25**	**39**

The households included in the evaluation had a variety of Healthy Housing interventions (see Table 15, p78). Eight of the properties had extensions to remedy overcrowding, nine households were shifted into extended properties, three were not overcrowded but the property was modernised, and three had specific modernisations to remedy problems associated with disability. Six households were transferred to another residence to alleviate overcrowding in the first household. Eleven properties had ventilation and insulation interventions. Of these properties, in two instances the overcrowding was not resolved due to financial implications. Note that the six properties to which households transferred to resolve the initial household overcrowding may not have been included in the Healthy Housing initiative. As a result, some of these properties will not have had ventilation or insulation interventions.

Table 2 shows each suburb involved in the evaluation and the year in which the joint assessment took place in the households. Mangere has had the most recent interventions, where the majority of the joint assessments were carried out in 2005. Wiri had most joint assessments carried out in 2003 and 2004, and Otara had much earlier joint assessments in 2002 and 2003.

Table 2 Household participation in Healthy Housing by date of joint assessment and suburb

Suburb	2002	2003	2004	2005	2006
Otara	7	6			
Wiri		6	6		
Mangere			7	11	1

3.3 Household perceptions of success

Throughout the interviews conducted in both 2005 and 2006, it is clear that Healthy Housing has had a positive impact on the households and their general wellbeing. This section outlines the key successful outcomes from the households' perspective.

3.3.1 Household occupancy

Household interviews gathered information about the number of occupants of each household. This was particularly relevant for the repeat interviews in Otara and Wiri, where the number of people living in the household can now be tracked over two years.

Occupancy numbers among the households interviewed over the last two years have mostly stabilised. In 2005, the number of occupants reported by households to the interviewers ranged from 3–11 per household with an average of seven occupants. In 2006, the number of occupants ranged from 1–18 per household with an average of six occupants.

When comparing occupancy numbers, 75 percent of the 20 households interviewed in 2005 and 2006 had the same or less people living in the household. In five of the households, there were more people living in the household. Among these five households, there was only one case of serious overcrowding. Households that increased in numbers generally experienced a natural increase. Two households had new partners join adult children.

3.3.2 Health

Many of the households involved in Healthy Housing have significant health issues, particularly chronic conditions. The health of the household was a central point of discussion in interviews, and most households spoke about positive improvements in health after the Healthy Housing intervention.

Generally, households reported a reduction in the frequency of doctor and hospital contact. Just over half of all the households interviewed in 2006 stated that they had less contact with health services because of improvements in health status of the household. Twenty percent of the households said there was no change in contact with health services and eight percent said they had more contact with health services. The cases where there was more contact with health services was a result of complications due to chronic illness or circumstances where Healthy Housing wasn't able to intervene.

Overall, there was an improvement in health and general wellbeing as a result of Healthy Housing interventions. Around 65 percent of the households interviewed have experienced improvements in health. Some households had significant experiences of improved health.

> If HHP [Healthy Housing] had not got involved with our family, my children would have died because they had got to the point where they were so sick. It was heart breaking to see them like that.[3]
>
> We, as a family, are more active, more happier and healthier.

Descriptions from the households' perspective about the health of the household before and after the Healthy Housing intervention indicate the poor health status of many of the households before the intervention took place. For one family, the regular hospitalisation of their children impacted on the wellbeing of the rest of the family. After the Healthy Housing intervention, the children were no longer admitted to hospital on a weekly basis and the health of the children improved dramatically.

> Before, our daily lives will be disrupted if the twins are both or one of them is sick and admitted to the hospital, but now that has changed … the house is warmer and bigger and I'm happy because the children are not sick all the time.

Because of these changes in health, the family situation in the areas of employment, education, finances, and overall wellbeing also improved.

> My partner is able to work now and we are slowly picking up financially.

For another household, illness was a major issue. After they were transferred to another house they saw positive changes in health, education, and the way the family got along.

> Living close to each other with no space, and sickness an issue because of the condition of the previous house.

[3] Many of the households have English as a second language. We have mostly used verbatim quotes.

> Positive changes, everybody gets along. Children enjoy going to school now and their health has improved.

3.3.3 Health description using external information

Counties Manukau DHB and Housing New Zealand provided background information about the households involved in the evaluation that helped the evaluators' understanding of the context of household interviews.

Counties Manukau DHB provided detailed, anonymised information from the joint assessment undertaken in the households involved in the evaluation. This information provided a snapshot of the household before the Healthy Housing intervention took place.

Some of the most common self-reported reasons participating households attended a doctor in the year prior to the joint assessment included: ear infections (35 cases); skin conditions, such as scabies, rashes or boils (31 cases); asthma, bronchitis, pneumonia (30 cases); dental problems (10 cases); and a number of isolated cases of other conditions related to kidneys and the heart. Most households reported more than one condition in the year prior to the joint assessment that required a visit to the doctor.

From the health information collected at the time of the joint assessment, a high proportion (80 percent) of households involved in the evaluation reported at least one chronic illness in the household. During the household interview carried out for the evaluation, despite there being no question specifically related to chronic conditions, 74 percent of the households reported at least one member with a chronic illness or major disability. The most commonly reported medical conditions included respiratory conditions (especially asthma), hypertension, diabetes, arthritis, cardiovascular disease, and kidney problems.

The meningococcal disease risk ratio (MDRR) is calculated at the joint assessment. This indicator is used by Housing New Zealand when proposing household extensions, modernisations and transfers. The MDRR provides a guide to the level of risk for conditions such as meningococcal disease. Table 3 shows that in the Otara and Wiri households involved in the evaluation, 72 percent of the households had a meningococcal disease risk in the high range compared with Mangere, where 19 percent of the households had a meningococcal disease risk in the high range. It has been recognised that there is a problem of under-reporting household members in RENTEL (Laing, Bernacchi, Baker, & McDonald, 2006). Because the meningococcal disease risk is calculated using RENTEL, the under-reporting has the potential to increase the meningococcal disease risk in the households, which indicates there is more risk for meningococcal disease among the households interviewed for the evaluation. A high meningococcal disease risk also indicates that children are at higher risk of other health conditions such as respiratory illness and the spread of infectious illnesses.

Table 3 Meningococcal disease risk of evaluation sample households by suburb

	Nil	Low	Medium	High
Otara/ Wiri	0	3	4	18
Mangere	3	9	9	5

3.3.4 Family functioning

For most households, there was a marked improvement in day-to-day family functioning. Members of the household were more relaxed, could spend more quality time together, and enjoyed spending time at home. This was usually attributed to increases in space and an improvement in the conditions of the house.

Structural changes to houses, which resulted in warmer, quieter, more comfortable houses, made members of households feel more relaxed and less stressed.

> Great change with the Healthy Housing programme, the house is warm and comfortable and everyone are more relax than ever.
>
> We can see the difference, the great change in our life. We are more relax no more rush, just nice and quiet.

Because of the additional space resulting from the Healthy Housing intervention, many households found their families had more privacy than before. This was particularly relevant for children and impacted on other areas such as education.

> The older children have their own privacy, also they can study in their own rooms.

In addition to this, relationships improved and couples in particular were able to spend more quality time together:

> Having a bigger house has also allowed he and his wife time and privacy for themselves.
>
> Just the two of us, we get more time together, just talking how we so happy about this house, how we can do things together, a new life. It was different from the past, very busy doing things for others.

Families were generally happier than before, this was often attributed to having more space and space designated for a specific purpose or for specific people.

> Now I [the mother] get to have my own space, and that's important to get our household to run smoothly, because I need space, and the kids have their own room.
>
> My boys have gone a lot closer. Maybe having their own outside space helps that.

There were a number of families who said that they spend more time at home because of the changes that Healthy Housing made. A clean, warm, comfortable, new environment to live in encouraged the families to spend more time at home.

> The children are spending more time in the house now than before, if they are not in the living room they are in their rooms studying or watching TV. We are happy because we know where and what they are up to.

> It is much nicer to stay at home because everything is new, and I like relaxing at home when I am not working.
>
> When the family come over for a meeting they say ‘oh we don’t want to go back home to stay home’. All like it here. We have some kai and they want to sleep over here and not go back. So they more likely to stay here then go home and I am like, yep that’s alright.
>
> We feel like staying home most of the time because it’s more comfortable and warmer.

3.3.5 The house: living conditions

Households mentioned many different elements that improved their living conditions. From the interviews, it was clear that factors, such as increased space, warmer, and less damp environments, and extra bathrooms and toilets, have a great impact on the households’ attitudes about their house.

Households were very appreciative of the extra space created by Healthy Housing, allowing more room for their families to move around comfortably.

> Kitchen is beautiful and the lounge and dining room have plenty rooms to move around.
>
> There is a lot of room to move around in the house, but the good thing is that all the children have their own space.
>
> We have our room to move around since the Healthy Housing programme start. We are so happy with the change.

After the Healthy Housing intervention, households were warmer, less damp, and had more exposure to the sun. These environmental changes in the home had a positive impact on the wellbeing of the family.

> The alteration that changed this house has made quite a difference, no more dampness or draught. There is space on the windows and doors to bring in enough fresh air.
>
> A lot of space for everyone and we feel very secure in our home, and it is a very warm home.
>
> In the first part of the house, it’s the old house, but further down it’s the new house and they have installed Pink Batts on our side and you can tell the temperature difference.
>
> The sun shines through the big glass panels and warms the house and also lights all the rooms.

In a number of the households, there were members who had mobility issues. In these houses some structural changes were made, which improved the functionality of the house.

> [A] ramp was built for him to walk up … kitchen, lounge, and dining room been extended … sliding doors and extra rooms.
>
> Mum’s wheelchair is easy to move around the house and everything is easily accessible. We sat together at the kitchen table to eat our meal or sometimes, when it’s warmer, we sat outside on the deck. She’s able to use the hand rails to support herself when she’s in the shower/toilet, but before she has to lean on me for support.

The addition of extra bathrooms and toilets was mentioned positively by many of the households. Modified bathrooms, specifically walk-in showers, were also installed in a number of the households. Both of these modifications improved the families' day-to-day functioning.

> We have a separate toilet, bathroom and even the wash-house … we can even close the doors.
>
> Now she has a walk-in shower—much better.

An interviewer noted the excitement of an additional bathroom for members of the household.

> Now they have two bathrooms instead of one. He was very excited having two bathrooms, saying that it just makes things easier with the girls that seem to take a long time in the bathroom.

One household mentioned how housekeeping was easier—this had a positive impact on taking care of the children.

> Our home is easier to look after, keep tidy, so it is easier to look after the children.

3.3.6 Finances and employment

The houses that are participating in Healthy Housing all live in relative deprivation compared to other areas of Auckland. It was clear from the interviews that most houses struggled to make ends meet and that rent, bills, and food were the top three priorities for most households. A wide range of comments were made about the financial situation of households after the Healthy Housing intervention.

One interviewer noted that the household was in a better financial position because of reduced rent.

> They are saving more money since the rent is cheaper for them now and they are very happy with that.

One household mentioned an improvement in budgeting because of a referral to budgeting services.

> It was an eye opener for me because before I use to spend, but now I'm able to budget my money and buy what I need, not what I want.

The same household was able to have a home phone as a result of these budgeting skills.

> Now I can afford to have a land line connected [interviewee talks with pride].

Other households noted a gradual, positive change in their financial situation.

> My partner is able to work now and we are slowly picking up financially.
>
> Gradually changing since we've moved [getting better].

3.3.7 Education

A supportive environment at home can help young people in their education. Many households reported changes in the area of education. Children were reported to be more interested in learning and attended school more often. Structural changes, such as providing more space and providing a built-in desk, had a positive impact on learning.

Healthy Housing intervention also improved the health of the household, which impacted positively on learning.

> My son … loves his room because he has a built-in desk.
>
> Even our three boys are happier now to attend school … the two older ones are doing apprenticeships. We think the changes has affected their performance at school because now they have their own rooms they are able to study more.
>
> My daughter is attending school more frequent than before … if the twins admitted to the hospital she wouldn't be able to go.
>
> The new school that the children attend are closer and more involved in learning. They enjoy going to school more.

3.3.8 Play

Play is an important factor in the development of children and it is important to have an environment that supports play. Improvements in health, increased space, and safer and more appropriate areas of play developed through Healthy Housing all contributed to children enjoying their play. Many households reported changes in play and recreation as a result of Healthy Housing. Children were healthier, which enabled them to play more.

> You can see that the twins are running around smiling looking happy; before all they do is just lying there looking lifeless. I'm so happy now to see them so full of energy.
>
> Before the children were too sick to play but now everything has changed. Our daughter is now playing hockey and she is enjoying it.

Safer neighbourhoods also allow children to play outside without parents having to worry.

> My son can play outside with the neighbour's children and I don't have to worry about him being run over by a car.

Additional and more appropriate space indoors and outdoors gave children more room to play.

> Plenty of room outside for activities for other children to come and play with my children. They loved the big play area.
>
> Moving here has provided my children with more space to play around … more freedom for my kids to play.

In addition to improvements in play, other households were able to get involved in more sports, cultural, and church activities.

> Great change—my children and grandchildren are involved in school and other activities of the community.
>
> The children are more involved with the church youth and their school sports/activities.

3.3.9 Injury

Changes to the house contributed to reducing the occurrences of injury.

In households that had suffered from injury prior to Healthy Housing intervention, changes to the house reduced the occurrence of injury or prevented injury all together.

> This house is different to the last, where she would slip in the bath and fall. Now she has a walk in shower, much better.
>
> There is no accident—the kitchen table have round corner to protect any serious injuries to the children.
>
> No stairwells for the younger children to fall down.

3.3.10 Neighbourhoods

Neighbourhoods and the community environment can have a significant impact on the wellbeing of a household. Friendly and supportive neighbours, safe neighbourhoods, and being close to amenities were all important factors for the households interviewed. Generally, the majority of the households were happy with their neighbourhoods. Most of the households who transferred to a new neighbourhood were happier as a result of the change.

Among a large majority of the households interviewed, there was a strong sense of community.

> Everyone cares for their gardens and lawn, which is nice to see. Very clean.
>
> We are more happier here and my son is able to go outside and play with the children around the neighbourhood … this is a good environment and a good neighbourhood for me and my son.
>
> We're happy here because our next door neighbours are our families.
>
> The lady next door is my friend and we help each other out since both of us are single mums … if she needs help, I help her, when they don't have food in the house.

A quiet neighbourhood was appreciated by a number of the households.

> It is a very quiet neighbourhood and we are happy with the quietness.
>
> Very good neighbours; nice and quiet.

Many of the households found that their neighbourhoods were safer as a result of moving. Children were able to play in a safer area and problems such as gangs were also left behind.

> Now my son is able to play outside with his friends without me worrying about cars.
>
> The neighbourhood they live in now is quieter and kids play outside often in comparison to the last neighbourhood.
>
> Here our neighbours are good and also the neighbourhood is safer than the other house.
>
> I'm happy to leave the other house because Black Power gangs were living at the back of us. A couple of incident I saw policemen with guns and I was scared.

Being close to amenities and church was also mentioned positively by a number of households.

> Our home is near to our church, doctor, and school.
>
> Get along better with neighbours and children and is close to the centre where the children are able to go and have fun, but always with supervision from him and his wife or his oldest son.

3.3.11 Household involvement in the planning process

Where possible, Healthy Housing aims to include the household in the planning process. Interviewers asked specific questions about the initial assessment visit carried out by the Healthy Housing team and the level of involvement in the planning stage of the intervention.

Approximately half of Wiri and Otara households recalled the Healthy Housing visit, and rarely mentioned involvement in the planning process. Households from Mangere were more able to recall the Healthy Housing team, and it was more common for these households to say they were more involved in the planning of the changes.

In one case, the household was highly involved in the planning and throughout the intervention process.

> They did include us in everything, even the builders they showed us the blueprint and something on how the house would look, so we could put our own input in. Yeah, the builders were quite helpful, and because we lived just around the corner, they gave us access to the house to have a look on how it was going.

3.3.12 Knowledge: households' understanding of Healthy Housing

There were different levels of understanding about Healthy Housing's aims and interventions among the households interviewed. Very few households knew about Healthy Housing in great depth, but there was a level of understanding among some households about the relationship between the condition of the house and health.

Many households understood the reasons for their involvement in Healthy Housing. The need for a bigger, warmer house was a main priority for this household.

> I told HNZ [Housing New Zealand] that our house was too cold for the children. I told them that we needed a bigger and warmer house, especially for the children who were constantly getting sick … HHP [Healthy Housing] then arranged a meeting with HNZ and quickly transfer us to this house and that only took three months.

When asked why they were involved in the programme, a number of overcrowded households recognised that overcrowding was a main factor, although this was not common.

> …because of our living condition due to the overcrowding and coldness of the house.

In many cases, the connection between housing and health was only recognised after the intervention had taken place and changes were experienced by the household.

> The temperature in the house is alright now, even the dampness [is alright] because of the air ventilation they put on the windows. This is good because the air in the house is circulating.
>
> The children are not getting sick easily and they are warm during the winter time now, because there is no more dampness in the house anymore and it is very warm.

3.3.13 Resources

The Healthy Housing team often provide resources for the household as a way of educating them about nutrition, health, housekeeping, mould, heating, and ventilation. These resources are available through a number of different mediums, including written, verbal, and referrals to other services. In 2006, households were asked specifically about the resources that were provided to them by members of the Healthy Housing team.

Many households remember getting resources such as leaflets and brochures about cleaning their home, healthy food choices, mould, ventilation, heating, and ways to save power.

> The people who came, gave us leaflets. Just about more vegetables, and things like when it's cold we should open a window to let fresh air in or the sun. Just the leaflets they give.
>
> Given information about power savings and how to keep the house warm.
>
> Given pamphlets on heating, ventilation, and mould.

Verbal advice was also given about how to manage the appliances in the new homes.

> The only thing they told me was about the lights, like when the power goes off what switch not to touch, and the microwave and fridge, that stuff.

Referrals to budgeting services were also made for some of the houses.

> They send someone to help me budget our finance, which was very good and helpful to me. Because I now only buy what I need.

One woman felt that, as a result of Healthy Housing, she knew who to contact when she needed help.

> I don't feel that I'm alone and afraid anymore. I now know that I can get help.

Resources and education provided by the Healthy Housing team have the potential to change patterns of thinking, which can lead to changes in behaviour, as one household member said.

> They got me thinking about my health, because I come from a family with diabetes. My way of thinking has changed too, so I'm trying to eat healthy and encouraging other members of the family to do the same.

3.4 Household perceptions of obstacles to success

While the households' perceptions of successes were far greater than obstacles, it was clear again from interviews conducted in 2006 that there were a number of obstacles from the households' perception. These were mostly centred on maintenance, general property concerns, and continued financial difficulties.

3.4.1 Maintenance

There were a number of comments made by the households about maintenance issues which aren't attributable to Healthy Housing. These relate to general wear and tear, and there were a number of cases where repairs were needed to the house.

In some cases, households experienced problems as a result of design faults. When issues identified by the evaluators' are brought to the attention of Healthy Housing attempts are made to rectify the problems.

Leaks in the house were a common problem.

> The down pipes … have been constantly leaking for the last six months.
>
> In the girl's room it [the crack in the wall] was leaking right over my daughter's bed—the ceiling hung down and they came and sorted out the roof and took the ceiling off and fixed it, but it's still leaking.

Other issues are a result of design faults.

> The toilet space is not wide enough for the door to open fully. Every time someone opens it, it hits the toilet bowl and because the door has a glass pane on it the tenant fears it will smash and hurt someone seriously.
>
> Interviewee wishes that the outside was concrete, so that the wheelchairs can go around without getting mud in the wheels … the interviewee would also like the roof from the house extended to the carport, so that when her children [who are in wheelchairs] go outside they won't get wet.

There are a few cases of general wear and tear also needing attention, for example, painting, plastering, and pot holes in driveways.

3.4.2 Financial

Many of the households struggle financially and there are many cases where households are still experiencing financial strains. From the households' perspective, some financial issues are seen to be as a result of the Healthy Housing intervention.

For a number of households, the rent increased slightly, the Income Related Rent[4] assessment is the likely cause of these increases. For some households this wasn't a problem. For others this caused some difficulty.

> Both on benefit, not used to doing without. Doesn't like the situation, feels like she has to beg. Household bills a struggle to pay.
>
> She was very disappointed when she told me that the rent for the house has increased and they still do struggle at times to pay bills and other household expenses.

A number of households spoke of increases in their power and gas bills. When asked for likely reasons it was mostly attributed to the time of year, special occasions (where they are using more power), extra space to heat or the extra water heating expenses because of the extra shower. Some were blaming the housing intervention for increases in power costs but at the same time mentioned power charges had been going up.

> Since Healthy Housing the gas and electricity bills have increased.
>
> Rent is low, but electricity is high.
>
> Because of the changes we now have to pay more in electricity bills, but otherwise everything is alright.
>
> We used to buy $25 for the power meter but now we are up to $40 a week. The power has gone up twice since we came here. We don't use the stove much the electric fry pan is cheaper. You know teens in the shower using hot water.

[4] Refer Laing et al for a description of Income Related Rent

3.4.3 Property

A number of households expressed concern about aspects of their property, and included factors such as driveways and drainage.

One locality has a known ongoing problem with poor drainage and flooding. The local council is gradually rectifying the problem.

> When it rains heavily the front lawn is over-flooded with water from the park.
>
> There is flooding in the garage every time it rains … not enough storage so linen out there gets wet.
>
> Under the house is still waterlogged. When we get a downpour the water stays under the house for several days.

Other families experienced problems with driveways.

> I would like my driveway concreted—when it rain hard it turn into a pool. Sometimes my grandchildren go and swim inside it.
>
> I am scared one day I will fall and hurt myself in the driveway potholes.

3.5 Conclusion: household journey

The aim of this second phase of the evaluation is to understand the impact of the Healthy Housing programme over time, to determine sustainability of effects and to validate outcomes from these. The households in Wiri and Otara were interviewed for a second time and the Mangere residents for the first time.

The households included in the evaluation had a variety of Healthy Housing interventions:

- 17 had overcrowding resolved by extensions to properties
- six had specific or generic modernisations
- 11 had ventilation and insulation interventions only.
- six were transferred to another residence to alleviate overcrowding in the first household, but not all of these properties had been part of Healthy Housing and thus may not have had ventilation or insulation interventions.

It is clear from the 2006 interviews that Healthy Housing has had a sustained positive impact on the households and their general wellbeing. A comparison of occupancy numbers among the 20 households interviewed in 2005 and 2006 have mostly stabilised, with 15 of them having the same or less occupants. Among the five households with an increase in occupants, there was only one case of serious overcrowding. This suggests that providers concerns about re-crowding are unsubstantiated.

Many of the households have significant health issues, particularly chronic conditions. Information collected in 2006 reveals the poor health status of many of the households before the intervention took place.

Some of the most common self-reported reasons participating households attended a doctor in the year prior to the joint assessment included ear infections, skin conditions, asthma, and dental problems. Most households reported more than one condition in the year prior to the joint assessment that required a visit to the doctor.

The most commonly reported medical conditions included respiratory conditions (especially asthma), hypertension, diabetes, arthritis, cardiovascular disease, and kidney problems.

Most households spoke about positive improvements in health after Healthy Housing intervention. Just over half of households reported a reduction in the frequency of doctor and hospital contact. Approximately two-thirds have experienced improvements in health.

As a result of Healthy Housing, there was a marked improvement in day-to-day family functioning. Members of the household were happier and more relaxed, could spend more quality time together, had more privacy, and enjoyed spending time at home. This was usually attributed to increases in space and an improvement in the conditions and comfort of the house.

Many factors improved living conditions. These included factors such as increased space, warmer and less damp environments, and extra bathrooms and toilets, and had an impact on the households' attitudes about their house.

Most households struggled to make ends meet. Rent, bills, and food were the top three priorities for most households. Some noted a reduction in their rent and others noted the beneficial outcomes of the acquisition of budgeting skills.

Many households reported changes in the area of education with their children now more interested in learning and attending school. Improvements in health, increased space, and safer and more appropriate areas for play all contributed to children enjoying their play.

Most of the households who transferred to a new neighbourhood were happier as a result of the change. Friendly and supportive safe neighbours were important factors for the households. A few households noted problems like antisocial activities of their new neighbours as the reason for not being at ease in their neighbourhood.

Healthy Housing aims to include the household in the planning process as interventions are undertaken. While households that had the intervention several years ago had poor recall of being included in this process, most Mangere households remembered.

Very few households knew about Healthy Housing in great depth however, there was understanding in some households about the relationship between the condition of the house and health. Some households recognised that overcrowding was a key reason for their involvement in the programme. In many cases, the connection between housing and health was only recognised after the intervention had taken place and changes were experienced by the household.

Many households remember getting resources from the Healthy Housing team, such as leaflets and brochures about cleaning their home, healthy food choices, mould, ventilation, heating, and ways to save power.

The households' perceptions of success outweighed the obstacles reported and could be directly attributed to Healthy Housing. Many of the obstacles noted by the households' were not attributable to Healthy Housing these related to general wear and tear or a need for repairs. Many households are still experiencing financial strains. For some, even a slight increase in rent, power, and gas bills caused difficulty. A number of households expressed concern about aspects of their property, and included factors such as driveways and drainage.

Overall, households have reported the intervention continues to have a positive impact on their families and lives.

4 Provider journey

4.1 Overview

This chapter presents the perspectives of two groups of providers on Healthy Housing. Firstly that of the Healthy Housing team members and then that of other providers involved with Healthy Housing. Perspectives of the successes, outcomes, and obstacles identified in the second year of the evaluation of Healthy Housing are presented.

The following personnel are members of the Healthy Housing team that delivers the programme and were interviewed this year.

- Public health nurses from Counties Manukau and Auckland district health boards and the community health worker working with the public health nurses in Manukau.
- Area coordinators, solutions coordinator and project coordinator.
- The three project managers from Housing New Zealand, Auckland and Counties Manukau DHBs.
- The public health nurse service manager for Counties Manukau DHB
- The Housing New Zealand contract manager, staff from the Special Programmes unit and architects.
- The clinician for Auckland DHB.

The second group of providers includes staff from Housing New Zealand and the district health boards who are closely involved with the programme and providers from other organisations and external agencies that are referred to or used by the Healthy Housing team.

Those closely involved with the Healthy Housing programme:

- Housing services manager from a Neighbourhood Unit
- Tenancy managers (5)
- Case manager
- Property manager
- Regional manager
- Placement manager
- Private option manager
- Community occupational therapist.

External agencies referred to or used by the Healthy Housing team:

- Auckland City Mission coordinator
- Work and Income case managers (2)
- Public health nurse team leader
- Local public health organisation manager
- District health board community
- physiotherapist
- Asthma Society community educator
- Mental health social worker.

4.2 Healthy Housing perceptions

4.2.1 Healthy Housing perceptions of success for participants

This section includes Healthy Housings' perceptions of success for the households. Interviews with providers were undertaken to understand the programme, its process, and impacts. The providers were asked about successes they had encountered and to give examples to substantiate the comments they made. The following examples illustrate a wide variety of types of successful outcomes experienced by families involved in the programme. The providers reflect on the changes and give reasons why the success occurred. Overall, the providers believed that health and wellbeing improved for participants.

Enablers identified during analysis included the knowledge and expertise the providers bring to their roles and their steadfastness in wanting to achieve the best for each household. They often 'go the extra mile' using a 'strengths-based solutions focus' to achieve the outcome. Attitudes that prevail are those of commitment, determination, realism, respect, and a willingness to challenge the status quo.

A public health nurse shared this example when asked to reflect on an incident that was successful for the tenant.

> Initially this big woman with asthma was a very reluctant communicator during the assessment visit … when I revisited … whilst talking with me she became worked up and very short of breath … I calmed her down and got her to settle her breathing … gradually she began to share her many problems … when I saw her next she was laughing, doing things for herself, had been going swimming twice a week and getting housework support. Now she's proud of herself and her home … and her faith in the human race has been restored.

When questioned about what happened to make this a success story the public health nurse reflected on the complexities of the situation and how her 'gut' instinct told her there were more issues than initially raised. She had returned to the home, and in the quiet of the one-to-one situation the woman opened up about all her problems, her poverty (they had no fridge, phone, or washing machine), the coldness of the house, her multiple medical problems and social issues. It was also evident she had poor housekeeping skills, but the nurse made no comment about it initially until the trust relationship had been built up. The woman was reluctant to accept help after previous bad experiences. Her main concern was that her 12-year-old could not attend school as he didn't have a uniform.

The public health nurse was able to use her knowledge of community health and education services to address the woman's needs, for example, she was quickly able to resolve the uniform problem. That the public health nurse made return visits and followed through on issues increased the woman's belief that things could change. Getting a letter of support from the public health nurse to apply for funds to get the fridge and washing machine meant that she was taken seriously when she presented at the local Work and Income office. She began to have pride and to focus on helping herself.

An example of how a vulnerable household was protected by shifting them to a safer location was identified by the following story.

> A frightened woman who had a protection order taken out against her 'ex' but she remained very scared as where she lived was very close to the ex in-laws' home.

> As a result of the JAT [joint assessment] and learning of her situation, she was able to get improved prioritisation for a transfer to a safe area for her and family.

In this situation the information about risk was taken to the joint assessment planning meeting and the placement manager was able to adjust her prioritisation category for a transfer to better reflect the household needs.

The Counties Manukau District Health Board community support worker plays a vital role in improving the housekeeping and health of the household.

> I was visiting a family, since moving into the new house the respiratory problems have settled. Housekeeping improved. It's a mental thing they have more room, improved housekeeping, and have really got into the garden. They have pride and ownership now.

The staff are also committed to ensuring the households' rights to effective communication occur. Frequently households do not have English as their first language. When the staff involved do not speak the necessary language the joint assessment is undertaken using the phone interpreter service to ensure effective communication occurs. An example of the impact on the householder follows.

> When we go to the homes we take the speaker phone to connect to the HNZ [Housing New Zealand] interpreter line. Now the person at last can ask anything. At first they are reserved but in the end the tenants are sitting hunched over the phone sharing and asking question after question.

Sometimes a successful outcome occurs even when the households initially don't think the option they have been offered is the best one, as is evident in the following story where a solo mum becomes independent and enjoys it.

> It was a part household transfer: a mum and three kids all living in one bedroom at the parents. I [area coordinator] did a transfer out of the immediate locality [as there were no houses available locally]. She was very hesitant to start with. When I did the follow-up visit she had already put gardens in. She said she was really happy and said the kids were too and they weren't as sick. She mentioned that she hadn't been keen at first to move away from her family, but she now has her independence for the first time and is appreciating it. She said that if she had been moved down the road her parents would have been demanding she visit all the time or they would have been plonking themselves at her place.

Success stories do not occur in isolation. The following examples again show how the expertise and humanity of the Healthy Housing team members are integral to ensuring outcome.

> Thinking of one lady, they were overcrowded living in a three-bedroom home, and we did an extension to give them six bedrooms. When I went around on the day they were due to get the key, I found they were in rent arrears and had damages to sort out. It took me a whole day to sort out the issues and be able to hand over the key. I needed to get all the updates sorted and then persuade the tenancy manger that it was worthwhile giving this family the extended house. I put a household action plan in place. At the six week check, the new home was immaculate; the mother looked 10 years younger and happy. I asked her how she was finding the new house. 'Absolutely love it. I have the boys at one end and the girls at the other end. The biggest difference ever is that they can all sit for a meal together. I went out and got us an eight seated table and then got extra chairs.' I continue to pop back in to see her occasionally since the

> intervention was completed. She's happy and is happy to see me; the place looks clean and tidy and the kids look happy too.

When asked to reflect on why she went the 'extra mile' this very experienced area coordinator said:

> From my [long] experience in the HNZ [Housing New Zealand], if I see despondency I give them a second chance, but I'm really clear with them this is the only one I'll give them. I'm honest. If they have the motivation, I've got what it takes to make it work. I'm assertive but humble; use my communication skills so they can get it.

In this following success story it was the public health nurse who reflected on why she did what she had done to achieve the outcome by recognising an unmet need and acting as advocate.

> They were a seriously overcrowded household, where the home had extreme wear and tear. There were so many people living there that the income was up. But there were many young kids. Our aim was to sustain health for the kids. What I established was that there were many complicating factors, including the main caregiver is deaf, many of the kids are 'adopted', and benefits were not clear. Lots of their paperwork was overseas. I decided to work alongside the family until we got there. Which we did, but it took lots of work. What worked was doing things with her. Often it was presumed she knew what she was meant to do, but she was missing out on vital information and not connecting with all the agencies she was meant to. In the end, a transfer was offered to her and the family, which has given them the opportunity to change. To do so they needed to have an income override signed off in terms of their eligibility.

4.2.2 Healthy Housing perception of obstacles to success for participants

This section includes the providers' perceptions of obstacles for the households and the programme. These obstacles are often beyond the control of the providers yet are perceived as potential threats to the programme.

Knowledge gaps

All providers touched on the problems households encountered, which often reflected a lack of knowledge and had the actual or potential to impact on the health, wellbeing, or housing.

Frequently, problems occurred because households were new to New Zealand and did not know how to live here. This could be as simple as not knowing how to dispose of rubbish to cooking Kiwi style.

> They are still trying to cope and live in the same ways as they did at home.

The architects and Special Programmes team spoke of the problems they frequently encounter, related to the householders' misconceptions about air movement, heating, and closed spaces. The message that ventilation dries the home and results in a warmer home does not make sense for households. Similarly, their concerns about the cost of power means they often do not use heaters, but instead keep the house closed-up and continue to dampen the atmosphere by cooking and washing. This results in the now well-insulated home feeling or being colder and damper than outside. The message about the effective use of heating to boost and maintain adequate temperatures is frequently not

understood. They also note that people are quick to blame heating for power costs, but often don't recognise all the other electrical appliances they may be running. Previous attempts by the Special Programmes unit to use solar powered heating were not as successful as hoped, due to the inherent complexities of using these systems not being understood by households. The area co-ordinators and public health nurses talk with the householders about issues like mould each visit.

The Special Programmes unit have identified that they have needed to change the instructions given to householders about the use and care of range hoods as the filter has been found to need more frequent cleaning than is advised by the manufacturer, due to all the fatty boil-ups.

Two areas of risk the providers highlighted related to households abuse of smoke alarms and the use of extra gas burners. Housing New Zealand has a policy to ensure that working smoke alarms are installed in all of their properties, but this is often prevented by the batteries being removed for use in other appliances.

> I was checking a property with the contractor for sign off just as a family were moving in. I found all the alarms empty. The contractor was amazed as he had just ensured they were working. I checked and found the children had arrived at the house and the very first thing they had done was to remove the batteries from all the alarms.

Other sources of potential harm (both fire and burns) are the unsecured gas cookers families often use to cook up their big meals. Extended and modified homes have large stoves installed to try and prevent this occurring.

Risk of re-crowding

In the first year of the evaluation the providers were most concerned about the risk of re-crowding and they remained concerned this year. There was only one incidence of serious re-crowding in the 20 households who were re-interviewed.

Non success cases

This section reports on situations where the solutions and interventions provided by Healthy Housing have not been adhered to by the families. While there are a small number of examples, they indicate potential obstacles to the programme.

For many families provided with housing significant change occurs. There are some households where addressing their housing needs are not going to make a difference given the population Healthy Housing is working with and the significant challenges some households encounter. These households now have an un-crowded living situation, which the providers know have health and social benefits.

> I knew a family from being their TM [tenancy manager] previously. They had trashed homes previously. They were grossly overcrowded, and had problems with Meningococcal disease and Rheumatic Fever. We did an extension, and put a household action plan in place. I did a visit ten weeks later and the home was almost back to the situation they had just come from. They've given them a bigger place to make more mess in [but are hopefully healthier]. I tried to get the TM to do regular visits and work in with support agencies.

Also included in this section is the experience of one extended household who had previously had a successful intervention and then had ended their Housing New Zealand tenancy and moved into an overcrowded situation in the private sector. The reason for

their move reported by the daughter was her elderly father's discomfort with a new tenancy manager's interactions with the family.

Disadvantaged population

Healthy Housing is a programme targeted at the most deprived populations in New Zealand and this is reflected in many the households experiencing financial hardship. The providers shared some of the many challenges the households' encounter, which impact on their ability to cope in their homes. The joint assessment continues to identify households not getting their full benefit entitlements.

Many of the providers spoke derisively of money lenders and home delivery clothing trucks and how people unknowingly get trapped into worsening poverty.

> The money lenders and clothes trucks, they come to the door, people get locked into direct debit payments regardless of other commitments.

The Special Programmes team spoke of the cost of running an old fridge or washing machine as double that of energy-efficient appliances. Yet these models are all households can afford or get emergency funds from Work and Income to acquire.

> Old appliances like fridges can use twice the power of modern ones.

4.2.3 Healthy Housing perception of outcomes for themselves and the system

This section includes the providers' perspectives on outcomes related to service gains, process changes, and improved health. The providers' perspectives on gains for their service include the raised profile Healthy Housing brings, resulting in 'spin off' projects, and an increased awareness of all Housing New Zealand employees in the link between health and housing. Other gains include the extra skills the team has acquired. For Housing New Zealand, the programme enhances their housing stock and is perceived to result in improved relationships with households. A major gain for health is the reduction in hospitalisations.

Gains for involved services and communities

As the interviewees reflected on the programme, they were asked to identify service gains and to provide examples to substantiate their comments. The following list illustrates the wide variety of types of gains identified. These points are elaborated below:

- for Housing New Zealand
  - improved housing stock
  - programme fit with Housing New Zealand goals
  - improved relationship with households
  - identification of housing-related needs
- for district health boards
  - improved health
  - reduction in hospitalisations
  - identification of people with unaddressed health needs
- overall
  - raised programme profile
  - increased knowledge
  - entry point for referral to other service providers

- improvements for the community
- positive impact on people.

Providers reported the many ways the interventions undertaken by Healthy Housing have improved the available housing stock including:

- the provision of insulation and ventilation
- extensions to increase bedroom numbers, facilities and living space
- generic or disability specific modernisations
- new acquisitions.

The balance of available stock to meet the needs of large and/or disabled households has been improved.

The provision of walk-in showers in all extensions enables disabled access either by current or future households. The condition of the house is further improved by the quality of the fittings used, which reduces the need for subsequent repairs.

> …materials etc are of high standard, which insures longevity. A good example is what we put into kitchens. We haven't had to go back and fix anything. If there are 10 occupants, for example, so the fittings have to be durable. Aren't upmarket; just durable. Tenants are hard on products due to over-crowding. The kitchen and bathroom, which are both wet areas, need this sort of input.

The perfect fit of the programme with two of the three Housing New Zealand goals was succinctly described by a programme manager.

> In terms of HNZ's [Housing New Zealand] core goals HHP [Healthy Housing] really features in looking after tenants in need. In layman's language, goal one is about providing 'fit for purpose' housing for those in need and goal two is about supporting tenants in need of support. This programme successfully addresses both of these issues.

The gains identified for the DHBs focus on how the programme improves the health of the households involved, reduces hospitalisations, and identifies people with unaddressed health needs. The Counties Manukau DHB analysis of hospitalisation data has helped allay concerns DHB executives have had about the programme. (Jackson, Woolston, Papa, 2006)

> It [the programme] has had a positive impact on our services. There has been a 14 percent reduction in hospitalisation for kids overall in South Auckland and a 37 percent reduction in target admissions for HHP [Healthy Housing] households.
>
> It seems HHP does have positive health benefits for tenants. When we compare CMDHB [Counties Manukau DHB] results with the Otago University reports, HHP looks to give better results overall.

The public health nurses were able, through the joint assessment, to identify people with unaddressed health needs and either resolve the problem or refer them on to other services.

> The JAT [joint assessment] in itself is an intervention.

Overall, the gains noted have resulted in a raised public profile of the worth and impact of Healthy Housing, and people in need are being referred to service providers who can assist them.

The awarding of the New Zealand Health Innovations Award in 2005 continues to have positive outcomes for the programme. At an executive level in both organisations the programme has gained more kudos and support.

Staff from both organisations now see Healthy Housing as a project in which they want to be involved. This was illustrated by the number of applications both organisations received for positions within the Healthy Housing team.

Information gained during the joint assessment is adding to the body of knowledge about the lives of people in these situations.

> We now have information about public health data that no one else has, ie smoking in Glen Innes. During the joint assessment, we ask about smoking. We have noted that in GI people smoke to a budget. We have provided Auckland Regional Public Health Service with this information.

Healthy Housing has had an impact on the knowledge of both organisations and the community. The link between poor housing conditions and/or overcrowding and poor health is now more generally accepted.

> Now there are many 'Spin off projects' and other initiatives, eg a joint initiative working with HNZ [Housing New Zealand] and Manukau City Council to upgrade 50 pensioner units using OT [occupational therapist] and geritrician input, and improving housing in 60 units for people with mental health problems by the use of a supportive landlord service.

Both services in Healthy Housing have learned a lot about how to engage with providers in the community and how to connect with providers and services in new areas.

> We have learnt a lot about how to work in a new area. Explaining who we are and what we do [role description]. Get to understand who they are and best referral processes we can use to work with them. They want to see that our project isn't like all the rest; that it is a project that does something. We are able to talk about the basic changes we can make and, even better for health professionals, we can explain the upstream effects, ie reduced hospitalisations. That information is most important to PHOs [public health organisations].

Another service gain for both services is the successful identification and addressing of needs in the households. The joint assessment is an effective entry point for referral on to other services, as will be discussed in the section on collaboration.

> Healthy Housing has been able to resolve a lot of issues and get people in touch with agencies.

4.2.4 Healthy Housing perceptions of obstacles to success

This section includes the providers' perspectives of the obstacles they identified, including barriers, and risks to ongoing success. This section is more comprehensive than year one. However, it is more reflective of the fact that the providers were less reserved when speaking with the interviewer in 2006 as the evaluation process was not seen as a threat, rather than there were more obstacles occurring this year.

Design, intervention and maintenance

There were some issues identified that were related to the design, intervention and ongoing maintenance. There was also frequent mention of the fact that Healthy Housing doesn't have the budget to do a whole-of-house upgrade on the homes where they do

extensions or modifications. This part-house approach means Maintenance is requested to upgrade the rest of the house[5].

During the household and provider interviews, questions were raised for the evaluators that needed clarification—several of these related to house renovations and maintenance.

Initial intervention issues identified by the households include impractical wheelchair access and unreachable shower controls. In both instances, the recent inclusion of an occupational therapist within the Healthy Housing team, who is involved in the joint planning meetings, the disability assessments and the interactions with the architects and design team, will prevent similar situations occurring again.

> The interviewers were told by families with wheelchair bound members that they cannot transfer the person from car in the wheelchair and on into house easily as the driveway is wide enough only for the car with no space for the person to be transferred into the wheelchair.
>
> A woman with fixed shoulder joints who cannot raise her arms up high enough to turn the handle on shower rose.

Cracks in the plaster on internal walls and leaks are examples that reflect maintenance problems not directly related to Healthy Housing[6]. However if problems arise the redecorating is likely to be 'lumped together' in the householders' mind as a Healthy Housing problem.

What were reported frequently by the household interviewers were unresolved maintenance issues. It would appear from analysis of the householder interviews the repair either does not occur or is not sufficient to resolve the problem. These situations contributed to some householders' disenchantment with some Housing New Zealand services.

An analysis of household interviews with regard to comments about cold homes identified there were households who had part-household tranfers who were moved into properties that had not been part of the Healthy Housing initiative and, as a result, had not had insulation or ventilation modifications. This was verified by the project manger for Housing New Zealand and is a gap in the programme.

Follow-up need greater than expected

Initially, the joint assessment, subsequent joint action plan, and household management plans were expected to result in a single visit on completion of the intervention to ensure familiarity with the new features and maintenance of a healthy indoor environment. For the most part, this occurs but, when a problem with housekeeping skills is identified, the team has used a strengths based approach to identify ways they can address these problems. This has resulted in their increasing the time and frequency of educational and supervisory visits.

> We are doing more follow-ups, which are absolutely crucial to success, to show whether the intervention and solutions are working. More people are given the chance to improve their circumstances, more take the opportunity than not. The advice they are given re budgeting, benefits, etc, gives them a fresh outlook. I then reinforce to them it's their responsibility to keep the changes happening. I

[5] This has now changed so that Healthy Housing does a whole – of – house upgrade.
[6] Maintenance undertake redecorating to the unmodified parts of a house to bring it up to a similar standard as the intervention.

> set up with them that I'll be back, when I return I check what's happening if I see anything even as minor as a loose latch, I tell them what to do. Once they are on track I let them know I won't be calling any more.
>
> They get a six week follow-up resource check, if any concerns are identified we will revisit.

Healthy Housing management is aware of this evolution of the follow-up visit, but understandably do not see this as a core part of the programme.

Delays to the intervention

Previously, the interventions were being delayed by the building consent process. This situation has since been significantly improved with the Special Programmes unit setting up effective documentation processes. Building consent delays that continued occurred where the occupational therapist was involved with modifications for disability.

The following paragraph reports on obstacles related to 'occupational therapy assessment' delays. It needs to be noted that, during the time of this evaluation, there were major changes in the provision of occupational therapy in Manukau for Healthy Housing by the appointment of a dedicated Healthy Housing occupational therapist and, as a result, these obstacles are resolved.

The time taken to get an occupational therapist's report about needed modifications for a disability has been so drawn out that the programme has gone on to initiate the ventilation and insulation interventions in the meantime. There were delays caused by the need to get general practitioner referrals for the assessment to be undertaken. In one case, the delay had been compounded by many months because the family had been left to initiate the process to get Ministry of Health funding approval and the occupational therapist had been too busy to follow up on the delay. There were also instances where significant (eight months) delays were created because the occupational therapist was waiting till a family member could be used to interpret instead of using interpreter services.

Other

Healthy Housing staff remain passionate and committed to the project and new staff have been appointed mid 2006, which will relieve the extra workloads being experienced. External supervision, is not yet available for area coordinators to assist them to process the situations they encounter in Healthy Housing. This supervision is available for public health nurses.

Healthy Housing members spoke of the importance of having key referral contacts to external agencies and the subsequent risk to continuity for referral uptake and requests for assistance if key community contacts change.

Currently there is no formal report written on the Counties Manukau DHB reductions in hospitalisations. Management reported that a formal report would be much appreciated and frequently referred to. Currently, the PowerPoint presentation is the cited information source.

The three DHBs have different practices in how they record the frequency and type of referrals made by each health service. Some agencies refer to agencies that then on-refer, for example Auckland DHB refers to a central health professional (usually the occupational therapist) who then refers onwards to other services within that organisation. This occurs more often than at Counties Manukau DHB, so their referral numbers look

lower. This means the information presented to the Steering Committee about referrals is unable to be compared across areas.

The securing of ongoing funding remains a risk that management is aware of and is working to address.

4.2.5 Healthy Housing perceptions of collaboration

This section includes the providers' perspectives on the collaborations occurring in and as a result of the Healthy Housing programme.

The types of interactions that foster collaboration include relationship building, networking, sharing of information and expertise, and requests for assistance. Email and telephone appear to be the most frequent methods of communication. It is important to ensure there is clarity in the relationships about what can and cannot be provided by Healthy Housing personnel.

Collaboration within the Healthy Housing team remains very effective. Examples of this collaboration include:

> I [area coordinator] work with the nurses. Since we have moved into the new area, we have spent time building up relationships in the area… We work together as a team… Together we divvied up the key people. Some we did together. We go to each other's meetings and cc each other in on emails and back-up each other's decision making.

The public health nurses recognise that their opinion gives a vital perspective to the assessment.

> We are staunch about walking around the home as we see things through the health perspective.

The architects get extra information when there is a disability identified.

> They get a brief detailing what needs to occur, detailing any disabilities, for example, walkers and wheelchairs, and brief demographics of the families and their needs… Is worried at times that the information does not have enough detail.

The Healthy Housing information provided by the joint assessment enables the tenancy manager to better meet the needs of the households.

The Healthy Housing team reported on approaches that worked in fostering collaborative relationships. Establishing a contact person for the organisation that they could relate to was a key factor to success. Once that was established, they needed to sort out a referral system that would work for the agency. They also needed to keep the relationship alive and work on ways to build effective connections in new areas. The team noted that site visits have been particularly effective measures for becoming established in the new Tamaki area. Some examples of this collaboration follow.

- Work and Income New Zealand case managers are used as advisers.
- The manager of a local primary health organisation is used as a resource to find out the immunisation status of children identified using the JAT [joint assessment].

The following example of collaboration that involved several external agencies was given by one of the public health nurses from Healthy Housing.

> There was a home where one member of the family was on dialysis and had had several admissions for infections. The home was in a terribly unclean muddle the fact that there was a funded cleaner in the house nine hours a week. We worked with our area coordinator to develop a household management plan. It was evident that there were many factors involved we had to liaise with the dialysis unit and the home care service manger. A commercial cleaning company was initially used to address the worst of the cleaning problems. The home care service subsequently had a more active role in monitoring the standard of the cleaning. In the end, because of the process we used, it was a good news story and we made a significant difference. It showed the benefits of doing home visits.

4.2.6 Programme sustainability

This section includes the providers' perspectives about continued programme sustainability including the supportive management environment, adaptability of the programme, and responsiveness to address issues as they arise.

Management

The commitment of the Healthy Housing project managers to the programme strongly supports the sustainability of the programme. The impact, if any, of recent changes within Housing New Zealand's project management team for Healthy Housing is yet to be determined. All of the project managers express and demonstrate their belief and investment in the programme.

They have a very collaborative style to the programme's management and are very respectful and supportive of each other. At recent interviews for positions within the Housing New Zealand team, the project manager from Counties Manukau DHB was included in the interview and selection process. Systems are in place for regular meetings to address any issues that need clarification. Planning is already underway to secure ongoing funding.

Executive level support for the programme is evident in all of the organisations involved. There is an interest in the outcomes of the programme and the provision of programme funding in the current Housing New Zealand budget. The DHB has agreed to increase public health nurse numbers and create an occupational therapy position in the Healthy Housing team in Manukau. The demonstrated reduction in preventable hospitalisations in Counties Manukau has given increased credibility to the programme (Jackson, Woolston, & Papa, 2006). The Housing New Zealand executive team has a greater understanding of Healthy Housing.

> There is willingness and commitment to make Healthy Housing work at all levels, both vertically and horizontally.

The project managers have a 'solutions focus' approach to ensuring Healthy Housing proceeds effectively. They are open to suggestions and ensure the programme, while focussed on maintaining its overall goals, is responsive to the changing environments it finds itself working within.

> The first evaluation was a real eye opener. [It] has confirmed the programme, given us confidence we have it right. Now we are solidifying our thinking.

Solutions focus

As identified in the initial evaluation (Clinton, McDuff, Bullen, Kearns, & Mahony, 2005) the Healthy Housing team continues to have a strong 'solutions focus' in their approach to the

programme and its implementation. This approach is extended to become a ‘strengths-based solutions focus’ when they are interacting with households. The ways in which they adopt this solutions focus in their everyday approach to situations encountered in Healthy Housing include how they raise the profile of the programme within the community, how they focus on improving the housing interventions and reducing costs for households, and how they ensure that they don’t impact negatively on other sections of the organisation. They take seriously the role of advocating for the households and work creatively to find the best solutions. Likewise, the strengths-based solutions focus approach is integral to their interactions with the households. This approach involves ensuring the households’ needs are identified and their priorities are heard and addressed.

Healthy Housing knows the difficulty they can have introducing the programme to new households, especially as they may be wary of participating. The Auckland team proactively developed a strategy to increase household interest.

> The PHNs [public health nurses] came up with a simple colourful flyer to introduce Health Housing to the households. I’m the one who is meant to do the contacting of new households but we work together—you do this, I’ll do that. Both have the same goal of getting better results. When I looked at the response rate between those who had just had a letter [the old way] and those who got the flyer, the flyer is 50 percent more effective. Even though it’s not a standard HNZ [Housing New Zealand] letter and is not official, it’s been very effective. We work together to get a better hit rate.

The Special Programmes’ unit and the architects actively seek ways to improve the interventions they initiate, for example, looking at ways to address heating and ventilation problems mechanically. This approach results in no additional power costs for households when using the appliance.

> We explore ways we can put ventilation and lighting in that aren’t mechanical. Doing these things passively is not common in our industry… If mechanical ventilation is used and requires the light to be turned on for it to work then they remove the light.
>
> Have been exploring options to decrease the amount of water used in showers… By restricting max flow through low flow shower heads … would decrease power and decrease cost.

The following examples illustrate how the team creatively deal with situations they find.

> One home where the JAT [joint assessment] reveals they are only overcrowded by one. But the health assessment reveals the mother has severe asthma, in and out of hospital a lot, which has resulted in the hubby having to take so much time off work that their income has been reduced and they had their power cut off. We were able to go to the region and give information about how serious the health situation was. As a result they got re-housed. Since then she has not been admitted to hospital.
>
> A large Pacific family of 10 sharing with a family member in a two-bedroom home. The hubby is working. Housing New Zealand policy is to decline applications if the applicants have not been resident for two years. This family were just short of that time and were declined. As a result of the JAT [joint assessment] they were given a NOR [notice of remedy]. They were unable to manage private bond and rent. Mother rang distressed as they had nowhere to go. We talked about the risks of overcrowding. Advised her to do her best to keep the house clean and get fresh air into the place. We then kept them in the system and when the appointed two year qualification period time had passed they were

> housed in a six-bedroom home. They are very happy. If we had not kept them active they would have fallen through the system. It's unlikely they would have tried again.

The passion of the Healthy Housing team is epitomised in the following quote.

> We all have the attitude of how can we do this better, what can we do to improve, constantly coming up with new ideas.

Ensuring the needs of households are identified and addressed and that the households are included in decision-making is a basic premise of the programme.

> The people are realising we aren't a threat—we are about what suits them. We help them put things into perspective. It's really useful to go back and talk over what works for people.

The impact on the area coordinators and public health nurses of the people they meet and the situations they experience in Healthy Housing has raised their social justice/advocacy roles as is highlighted by the following example. The public health nurse describes how she cannot go home and cook tea if she leaves a family hungry.

> There was a household where the members had experienced domestic violence and admitted to being hungry. One of the first questions we [public health nurses] ask is: 'what is your biggest health issue'? She responded with: 'you can't help us'. …They were not entitled to any more WINZ [Work and Income] food parcels. What we did worked, because we addressed her initial problem, which let her accept referrals to deal with the domestic violence and then get assistance with budgeting. I was quite clear with her that it was not sustainable to keep up the payments on the car she had. I explained even I would not be able to do so as the car was too fancy. I had to deal with the hunger as I can't go home to cook tea and eat when I know someone I've seen that day is hungry.

4.3 Other providers' perceptions

4.3.1 Other providers' perceptions of success for participants

The providers' reflections on success revealed how powerful involvement with Healthy Housing could be for households. In particular an external provider reported how amazing the changes were in households who had a Healthy Housing intervention.

> When I first went to the house before the changes there were few bedrooms… Then I went back after the changes and the house had turned into a castle and I was just blown away … and the mother was crying and she said this is what you helped us get and I said 'no it wasn't me it was HHP [Healthy Housing]'.

When asked what he thought about the intervention, he focussed on the change in the family not on the material change that had obviously occurred to the home.

> The first thing that impacts on you is the family's demeanour … everyone, the parents, the children … you notice it straight away … I suppose it's their self-esteem. The kids are going to school and they are coming home to a beautiful new house … the parents are happy … the father is more motivated to do things for his kids.

Likewise interviewing a group of tenancy mangers about their experiences resulted in an unexpectedly positive outcome for Healthy Housing. It was revealed that a household had

decided to become a homeowner. The tenancy managers suspect it was the modernisation changes that occurred in the house that motivated them to want to do more to make it their own.

> There was a family with parents and four children in a three-bedroom home. As a result of the programme modernisation they were given a deck and a modernised kitchen. The family came back to us wanting to put carpet in the house. As a result [of the changes] they were so pleased they saved up and bought their own place.

When telling this story a couple of the tenancy managers decided this had happened several more times in their area in the last few years. On reflection, they believe all had experienced modernised homes. No confirmation of how many have gone onto home ownership is currently available.

4.3.2 Other providers' perceptions of obstacles to success for participants

The providers reflections on the obstacles that impacted on participants included the risk of re-crowding, what caused the non successful cases and situations that further disadvantaged some participants.

The commitment to family and expectations to care for family remain a risk to the maintenance of adequate occupancy rates in households. Providers referred to the cultural ties that influence this factor. A provider reflected about his Pacific culture.

> You look after your own and you look after everybody.

He quoted the example of his own family where his parents emigrated to New Zealand with a young family and his father got a job, bought a house and raised eight children with a couple of uncles and an aunt in a three-bedroom house. So the children grow up never being used to having their own space. The cultural expectation is that one will always provide for one's extended family regardless of the situation of one's own immediate family. The village idea has merely been transplanted to another society.

> Crowding is an issue, especially if we give more room and they use more still for cultural reasons. It is likely the house is seen as a 'family' home.

Providers gave two examples where the initial solutions offered by the Healthy Housing team were not agreeable to groups living in the households and large extensions were undertaken. Solutions offered included having the households live next door to each other. Both households had subsequently separated and no longer required the large home.

> Healthy Housing extended a property to accommodate two solo families. We (Housing New Zealand) were not keen on the arrangement to have both together, had offered two nearby properties to households wanted to be together, now all is done and circumstances have changed they have decided to go their separate ways.
>
> Two families who wanted to stay together, we offered them side-by-side properties, but they chose a large home. It didn't work out and one family subsequently moved out within the year. If they had taken the next door home option I'm sure the solution would have been sustainable.

The providers shared some of the many challenges the households' encounter, which impact on their ability to cope in their homes for example sometimes it appears to be the attitudes they encounter when they request assistance at Work and Income.

> Why don't people present at WINZ [Work and Income] to check out what benefits they could be on? …'the look'. I've seen clients be given that look and I've watched them [the applicant] freeze.

4.3.3 Other providers' perceptions of outcomes for themselves and the system

The providers presented examples of gains Healthy Housing presents for the participants, the community and their services.

The information provided at the Joint Assessment meeting enables the tenancy manager to better meet the needs of the households.

> The best part is re-housing someone [who had been having multiple asthma attacks needing hospitalisation] and then finding they haven't been hospitalised in the following six months.

The balance of available stock to meet the needs of large and/or disabled households has been improved. The programme also has the flexibility to be able to address disability problems not covered by the Ministry of Health criteria of what is a disability.

> We struggle with [finding solutions for] people who have genuine personal health problems like obesity and diabetes, e.g. two hundred kilo ladies can't get into a bathtub and other medical problems that have a huge impact but they are not classified as disability. The good thing about Healthy Housing is that it helps to ensure that those people are not missing out.

Home rehabilitation programmes are better able to be undertaken in modified homes as is evident in the following comment.

> It's allowing us to be more efficient with what we do, particularly in physiotherapy and mobility, and allowing people to become independent in whatever they do. When the house is readily accessible and the layout is amenable and not poky and small then we can seriously look at programmes to allow people to become more independent and less dependent on carers and the rest of the family, and have more opportunities to live their own life and make decisions.

The community is more aware now of Healthy Housing and wants to be involved and there is a positive impact on the community as well, as a result of the intervention.

> The Mangere community know about Healthy Housing, they see it as a positive thing; all want Healthy Housing involvement as they know what Healthy Housing can do. Since Healthy Housing came to Mangere, word of mouth has spread the outcomes. People could see a house done up and another extended or a ramp put on. All these things are very positive.
>
> When a home is modernised or upgraded I notice the family is positive, tend to take care of the property, have a better lease of life, get involved in gardening, and are more cheerful. Basically it gives tenants a brand new life.
>
> Better health from improved households, results in better people, which leads to better communities. They are not so dependant. They will get into work.

As a result of the programme, the relationship Housing New Zealand has with most households has improved, and subsequent interactions with tenancy managers are more positive. Evidence suggests that there is less chance of re-crowding following the Healthy

Housing team involvement, which is unlikely to occur with regular tenancy manager involvement.

> The TMs [tenancy managers] benefited because of the way HHP [Healthy Housing] was run, it meant there was relationship building with the tenants. TMs don't have the sort of time the ACs [area coordinators] have time to connect with the family and discuss health and family issues.
>
> I now get more information as the placement manager from attending the HHP planning meeting; the extra insight is beneficial especially with regard to matching properties.

Small properties are subsequently able to be released for smaller households.

> Gain for property management – we get smaller properties for handing onto smaller households.

4.3.4 Other providers' perceptions of obstacles to success

There are some issues related to the initial intervention and whether processes could be improved, for example, the type of paint used.

> It hasn't taken long, but the home is already marked, perhaps it would have been better if they hadn't used a matt finish for the paint as a matt finish is hard to keep clean.

From Maintenance's perspective, the home being modified or extended by Healthy Housing may not have been due for any work by Maintenance's criteria and they have other homes scheduled for work at higher priority. Even so, Maintenance attempts to follow-on after the Healthy Housing intervention.

Some of the external agencies mentioned they would appreciate a feedback mechanism from Healthy Housing about households referred to them.

4.3.5 Other providers' perceptions of collaboration

The placement manager stated she can change a household's priority as a result of the information she gains from being part of the Healthy Housing planning meeting.

> Sometimes what may initially not seem to be a problem becomes critical once I know the health situation. For example, the woman with a small family living in a two-bedroom home. At face value they are not a high priority, but once I knew the little twins were requiring hospitalisations for their ill health I was able to offer immediate placement.

The private options manager assists families to obtain sustainable housing in the private sector, and works creatively with those referred by Healthy Housing to let them know their options and how they can plan for a different future, one step at a time.

> I go and visit market rent clients. I say to them this is your income why not consider using the private sector option. In most homes it is very rare that there is only one income. All tenants need to know their options. The old mind set was if you get a HNZ home you had it for life. Where as it could be a stepping stone to where they could be in the future. I talk with them about their options, how to budget, starting with the private sector rental and a saving scheme.

The property manager checks the viability of the suggested plans and the 'fit' with his area plans. While Healthy Housing has increased his workload, he is committed to having it in

his area as 70 percent of the houses in his area need modernisation. The case manager takes referrals from Healthy Housing of people who have need of her service she ensures their level of need is assessed and the Healthy Housing intervention goes ahead.

> Initially I look at the overall impact / fit with plans for my area. I need to make sure the extension will work, and look at the property to see if it can be changed.

The tenancy managers were supportive of the programme. They are now actively encouraged by their manager to attend the joint planning meetings, where they can learn more about their households, give input and be advised of any work or issues that need attention. Initially, they didn't understand the link between health and housing, but they now do. They are appreciative of all that the Healthy Housing team do in the way of property inspections and identification of maintenance or overcrowding issues.

Providers from organisations or agencies who interact with Healthy Housing all spoke highly of the programme and what the programme was doing. Most of the collaboration between the agencies and Healthy Housing related to the agencies being:

- the providers of services like food and beds
- advisers of needed information
- educators for problems like the management of asthma
- referral agents for other services like Citizens Advice, law centres and Women's Refuge
- sources of knowledge about community networks.

Some of them in return used members of the Healthy Housing team as advisers on situations they were managing.

> If these children [referred to the PHO manager for an immunisation status check] are subsequently found to be inadequately immunised and without a regular GP [general practitioner], the practice sends out one of their community health workers to the family to get them into the medical centre for the practice nurse to check them and give the necessary immunisations.

Community based public health nurses are referred families by the Healthy Housing team. They assist families in the community with health related problems eg enuresis, eczema, and impetigo. An example of inter - agency collaboration from their perspective is also provided.

> Often these families have a history of being highly mobile, social difficulties, learning issues. We can get children into health camps to address their self esteem. Other issues may arise over time as the mother gets to know the public health nurse. Or something that was initially not the greatest priority becomes something they think we can solve. We are involved long term as required; sometimes this involvement is for a year.
>
> An overcrowded family—two families together with a range of children from different generations. My original link was through the grandmother; the Healthy Housing team through the daughter. Through the programme we all got together. It was brilliantly handled by the team. It was a hard meeting, ensuing clarity re reasons, had to ensure the group process worked, that people knew what would be discussed. It was outcomes-focused not personalized. This is what is wanted, this is what is stopping it, what are possible solutions. Family got to discuss all options. Daughter chose one that Healthy Housing didn't see as ideal, but it was the chosen one. The grandmother has changed as a result of the meeting. She is now doing more self care is not spending so much time doing the cleaning and

> scrubbing for all, is going to the gym, and taking care of emotional wellbeing. That was a situation that was handled brilliantly.

The occupational therapist continues to be a major referral point for other community health services, like physiotherapy, speech language therapy, and dieticians.

Ensuring the needs of households are identified and addressed and that the households are included in decision-making is a basic premise of the programme.

During the joint assessment, some of the households that are identified as being overcrowded are subsequently found to have a high income level (for example, combined wage and benefit sources), and don't meet Housing New Zealand's Income Related Rent criteria. Where appropriate, these households are offered the option either to move to private sector rental or to become home owners. Households considering these options are supported by the private options manager to find sustainable housing, either through private rental or through Housing New Zealand's 'home ownership' scheme. Examples of the use of the services of the private options manager are described below.

> The person wanted a six-bedroom home for himself and his kids. He is a church worker who has lots of visitors coming for counselling. Because his church is supportive he can now afford private rental. We were able to come up with a place that was suitable for his needs. This gives him room to do his counselling and his kids have space to study. Subsequently he can be a role model for his community; that he was able to successfully acquire a very large home and they can too.

> Another large family I assisted were able to rent a large brand new home in a secure, gated group of five homes. I was able to give the father of the family a choice of either $400 for a four-bedroom or $500 for a five-bedroom per week plus an integral garage. I was able to ensure they had all the support they needed to manage the rent. When I went back to see how they were getting on since their shift, the kids are happy and the father is chattier and relaxed. I have been able to successfully let all five of those homes to people with high incomes.

4.4 Conclusion: provider journey

This chapter presented the providers' perspectives of the successes, outcomes, and obstacles identified in the second year of the evaluation of the Healthy Housing programme. The views of two groups of providers (Healthy Housing and Other Providers) were sought to better understand the reach, impact, and sustainability of the Healthy Housing programme. Both groups of providers presented evidence that complemented and enhanced the views of the other.

The providers identified a wide variety of successful outcomes for the households. An overall increase in wellbeing was confirmed again by providers. Providers described incidents of a reduction in illness. Many examples of successful outcomes were presented. One unexpected outcome was that of a household that chose, after a housing modification that delighted them, to become a homeowner. Enablers that the providers identified that facilitated the successes for the households included the Healthy Housing team having the knowledge, expertise, and steadfastness to achieve the best result for each household. They often 'go the extra mile' using a 'strengths-based solutions focus' to achieve the outcome. Attitudes that prevail include those of commitment, determination, realism, humanity, respect, and a willingness to challenge the status quo. They are committed to ensuring the householders' rights to effective communication and access to services.

The providers' perceptions of obstacles for the households included knowledge deficits, risks of re-crowding, and intervention solutions that were not sustainable. All providers touched on the problems households encountered resulting from knowledge gaps. This occurs especially for households new to New Zealand. Misconceptions about air movement, heating, and closed spaces continue for some households. This, combined with household concerns about the cost of power, means they often did not use heaters effectively. The risk of re-crowding remains, especially for Pacific families with strong cultural expectations to provide for relatives in need. Yet this is also unsubstantiated by available evidence.

Occasionally, the solutions and interventions identified by Healthy Housing have not been adhered to. Some households were dysfunctional before the intervention and remain so, but now do so in an un-crowded situation. Under-utilisation of the extended homes occurs rarely. There are rare instances where the solution fails because the initial decision to remain as a large group changes over time and households subsequently separate into smaller groups. There was one instance identified where a large household who had previously had a successful intervention had ended their Housing New Zealand tenancy and moved into an overcrowded situation. The reason for their move was the elderly father's discomfort with a new tenancy manager's interactions with the family.

Two areas highlighted as potential causes of harm for the households were smoke alarms being inactivated by households in search of batteries and the use of extra gas burners to cook large meals with a resulting increased risk of burns and fire.

The providers' perspectives of gains for their service included the raised profile Healthy Housing brings resulting in 'spin off' projects and an increased awareness of all employees in the link between health and housing. Other gains included the extra skills the team has acquired. For Housing New Zealand, the programme enhances their housing stock and results in improved relationships with households and better identification of housing-related needs. Overall, the raised programme profile was beneficial, knowledge of the link between health and housing is spreading, and Healthy Housing is frequently an entry point for referral to other agencies. Both services have learned much about how to engage with providers in the community and how to connect with providers and services in new areas.

The providers' perspectives of the barriers and risks to ongoing success, as in the previous report, were concerns about the regulations related to the application of Income Related Rent and the possibility of 'a large home for life—dependency risk' occurring in large Pacific families. There were some issues related to the design, intervention, and ongoing maintenance identified. Where obstacles were identified relating to the initial intervention, the focus was on how processes could be improved to prevent a recurrence. Healthy Housing did have the budget to do a whole-of-house upgrade on the homes where they do extensions or modifications[7]. Cracks in the plaster on internal walls and leaks are examples that reflect maintenance problems not directly related to Healthy Housing but, will, if problems arise, be 'lumped together' in the householder's mind as a Healthy Housing problem. Unresolved maintenance issues contributed to the householders' disenchantment with some Housing New Zealand services. The initial vision for the programme was of a brief assessment and intervention period, but it appears to have evolved to include a short term supervisory role as well. Two sources of delay for the intervention process have been resolved, with time for building consents reducing dramatically and the inclusion of an occupational therapist on the Healthy

[7] This has now changed so that Healthy Housing does a whole – of – house upgrade.

Housing team. Clinical supervision is not yet available for area coordinators to assist them to process the situations they encounter in Healthy Housing.

Collaboration remains at the heart of the programme. The providers presented many examples from their perspectives. The types of interactions that fostered the collaborations included relationship building, networking, and sharing of information and expertise. Establishing a key contact person and appropriate referral processes specifically fostered inter-agency collaboration. Collaboration within the Healthy Housing team remains effective. The information provided by Healthy Housing enables a tenancy manager to better meet the ongoing needs of the households. Agencies that interact with Healthy Housing all spoke highly of the programme and the effective inter-agency collaborations.

The programme remains sustainable from the providers' perspectives. Specifically, there is a supportive management environment and the programme is adaptable and responsive. The project managers are committed to Healthy Housing and interact collaboratively. Executive level support for the programme is evident in all of the organisations involved.

The Healthy Housing team continues to have a strong 'solutions focus' in their approach to the programme and its implementation. This approach is extended to become a 'strengths-based solutions focus' when they are interacting with the households. The ways in which they adopt this solutions focus includes how they raise the profile of the programme within the community, how they focus on improving the housing interventions and reducing costs for households, and how they ensure that they don't impact negatively on other sections of the organisation. They take seriously the role of advocating for the households and work creatively to find the best solutions. Likewise, the strengths-based solutions focus approach is integral to their interactions with the households. Ensuring the households' needs are identified and their priorities are heard and addressed is critical to the sustainability of the effects of the programme.

5 A Synthesis: Emerging themes from the Healthy Housing journey

5.1 Overview

The following chapter provides a synthesis of the findings from the second year of the outcomes evaluation of the Healthy Housing programme.

It covers the evaluation from the multiple perspectives outlined below:

- the household's perspectives
- the providers' perspectives
- sustainability of intervention effect
- system questions
- a pathway to success
- programme objectives and the Evaluation Crosswalk.

This evaluation builds on information learned in the first year of the evaluation. The new information collected from the provider and household interviews in 2006 has been incorporated into the previous understandings of success-based outcomes and obstacles to success. This information is used to develop further the pathways to success model. The chapter concludes with summary answers to the evaluation questions and provides indications of achievement in specific areas of the programme.

5.2 Summary and consolidation

5.2.1 The households' perception of successful outcomes and obstacles

This section outlines the households' perceptions of the successful outcomes as well as the perceived obstacles. The tables to follow provide additional successful outcomes from Mangere interviews and build on the outcomes from interviews conducted in 2005.

Table 4 provides the households' perception of successes for Otara and Wiri from year one, and Mangere from year two interviews, and the factors that contribute to these successes.

Table 4 Summary table of households' perception of success

Success Criteria	**Reasons for success** **Otara & Wiri Year One**	**Reasons for success** **Mangere**
Family connectedness	Able to have meals together Increased space Less stress Better communication More privacy	*As Otara & Wiri Year One plus:* Spending more time at home Quieter
Sibling relationships	Reduced sibling rivalry Own bedrooms, or not sharing with several siblings	*As Otara & Wiri Year One*

	Privacy Own space to play, escape	
Educational activities	Space to study Quiet, allocated space to do homework Fewer disruptions	*As Otara & Wiri Year One plus:* Go to school more More enjoyment in learning and going to school
Community connection	Able to host guests Less embarrassed to have people over Enough space to host church, community meetings	*As Otara & Wiri Year One plus:* More people visiting Happy for people to stay Positive neighbourhood connections
Easier day-to-day functioning	Less stress with household relationships Extra rooms/ bathrooms More content with life despite struggles	*As Otara & Wiri Year One plus:* Know where to get help More relaxed Less Busy Received leaflets and brochures about mould prevention heating etc.
House proud	Surfaces easier to clean More space/ room so children's mess isn't in communal space Want to keep the house looking nice	*As Otara & Wiri Year One*
Reduced injury	Structural modifications such as sharp edges removed from kitchen bench top Own driveway so children less at risk	*As Otara & Wiri Year One plus:* Safer neighbourhood area to play No more stairs
Improved health	Warmer house Fewer allergens	*As Otara & Wiri Year One plus:* Larger space
Increased financial control	Budgeting advice	*As Otara & Wiri Year One plus:* Can save money Know how to budget
Increased comfort in home	Less mould, dampness Carpet Curtains Insulation	*As Otara & Wiri Year One plus:* More space Warmer
Mobility/ function for residents with disability	More space Specific modifications Relieves stress on caregiver	*As Otara & Wiri Year One*
Tenants connectedness to household	Involvement in selection of house and decision-making	*As Otara & Wiri Year One plus:* Regular contact about changes
Safety	Feel safer in new neighbourhood	*As Otara & Wiri Year One*

Information collected from interviews in 2005 and 2006 indicate that there are a number of successful outcomes that have been discussed in-depth both years by households. These include:

- improved health of the household
- improved family functioning on a day-to-day level
- increased contentment of household
- households are clean and tidy
- greater sense of management
- households are more social.

The most commonly reported reasons for these successes are:

- house is warm and clean
- more space for family coping
- feel happy to have people around.

While the households report many positive outcomes as a result of the Healthy Housing intervention, there have also been obstacles to success and these are summarised in the table below.

Table 5 provides the obstacles perceived by the households in Otara and Wiri from year one and Mangere from year two interviews, and the factors that contribute to these obstacles. The key obstacles noted by the households include maintenance issues, financial strains after Healthy Housing intervention, and general concerns with the property. None of these obstacles can be directly attributed to Healthy Housing.

Table 5 Summary table of households' perception of obstacles

Obstacle	**Reasons for obstacle—Otara and Wiri Year One**	**Reason for obstacle—Mangere**
Maintenance	Some modifications not highest quality	General wear and tear Repairs needed Design faults
Finances	Increase in bills post involvement in Healthy Housing Increase in rent post-involvement in Healthy Housing that residents had not expected	*As Otara & Wiri Year One*
Property	Inadequate drainage Flooding Muddy lawn Inadequate fencing around property Slippery decks when wet	*As Otara & Wiri Year One* plus: Pot holes in driveway

Information collected from interviews in 2005 and 2006 indicate that there are obstacles that have been discussed both years. These are noted in the following list:

- general property concerns
- relationship with agencies not always positive (Work and Income/tenancy managers)
- strains associated with looking after extended family
- continued poor living environment (damp, cold)
- away from support networks

- financial constraints.

The most commonly reported reasons for these obstacles are:

- living away from family or other networks
- limited community engagement
- generally unhappy
- unresolved maintenance required in the home
- increased costs to operate home.

5.2.2 The providers' perceptions of successful outcomes and obstacles

The information from the providers' interviews can be divided into the following areas:

- perceptions of success and obstacles for themselves and the system
- perceptions of success and obstacles for the households
- provider skills and attributes.

In the following table, the providers' perspectives of success for their service are presented, specifically focussing on service gains, improved health and process changes.

Table 6 Provider perspective of success for themselves and the system

Service Gains	Improved relationship with households Identification of housing related needs Improved housing stock Increase in properties able to be modernised Increase in programme staff Inclusion of occupational therapist in the team Reduction in the risk of re-crowding
Improved health and wellbeing	Reduction in hospitalisations Improved health Reduction in incidental visits to a general practitioner Identification of unaddressed health and social needs Entry point for referrals on to support services Increased awareness in the wider community of the link between poor housing +/- overcrowding and poor health
Process changes	Strategies to increase household interest in participating Know how to establish presence in new area effectively

The providers' perspectives of obstacles for their service are noted below (see Table 7). Some obstacles mentioned last year, namely 'no shows' and neighbourhood units, were barely mentioned this year by providers.

Table 7 Provider perspectives of obstacles for themselves and the system[8]

Intervention	Follow-up post intervention is longer than originally planned Unable to do whole-of-house approach to upgraded properties
Maintenance	Maintenance and Healthy Housing priorities differ

[8] System refers to item such as inter - agency collaboration, knowledge base, attitude, awareness see section 5.4

	Maintenance not addressed adequately
Other	Possible need for clinical supervision for area coordinators No formal report on hospitalisation reductions available No consistency in recording of referrals across District Health Boards Ongoing funding

As a result of the providers reflecting on why the successful events occurred for the households, the skills and attitudes that undoubtedly helped to facilitate the successes were identified. These skills and attitudes are very similar to last year; the main difference is a sense of persistence in addressing problems until resolved.

Table 8 Provider skills and attitudes that facilitate successful interventions

Skills	**Attitudes**
Knowledge	Non judgmental
Expertise	Empathetic
Effective communicators	Open
Commitment	Responsive
Advocates	Assertive
'Got what it takes'	Walk alongside till achieve outcome
Strengths-based solutions focus	Persistence
Educators	

The providers' reflections about the households revealed obstacles that impact on or are a risk to the success of the intervention for the household. More detail was given in 2006 about these obstacles (see Table 9).

Table 9 Provider perspectives on obstacles to success for the households

Knowledge gaps	New to New Zealand and way of living in this society Misconceptions—air movement, heating, and closed spaces Effective appliance management
Risk of re-crowding	The Pacific way
Non success cases	Subsequent underutilisation of intervention
Disenchantment	Remote relationships with tenancy managers Unaddressed maintenance
Disadvantaged population	Many still not getting correct benefit entitlements Money lenders and financial over commitment
Remaining overcrowded	Don't fit Housing New Zealand criteria Decline assisted move to private sector

5.3 Sustainability of intervention effects

One of the aims of this evaluation is to determine the sustainability of effects in the households that occur as a result of the Healthy Housing intervention. In the following table the factors found to impact both positively and negatively on the sustainability of the effects for the households are summarised.

Table 10 Factors that impact on sustainability

Factors noted to impact on sustainability
Positively • Health • Contentment • Family • Environment • Understanding of links between health and housing • Understanding of links between overcrowding and housing Negatively • Crowding • Unhappy and stressed • Chronic illness • Level of vulnerability • Cold and/or wet environment • Financial constraints

The reasons that the positive effects continued were noted in the analysis of the interviews, and are likewise summarised.

Table 11 Reasons for sustainability

Reasons for the sustainability
• Resiliency/coping/happiness of participant • Communication/socializing • Family/whanau/older children stay home • Knowledge/education input • Finances • Clean, spacious house • Safe neighborhood • Good, fast response from Housing New Zealand

Using information provided by the household interviews and details from the joint assessments, information about three of the above areas were analysed further. The following table presents the sustainability findings focussing on occupancy rates, improvements in health status, and perceived happiness. See table 12.

Table 12 Sustainability related to occupancy, health status and happiness

	Positive	Negative	Comment
Risk of re-crowding	50% (10) had no change in occupant numbers 25% (5) had decreased occupant numbers	25% (5) had increased by at least one occupant	Only one house had seriously re-crowded
Health status	85% (17) had further improvement or sustained their health status	No reports of negative health outcomes	Other households (15%) had deterioration in chronic health problems.
Self reported happiness	70% (14) Positive happy comments both years	20% (4) Continued to be unhappy 10% (2) Were initially happy, now unhappy	Unhappy—negative experiences or had minimal intervention only Unresolved maintenance, plus family issues. Overcrowded home, plus family issues.

5.3.1 Criteria of overall success for households

Analysis of household and provider interviews has led to the development of the following criteria to assess overall success for households. It has been developed as a summary compilation of the findings of this evaluation and those households that are generally successful possess these characteristics. Table 13 presents the overall success criteria and their sources. Further investigation in year three will be undertaken to establish how many of the criteria a household needs to have to be a success case, or exhibit non success.

Table 13 Criteria of success for households

Sustainability item	**Evidence source Current or Possible**
Want to participate in Healthy Housing programme	Reduction in declines Reduction in 'no shows'
Able to communicate with ease with team members	Use of team members who speak the language or interpreter line
Households are included in the decision making	Joint action plan Narrative evidence - households
Housing related needs are addressed	Joint action plan + RENTEL Narrative evidence - households
Health and social needs are addressed	Joint action plan + Health plan Narrative evidence - households
Get access to appropriate support services	Joint action plan Narrative evidence – households Narrative evidence – external providers
Improved relationship with Housing New Zealand / TM	Narrative evidence – households Narrative evidence - providers
Reduction in hospitalisations	CMDHB data
Improved health	Narrative evidence - households
Reduction in incidental visits to GP	Narrative evidence – households
Get appropriate recourses and advice	Narrative evidence – households Joint action plan
Get support and supervision until know how to manage household	Narrative evidence – households Narrative evidence - providers
Motivated to manage household	Narrative evidence – households Property inspection reports
Property is adequately maintained in timely fashion	Narrative evidence – households Narrative evidence – tenancy managers Maintenance records Property Inspection Reports
Increase in pride in the home	Narrative evidence - households
Awareness of link between overcrowding and health	Narrative evidence - households
No re-crowding	Narrative evidence – households Narrative evidence – tenancy managers Property inspection report
Improved family connectedness and sibling relationships	Narrative evidence – households
Increased educational activities	Narrative evidence – households Schools
Increase in community connection	Narrative evidence – households
Reduced injury	Narrative evidence – households CMDHB health data
Increased financial control	Narrative evidence – households Narrative evidence – tenancy managers

5.4 System questions

In the first year of the evaluation, the sustainability of the programme was a major focus and it was established that there was a very high probability of sustainability. Year two of the evaluation confirmed this finding.

5.4.1 Evidence of collaboration

There is strong evidence of inter - agency collaboration. The Healthy Housing team collaborate by building relationships within the team, with internal organisations they and the programme rely on, and with external agencies. Sharing information, effective communication and sharing expertise are central to these collaborations. Factors that enable collaboration include identifying and maintaining key contacts in external agencies, having individualised referral processes acceptable to the other service or agency, and having clarity about what the programme can and cannot do. Indicators of effective collaboration include:

- joint interviewing of new staff
- area coordinators and nurses proactively strategising and undertaking measures to increase household uptake of the invite to participate in the programme.

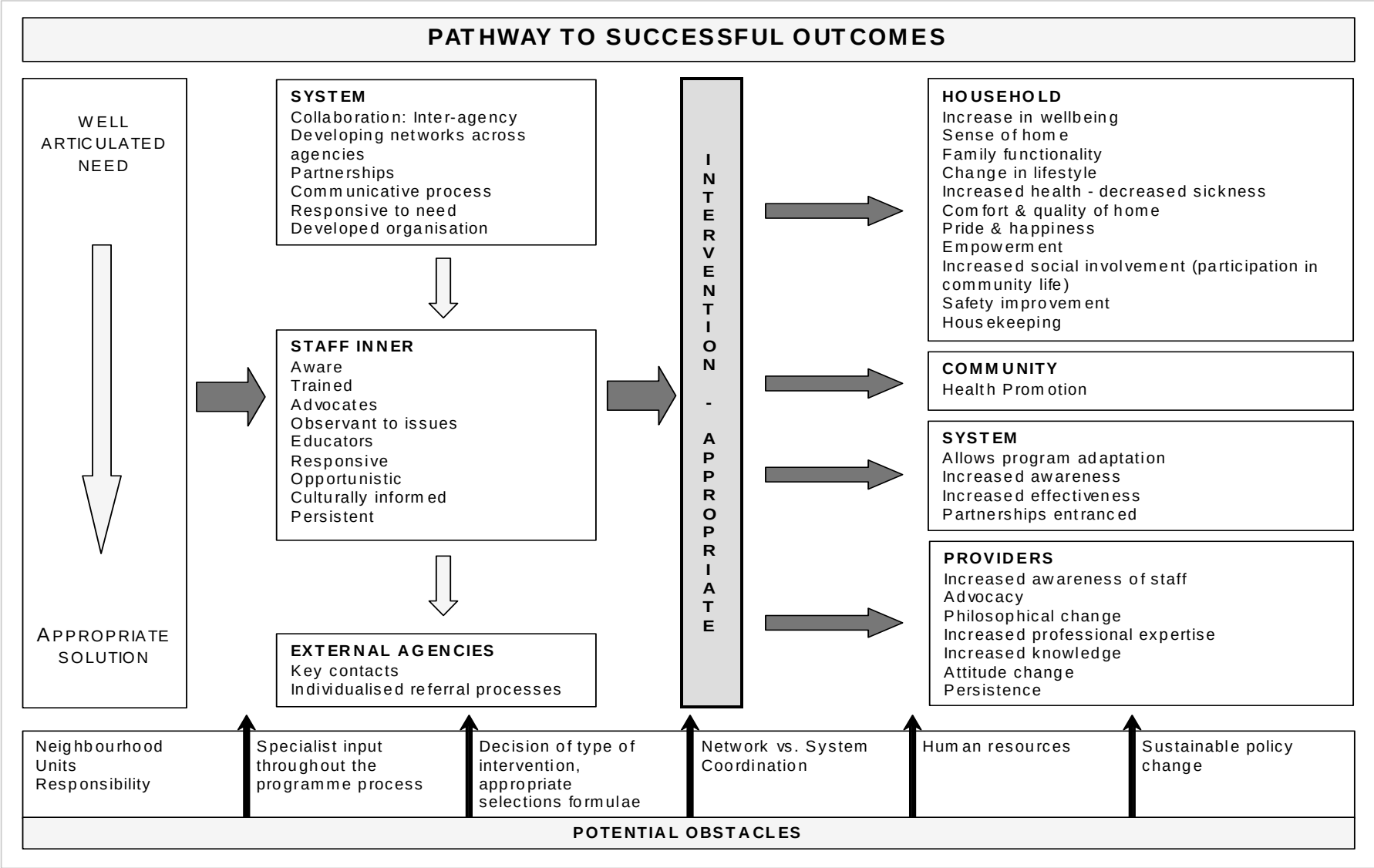
5.4.2 Style of management and interactions

The commitment and leadership of the project managers continues to guide the programme. They all champion the programme within their organisations and are supportive of team members. Executive management within each organisation gives support to the programme. The team as a whole has a ‘solutions focus’ in general and a ‘strengths-based solutions focus’ when interacting with households. All in the team remain passionate about the programme and creative in their approaches.

5.5 Pathway to success

A pathway to success diagram was created as a result of the first year evaluation to reflect the providers’ and households’ perspectives (see Figure 2). The diagram has been refined by the findings of the current evaluation. More questions about the Healthy Housing programme were able to be answered this year. While there are still areas that lack clarity the pathway to success diagram is able to assist in the understanding of the successes of the programme and potential obstacles. Further a comparison of year one pathway to success and year two pathway to success indicated that the programme continues to adapt and enhance. Comparison of the diagram and the programme logic illustrates that the Healthy Housing programme is on track.

Figure 2 Pathway to success



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5.6 Programme objectives: Evaluation Crosswalk

The Evaluation Crosswalk was used to assess Healthy Housing outcomes and focussed this year on the following questions:

- How does the state sector collaboration and efficiency impact on expected outcomes?
- Which variables facilitated expected improvements in the health and wellbeing of households?
- Which variables facilitated an expected reduction of unmet housing need/an improvement in the quality of housing?
- How sustainable is the Healthy Housing intervention?

In 2006, more Evaluation Crosswalk questions were answered. The evaluation has allowed an increased understanding about what enables success. This knowledge could be enhanced with better understanding of the areas that were partially met. There were very few areas where the situation remains unclear and they are specifically mentioned below.

- What effect does the programme have on the community? This is a key point but thus far is unclear.*
- How does access to health and social services contribute to sustaining the effects of the Healthy Housing intervention? Household stories provide some evidence but further clarity is needed.*[9]

In table 14 the Evaluation Crosswalk outcomes are presented along with summarised comments from the evaluators.

[9] * These questions were also added to the Evaluation Crosswalk in 2006.

Table 14 Evaluation Crosswalk outcomes

Question #	Evaluation Question	Programme Logic ref.	Response	Objectives Met, Partially Met, Needs Attention, Unclear
1	How does the state sector collaboration and efficiency impact on expected outcomes?			
1a	What was the level of communication between agencies involved in the Healthy Housing programme?	8.01	Strong evidence of effective inter - agency communication at close and medium proximity to the programme.	Partially Met
1aa	What connections with other agencies?		Effective referral processes and identification of key contacts Still to establish level of communication at outer edge	Partially Met
1b	What was the nature of the communication between various service providers and with their clients in considering decisions about house allocation?	8.01	Continually seeking to improve in this area, not always agreement. What is the providers' view of the importance of the Healthy Housing 'brand' being recognised by others and why this is so?	Partially Met
1c	How do the various parties regard their experience as participants in the Healthy Housing intervention; particularly the fairness and transparency of decision making?	8.01	Fairness is apparent	Met
1d	Has there been effective and efficient collaboration between the joint agencies to assess and meet the social and health needs of the tenants?	8.01	Generally continues to be very effective, have well established processes and regular meetings.	Met
1e	How effectively did Housing New Zealand engage with the tenant?	5	There is evidence of Housing New Zealand engaging with tenants, Some tenants recalled little involvement, which may more reflect recall due to the time elapsed since the intervention.	Partially Met
1g	What contributes to sustainability of the intervention for tenants?	Outcomes framework	There is evidence from both household and providers perspectives to continuing the understanding of sustainability.	Met
1h	What improvements/changes in your collaboration/interactions with Healthy Housing would you like to see happen?	5	Households noted increase expense in running households. Need for increased understanding between benefit receipt and Income Related Rent. Providers noted problems related to a desire to refer into Healthy Housing.	Partially Met
2	Which variables facilitated expected improvements in the health and wellbeing of households?			
2a	What is the reduction in the risk of housing-related health conditions, diseases and injuries?	2.2	Information provided by Counties Manukau DHB, Gary Jackson, gives details of reduced hospitalisation rates in the key health conditions in Healthy Housing homes in comparison with control group.	Met
2b	What increases are there in the knowledge and behaviours that will minimize housing-related illness?	1.0	Some tenants appeared to understand the importance of ventilation, fresh air and insulation but rarely linked overcrowding and increased health risk. Providers going into homes still note rooms not being ideally ventilated.	Partially Met
2c	What is the extent of health improvements for the tenants?	1.0	Counties Manukau DHB report about reductions in hospitalisations. Tenants reported improved health and less needs to see health professionals for incidental infections e.g. colds, flu. This improvement was sustained for those interviewed for a second time.	Met

Question #	Evaluation Question	Programme Logic ref.	Response	Objectives Met, Partially Met, Needs Attention, Unclear
2d	What is the extent of improvements in self assessed wellbeing?	0.3	The perception of improved function, pride, comfort has been maintained.	Met
2e	Does the household have, or have access to the knowledge, skills and resources to maintain a healthy living environment in the house?	3.4	Evidence of intensive support being given to households in need by means of continued follow-up by area coordinator and community health worker prior to returning case management back to tenancy manager. Households involved more recently in Healthy Housing could recall aids given to them, eg booklets about mould prevention.	Met
2g	How have the interventions influenced household functioning in regard to: privacy/play/safety of small children/participation in community groups/school attendance/homework/interaction with their social/cultural network?	0.3	Sustained improvement noted, the increased space, privacy, reduced overcrowding and increased family cohesion appears to be related to more functionality and connectedness within the community.	Met
2h	How have the interventions affected household participation in community and society such as: neighbourhood/ethnic/ religious/school/ community/school groups/employment/ education?	0.3	Sustained improvement noted, evidence of increased connection within neighbourhoods, at school and employment.	Met
2j	How appropriate were the housing intervention(s)?	4.2	Most households were very happy with the interventions. Interventions provided extra space for crowded households, structural changes were also made for people with disabilities.	Met
2k	How appropriate were the health/social intervention(s)?	4.0-4.1	The Counties Manukau report provides evidence that Healthy Housing is reducing hospitalisations.	Partially Met
2n	How does the 'strengths-based solutions focus' philosophy contribute to the health and wellbeing of households?		Many examples provided. Many tenants do not recall being involved in Healthy Housing planning or how decisions were made.	Partially met
2o	How can housing interventions be improved/changed to increase the health and wellbeing of households?		There is general awareness that there are some problems related to ongoing maintenance of properties, delays in provision of disability assessment, appropriateness of some modifications for disability. Homes provided to part household transfers frequently have come from vacant stock and as such will not have had Healthy Housing ventilation or insulation provided. Tenants frequently mention common wishes including fencing, garaging	Partially Met
2p	How can health/social interventions be improved/ changed to increase the health and wellbeing of households?		The inclusion of an occupational therapist in the Healthy Housing team is expected to improve outcomes for people with a disability	Partially Met
3	Which variables facilitated: an expected reduction of unmet housing need/an improvement in the quality of housing?			

Question #	Evaluation Question	Programme Logic ref.	Response	Objectives Met, Partially Met, Needs Attention, Unclear
3b	Are the changes made to housing stock appropriate for the needs of the household (ie according to financial, generational, social and cultural needs) within the constraints of Housing New Zealand specifications?	3.6	In general tenants are happy with changes made to the housing stock.	Met
3c	What housing interventions occurred?	3.6	RENTEL report provides this information.	Met
3d	How satisfied was the household with these interventions?	4.2, 3.6	Most households are happy with the Healthy Housing interventions, unhappy households usually have not had overcrowding addressed due to Income Related Rent issues and their being reluctant/unable to move out into the private sector.	Met
3e	Is the changed physical makeup of the house and grounds appropriate for the house composition?	4.2, 3.6	Healthy Housing can only partially address this situation as grounds are considered out of the bounds of Healthy Housing.	Partially Met
3f	What is the meaning of this home (house and grounds) to the householders in the context of their past experiences, current and anticipated future needs?	Outcomes framework	Most reported their home in very positive terms. Future needs related to the natural aging of teenagers and need for more space/rooms appear to be not being addressed by regular tenancy manager supervision.	Partially Met
3g	What are the levels of comfort in the house such as temperature, noise, space, air quality (presence of dust, mould, provision for air movement)?	3.5, 3.6	Whilst many report dramatic improvement, Some still complain of the cold, unclear evidence but suspect these are part transfers into homes not yet included in Healthy Housing ventilation/ insulation.	Partially Met
3h	Have overcrowding issues been resolved in a way that is acceptable to the householders?	3.5	Mostly acceptable to households, occasional evidence that long term outcomes much better than tenants expected when first offered options they weren't keen on. Options Housing New Zealand provides are limited by policy.	Met
3i	Has housework altered significantly since the intervention (consider change in crowding, cleanliness of new additions, increase in space, house pride)?	3.5	In general very positive impact in all areas. Tenancy managers report that some tenants find upkeep of increased service areas an issue, they note that flat paint work easier to mark than gloss.	Met
3ii	What are the resources that will support the providers in sustaining positive results for tenants?		Not clear if or how involved programme should be in follow-up. area coordinators do not receive clinical supervision to help process situations encountered at joint assessment.	Partially Met
3j	Has there been a change in rent/arrears/ability to pay rent/damage to home since the intervention?	2.1	Overall Housing New Zealand reports little rent increase. Some tenants report increases in rent, several have recently been advised of increases to come. Damage post intervention is rarely reported and where it occurs it is not as bad as previously	Partially Met
3l	Has there been effective use of Housing New Zealand housing stock?	9.0	Healthy Housing report they have been able to provide better balance of stock. For each large family they re-house they release a normal sized home back into regular stock	Met
3n	How do housing interventions contribute to improvements in the quality of housing?	Outcomes Framework	Due to the durability of the fixtures used in modifications and extensions the contract manager reports that to his knowledge no repairs have been required. Maintenance is unable to provide information. The property manager reports positively on the standard of the modifications. Further information is required.	Met

Question #	Evaluation Question	Programme Logic ref.	Response	Objectives Met, Partially Met, Needs Attention, Unclear
4	How sustainable is the Healthy Housing intervention?			
4a	Does the intervention comply with Social Allocation System?	Outcomes framework	Question doesn't fit within parameters of evaluation.	
4b	What are the housing limitations on sustaining the results of the interventions?	Outcomes framework	Maintenance issues, tenancy manager relationship with households, ongoing supportive housekeeping monitoring, more information required	Partially Met
4c	What are the resources that will support the household in sustaining positive results?	Outcomes framework	Education provided by area coordinators and public health nurses at and post joint assessment. Resources—brochures and referral to other agencies Follow-up until housekeeping skills/management adequate. More follow-up is occurring than was planned and appears to be evolving into a short term supervisory support role. Management need to decide if or how this is to be formally incorporated within the programme. Effective relationship with tenancy manager. Needs to be teased out by intervention	Partially Met
4d	What were the unexpected and unintended outcomes and consequences?	Outcomes framework	Tenancy managers reflected that in several instances where tenants have experienced modified homes they have been so positively impacted that they have gone onto become homeowners.	Partially Met
4e	What effect does the programme have on the community?		Key point, thus far evidence is unclear	Unclear
4j	How does access to health and social services contribute to sustaining the effects of the Healthy Housing intervention?		Household stories provide some evidence Further clarity necessary	Unclear

5.7 Conclusion: A synthesis – emerging themes from the Healthy Housing journey

This report presents the findings of the second year of the outcomes evaluation of Healthy Housing. Successes and obstacles were identified from the perspectives of both providers and households. Sustainability questions are explored and outcomes of the Healthy Housing initiative thus far are discussed.

It is clear from the 2006 interviews that Healthy Housing has had a positive impact on the households and their general wellbeing. After Healthy Housing, occupancy numbers gathered at the interviews had mostly stabilised and for the most part overcrowding has not recurred in the households. Households experienced improvements in health, with over half of the households reporting a reduction in the frequency of doctor and hospital contact. A reduction in housing-related conditions, diseases and injuries was noted by many households. Participants were happier, more relaxed, and had an increased sense of comfort in their homes. The Healthy Housing team continues to provide resources to households about how to maintain a healthy home and healthy lifestyle. Day-to-day functioning was also improved significantly for many households. Members of the household were happier and more relaxed, could spend more quality time together, had more privacy, and enjoyed spending time at home. Many households also reported changes in the area of their children's education and play. Finances continue to be a struggle for many households, but there were a number of cases of improved budgeting and financial stability. Most households were very happy with the intervention carried out in their home and they believed the changes were appropriate to the health and social needs of the household.

There are some areas that impact on the success of household interventions. While the households' perceptions of successes were far greater than obstacles, there were still some obstacles from the households' perception. These included general property concerns, and continued financial difficulties. Knowledge in the households about the relationship between housing and health is still very minimal. However, after the intervention, this relationship is often clearer to the household.

Many examples of successful outcomes were presented by providers. However, one unexpected outcome was that of a household that chose, after a housing modification that delighted them, to become a homeowner. The providers identified a wide variety of successful outcomes for the households.

The providers' perceptions of household obstacles included knowledge deficits, risks of re-crowding, harmful practices, such as removing smoke alarm batteries, and intervention solutions that were not sustainable. The providers' perspectives of the obstacles include barriers and risks to ongoing success. Some issues related to the design, intervention, and ongoing maintenance were identified. Contact with the households by the team immediately after the intervention period appears to be evolving into a short -term supervisory role.

Collaboration remains central to the programme and is fostered by relationship building, networking, sharing of information, and expertise. There is strong and effective evidence of collaboration at all levels. The Healthy Housing team collaborates by building relationships within the team, with internal organisations they and the programme rely on, and with external agencies. Establishing a key contact person and appropriate referral processes specifically fosters inter - agency collaboration. Collaboration between Housing New Zealand and district health boards has positively impacted on the expected

outcomes. There was a high level of communication between the agencies directly involved in Healthy Housing. Similarly there were effective communication links with key contacts in external agencies.

The programme remains sustainable. Specifically, there is a supportive management environment that champions and leads the programme, and the programme is adaptable and responsive. Executive level support for the programme is evident in all of the organisations involved. The Healthy Housing team continues to have a strong 'solutions focus' in their approach to the programme and its implementation. This approach is extended into a 'strengths-based solutions focus' when interacting with the households. Ensuring the households' needs are identified and their priorities are heard and addressed is critical to the sustainability of the effects for the programme.

This evaluation has built on information compiled in the first year of the evaluation. The new information collected this year has been incorporated into the previous understandings of success-based outcomes and obstacles to success. Comparison of year one and year two indicate that the Healthy Housing has achieved a fine balance between programme adaptation and programme fidelity.

Overall, Healthy Housing is strong and sustainable. It is well on its way to meeting its objectives. There have been many positive outcomes for the households and service gains for the organisations. Few areas of lack of clarity remain and these will be addressed in the ongoing evaluation. Further, comparing both years of evaluation phases with the Healthy Housing programme logic indicates that the programme is on track. Overall, results from both years demonstrate a continuing pathway to success.

6 Conclusion

Throughout the ongoing evaluation of Healthy Housing, we draw on a socio-ecological model of human wellbeing, locating the person or household (rather than the house) at the centre of concern, and recognising a range of interacting factors within the socio-economic environment. These, in combination, ultimately determine health outcomes. We see these factors as both proximate (aspects of the house itself) and distal (for example, level of income support and access to health care). An implication of this approach is that systems are regarded as complex. Interventions and eventualities at one time and place potentially reverberate on wellbeing, with positive or negative effects at subsequent occasions and locations.

The evidence contained in this evaluation report for year two continues to attest to the effectiveness of intervening inter-sectorally at the household level across a range of health and social outcomes. As we concluded in the year one outcomes evaluation report, Healthy Housing reflects a significant commitment to action across health and welfare that is all too often deemed to be unachievable within policy and practice. This report clearly shows that the core commitment to collaboration between Housing New Zealand and DHBs has been augmented with cooperation among a wide range of other government and non-government agencies. This cooperation is further reflected at the operational level through regional and area managers, as well as field staff within health and housing sectors, demonstrating a clear commitment to ensuring that service delivery is effective and acceptable at the 'customer interface'. To this extent, these staff members effectively serve as 'social entrepreneurs', advocating for and identifying appropriate solutions. To reiterate a comment from a public health nurse included earlier in the report: "I decided to walk alongside the family until we got there".

The report also highlights the ways in which more active engagement in the decisions made around housing alterations by participating families gives rise to greater wellbeing and a sense of empowerment.

The narratives continue to highlight several key outcomes. First, that overall the positive effects on wellbeing (both contentment of householders and health status) of Healthy Housing have been sustained over the course of our evaluation. Second, this assessment has demonstrated that the character, quality, and stability of tenure of housing can influence the interactions that occur within people's wider social worlds. These interactions in turn have a bearing on social cohesion, trust, and a collective sense of belonging. To this extent, housing is increasingly acknowledged as providing a critical link between the public and private domains of everyday life. The fact that Healthy Housing promotes participation—in housing decisions as well as wider social networks—is important in terms of public health.

The evaluation in 2006 allowed an expansion of the methodology to include a greater range of data sources, a greater depth of familiarity with the programme by both providers and evaluators, and a greater degree of cultural matching between interviewers and households. A further strength is the longitudinal character of the evaluation among households in Otara and Wiri, which were revisited after an initial interview in year one. This allowed both an enhanced relationship of the evaluators with the households and the collection of comparative data between years. In combination these developments have contributed to enhanced quality, reliability. and interpretation of the data. We also note the benefits of the ongoing association between the evaluation team, the programme providers, and the Housing New Zealand policy and research analysts. These benefits include our accumulation of stories demonstrating households 'journeys into wellbeing'.

As we've shown, these stories constitute data rather than mere anecdotes. The power of narrative is its ability to provide insight into the complexity and dynamism of everyday life.

In parallel with this report, we note the significance of the analysis of the hospitalisation and RENTEL data. This data has provided compelling insights into the impact of Healthy Housing through corroborating the narratives of improved health and quality of life among households.

As Dunn (Dunn, 2006) notes: "To dwell is a skilled activity". In our estimation, Healthy Housing is enhancing the skill-set of households through not only the provision of an enhanced environment but also assistance and advice about 'healthy living practices'. This recalls a conclusion we offered in our previous report: that the Healthy Housing programme addresses a lack of 'fit' between households and the housing units occupied. However, building on this notion of 'fit', some of the health-threatening aspects of poor housing may have less to do with the intrinsic qualities of the dwelling, than on their day-to-day use.

Appendix A: Evaluation methodology

In this section, we outline our approach to the outcomes evaluation, the methodology underpinning the evaluation, and describe the methods used to collect data.

Background

Housing improvement has been identified as a setting for health intervention to reduce housing-related health problems, and for health and social intervention to achieve greater wellbeing and increased social participation (Howden-Chapman & Carroll, 2004). Healthy Housing seeks to achieve outcomes outlined in the programme logic through improvement of the housing stock and better integration of housing, health, and social services. The expected outcomes, as defined by Housing New Zealand for the purposes of this evaluation (HNZC, 2004a), are:

- a reduction in the risk of housing related diseases, conditions and injuries
- improvements in self-assessed wellbeing as a result of participation in Healthy Housing.

This evaluation is specifically focussed on housing, although it necessarily and importantly includes health and welfare processes and outcomes. In addition, responsiveness to diversity is a key theme, given the range of cultural backgrounds and composition types of the households participating in Healthy Housing. As the nature of the intervention and number of stakeholders involved in Healthy Housing are complex (within predetermined constraints), so is the nature of the evaluation. Consequently, the methodology for the evaluation is built on a number of foundations.

The objective of the outcomes evaluation component of this overall evaluation is to address the question: “What is the evidence that Healthy Housing has made a difference to the risk and rate of housing related diseases, conditions, and injuries, and improved wellbeing and comfort, family functioning, and increased social participation?” (HNZC, 2004b). The second year of the evaluation applies the same principles and philosophies as for year one. Additions and refinements were made to account for the need to follow the providers’ and participants’ journey.

The three foundations on which the evaluation is built are: the match between the philosophy and culture of the programme; the use of success case methodology; and the use of the Evaluation Crosswalk.

Match between the philosophy and culture of the programme

Healthy Housing uses a strengths-based solutions focus approach (De Shazer, 1985; Saleeby, 1997). The characteristics of this approach feature starting with household situations as they are, using storytelling to work out what interventions are appropriate, working collaboratively to access resources, empowering families to take as much responsibility as possible, and working out what success looks like and working towards this. This means that the evaluation approach is collaborative. The evaluation questions, selection criteria for households to be studied in-depth, and the appropriate data collection methods have been developed collaboratively with providers.

Use of success case methodology

The evaluation makes use of an adapted form of success case methodology (Brinkerhoff, 2003), an innovative and prudent approach to evaluation that combines storytelling with contemporary evaluation approaches used in traditional case study methodology. Success case methodology is a relatively quick but powerful method to ascertain and understand what is working and what is not. There are two major phases in success case methodology: locating likely success cases and then determining and documenting these successes. The success case methodology has four basic components: developing a model of success; using that model to develop a survey to identify success; conducting in-depth studies of the identified success cases; and reporting and analysing all the findings (Brinkerhoff, 2003).

A model of success for determining 'what success would look like' for Healthy Housing is derived from existing documentation and literature. Several reports relating to Healthy Housing and existing research literature have been synthesised, and a 'programme logic' developed by the Healthy Housing providers (see p12) has provided guidance for the intervention and outcomes (HNZC, 2004b). As detailed in the original request for proposal, 30 households were selected on criteria that encompass various types of intervention, as well as on the perception of success based on input from case workers and other providers. The success cases have been identified by the providers using available database information and other reported information, by the time in the Healthy Housing programme, and the 'programme logic'. All selected providers and a number of evaluation teams have been actively involved in the selection of the households. Subsequently, households from Mangere have been added to increase the feasibility of analysis across suburbs and time. In addition, several households were added to account for attrition from the first year sample.

Use of the Evaluation Crosswalk

Due to the complexity and collaborative nature of this evaluation, it is important to use a tool to illustrate clearly the structure of the evaluation, the nature of the evaluation questions, and the method for securing evidence relating to the questions. Thus the evaluation structure is presented as an 'Evaluation Crosswalk' (O'Sullivan, 1997). This crosswalk indicates proposed data sources for addressing each evaluation question. Evaluation questions were developed directly from the programme logic and multiple data sources will be used to triangulate the data gathering.

Changes to evaluation in year two

The Evaluation Crosswalk questions were refined in a collaborative manner to clarify further the findings from year one and to address new areas of interest. Following are the new questions.

- What connections are there with other agencies?
- How does the 'strengths-based solutions focus' philosophy contribute to the health and wellbeing of households?
- How can housing interventions be improved/changed to increase the health and wellbeing of households?
- How can health/social interventions be improved/changed to increase the health and wellbeing of households?
- What are the resources that will support the providers in sustaining positive results for tenants?

- How do housing interventions contribute to improvements in the quality of housing?
- What effect does the programme have on the community?
- What are the health/social issues that are limitations on sustaining the results of the intervention?
- How does access to health and social services contribute to sustaining the effects of the Healthy Housing intervention?

(See Appendix E for a presentation of the crosswalk questions for the first two years, where specifically new questions are identified.)

Following feedback from the household interviewers from the first year and a review of the questions in line with changes to the Evaluation Crosswalk, the household questionnaire was simplified and revised. The interviewers had noted that, if the household had just an insulation/ventilation intervention, the households would get frustrated by some of the questions that went into detail about the changes to the house. Subsequently, the questionnaire was modified to include a simplified version. See Table 15.The questionnaire was also further modified for use with a new or a repeat interview. (See Appendix B.)

Table 15 Type of questionnaire used for new and repeat interviews

	Full questionnaire	**Simplified questionnaire**
New households	19	2
Year two households	17	3

Methods of data collection

The methods used to obtain information from the households and Healthy Housing providers need to be robust and culturally appropriate. The success case methodology allows for an in-depth approach to the collection of the households stories, and is considered to be the best way in which to evaluate both short and intermediate term outcomes and their relationship to outputs by employing data from multiple cases (McKenzie, Searle, & Park). Data from the outcomes evaluation can be used to identify possible mechanisms for both positive and negative impacts, as well as to inform changes to the intervention (Thomson, Petticrew, & Douglas, 2003). As previously suggested, the evaluation methodology and method is the same as in year one. The following section outlines the tasks undertaken.

Provider interviews

Semi-structured interviews were undertaken in quiet private offices within the usual work environment of Healthy Housing service providers and other service providers involved in or referred to by the programme. The interview schedule (see Appendix B) included questions about Healthy Housing roles, processes, inter-sectoral collaboration, obstacles, success stories, goals sustainability of effects, sustainability of the programme, and achievements.

In this second year of the evaluation, the views of three groups of providers were sought to better understand the reach, impact, and sustainability of the Healthy Housing programme. Providers in ‘very close proximity’ or directly involved in the programme from Housing New Zealand and the district health boards, most of whom who were interviewed in 2005, were re-interviewed. In addition, interviews were held with Housing New Zealand

and district health board staff who are in ‘close proximity’ to the programme, and external agencies who are in ‘medium proximity’ to the programme.

New interviewees in the group of providers in ‘very close proximity’ or directly involved in the programme from Housing New Zealand and the DHBs were the clinician and architects. The list of interviewees was:

- public health nurses from Counties Manukau and Auckland DHBs and the community health worker working with the public health nurses in Manukau
- the area coordinators, solutions coordinator and project coordinator
- the three project managers from Housing New Zealand, Auckland and Counties Manukau DHBs
- the public health nurse service manager for Counties Manukau DHB
- Housing New Zealand’s contract manager, staff from Special Programmes unit and architects
- clinician.

The second group included staff from Housing New Zealand and the DHBs who are closely involved or in ‘close proximity’ with the programme. Only the occupational therapist had been interviewed in year one of the evaluation. The interviewees in this group were:

- housing services manager from a neighbourhood unit
- tenancy managers
- case manager
- property manager
- regional manager
- placement manager
- private option manager
- community occupational therapist.

The third group interviewed were providers from other organisations and external agencies who are referred to or used by the Healthy Housing team.

- Auckland City Mission coordinator
- Work and Income case managers
- Regular public health nurses
- Local public health organisation manager
- DHB community physiotherapist
- Asthma Society community educator
- Mental health social worker.

Semi-structured interviews were undertaken with 39 providers from the above positions in 24 face-to-face or small group interviews. Re-interviews with those directly involved in the project focussed on changes that had occurred over the last year in the way they explained the project to households or agencies, made referrals, collaborated with others, any barriers, obstacles or risks identified, and description of successful intervention stories. The perceptions of providers not previously interviewed were sought about how Healthy Housing used their service and the impact on their service/agency. They were also asked for examples of collaboration, barriers, successful interventions, and problems.

All interviews were written up in their entirety using notes taken during the interviews, audiotapes, and further phone contacts to verify any points that needed clarification. Responses were coded using NVIVO.7, initially grouping by interview question and then coding emerging themes.

Case study household interviews

Twenty of the households interviewed in 2005 from Otara and Wiri consented to another interview in 2006. To gain a wider scope of the experience of Healthy Housing interventions in 2006, an additional 19 households from Mangere were selected at a joint meeting of Healthy Housing and the evaluation researchers. These households had recent experiences of Healthy Housing interventions.

While households have not been selected by their ethnicity, most of the households who have been interviewed for the evaluation are Pacific peoples and, in 2006, four Maori households were also interviewed.

The new households were selected to reflect a combination of housing intervention and health need. The varying degree of housing intervention(s) carried out by Healthy Housing follows in Table 16.

Table 16 Intervention type by suburb

	Wiri	Otara	Mangere
Extension	4	4	5
Transfer into extended home	3	2	4
Generic Modernisation	1	1	1
Specific Modernisation	1	1	1
Part Transfer	2	2	2
Insulation/ventilation only	1	3	4
Resolved overcrowding/extra family moved out			1
Unresolved overcrowding		1	1

The level of health need as determined by the visiting public health nurse is presented in Table 17. In addition, households were selected because of their significance to the area coordinators and public health nurses—some of these households specifically selected because they were perceived by the Healthy Housing team as having had a negative experience.

Table 17 Complexity of health assessment by suburb

	Wiri	Otara	Mangere
Complex needs	4	4	4
Disability		1	1
Respiratory disease	1	1	1
Health and/or social issues	4	5	6

In 2006, ten new interviewers were trained for the Healthy Housing household interviewer role. They were recruited for their ability to communicate in and their awareness of Samoan, Tongan, Maori, Niuean, Nauru, and Rarotongan cultures. As much as possible, interviewers were matched by ethnicity to households; where that was not possible, an interpreting service was utilised.

Potential participant households from Mangere were contacted by the Healthy Housing team, who explained the evaluation research and procedure. Verbal consent to have interviewers call was obtained, along with an indication of suitable times to visit. Interview staff from the evaluation team made contact with households by phone, and arranged the first interview. A generous time allowance was made in the first interview for explanation of the interview and research, with discussion of the participant information sheet and written consent procedure. The interview did not proceed until written consent was obtained, and this included an extra option to consent to tape-recording of the interview for later transcription.

For households from Otara and Wiri, interview staff from the evaluation team made contact with the households by phone to make an appointment for the second round of interviews. Where possible, the same interviewer was used for the second round of interviews in a household.

The semi-structured interviews of 45 minutes to 1 hour were carried out with participating households, using trained interviewers selected for their experience and cultural knowledge to develop relationships with differing ethnicities. These interviews reveal both live experience and empirical information that has been compared and contrasted between the case studies (Bernard, 2002). The interviewers' observations of housekeeping, house usage, and responses to the interventions were also reported on each of the three visits, and these set the context for the subsequent analysis of interview data. More than one interview was often necessary to enable interviewers to build up a rapport with household members—a vital factor in gathering sufficient depth and discussion during the interview. A semi-structured interview process ensured key questions were addressed in the discussion, while allowing for reflection and elaboration by household members. These captured a range of participant experiences, expectations, values, and behaviours in a meaningful and appropriate way, while allowing for unforeseen issues and themes to be included. It also means that the data collected is at once comparable (through the use of common themes and questions), but also fluid enough to capture unique experiences.

Database information

Information collected at the joint assessment was provided in an anonymized form to the evaluation by the project manager from Counties Manukau DHB. This information included demographic data, occupancy status, services in the home (power, phone, heating, fridge, and washing machine), housing conditions (mould, damp, repairs needed, fencing status), medical conditions, and health service usage.

Specific evaluation queries about housing intervention types, meningococcal risk scores, and occupancy changes in participating households were forwarded to the Healthy Housing coordinator and relevant details were provided from the RENTEL data at Housing New Zealand.

The RENTEL report (Laing, Bernacchi, Baker, & McDonald, 2006) and the 2006 Counties Manukau DHB presentation (Jackson, Woolston, & Papa, 2006) about hospitalisation reductions were valuable sources of background information.

Analysis

The provider interview data has been analysed using the general inductive method, with the aid of NVIVO software for qualitative data analysis (QSR International, 1999-2002). Key themes have been summarised, and stories from the providers captured to retain the

depth of meaning for the interviewee. The results of this part of the analysis are presented in chapter two of this report.

The household interviews allowed findings to emerge through common and significant themes identified from interview data (Thomas, 2003). Analysis was led both by research questions and by additional themes that arose in the interview content.

The case study data was analysed using two different reference points:

1. Suburb
2. Time from initial intervention

The following table illustrates how recently the interviews were undertaken in comparison to the date of the joint assessment. Table 16 shows that, of 24 households who had a first interview within two years of the joint assessment occurring, four have gone on to have a second interview, and 16 more are expected to have a second interview in 2007.

Table 18 Comparison of time since joint assessment and interviews

	<1 year since joint assessment	1–<2 years since joint assessment	2–<3 years since joint assessment	3–<4 years since joint assessment	4–<5 years since joint assessment	5+ years since joint assessment
1st interview undertaken	1	24	12	8		
2nd interview undertaken			4	10	6	
Possible interview in 2007		*1*	*16*	*4*	*9*	*5*

The year one outcomes evaluation raised a number of themes that needed to be explored in this and subsequent phases of the evaluation. These themes are listed in the following table.

Table 19 Variables for comparisons

Provider Journey Year 1–3	**Participant Journey Year 1–3**	**System Journey Year 1–3**
Perception of success	Obstacles	Inter - agency collaboration
Reason for success	Reasons for obstacles	Knowledge base
Perceptions of obstacles	Success outcomes	Attitude
Reasons for obstacles	Reason for success	Awareness
Programme sustainability	Sustainability of effect	
Sustainability of effects		
Organisational development		

Programme fidelity programme adaptation		

Information from the providers was analysed keeping in mind the ‘proximity’ of the providers to the programme. The project manager for Healthy Housing is considered to have a very close proximity; where as a member of an organisation such as Work and Income is considered to have a more distant perspective.

Reporting process

Initial analyses of the year two outcomes were presented to Healthy Housing management and invited policy and planning personnel at a workshop. The resulting discussion about the findings was used to guide the development of the report, as did an evaluation symposium about Healthy Housing subsequently run by the evaluation team. Jim Dunn, an international expert in housing, critiqued and reflected on the programme and the evaluation.

Ethical considerations

When conducting any kind of research, especially research involving human participants, it is crucial to ensure that the research project is carried out in such a way as to ensure the safety and wellbeing of all of those involved, and to ensure participants can give freely derived informed consent.

This research involves, among others, people who are tenants of Housing New Zealand. Although households have agreed to be involved in housing research in general terms, it was particularly important, given the power imbalance in a landlord-tenant relationship, that an independent ethics committee review this case study evaluation. Those invited to participate needed to be made fully aware that their consent to take part in this particular research is voluntary and will not affect their tenancy, nor will they be identifiable in any report. Ethical approval for this study and corresponding documentation (participant information sheets and consent forms) was therefore sought, and has been granted by the Northern X Regional Ethics Committee.

Appendix B: Household Interview Schedules

New Household: High Level Intervention Household Interview	New House: Low Level Intervention Household Interview
Background Information 1. Age and gender of interviewee 2. How long have you lived here? 3. Where did you live before here? 4. Are you in paid work at the moment? What does that involve? Are there other unpaid, voluntary activities that occupy you? 5. How many children usually live in the household? 6. Who else usually lives in the household? 7. What gender/age are they? 8. What do they do? 9. How are they related to you? 10. Can you describe the main cultural connections of people living here?	**Background Information** 1. Age and gender of interviewee 2. How long have you lived here? 3. Where did you live before here? 4. Are you in paid work at the moment? What does that involve? Are there other unpaid, voluntary activities that occupy you? 5. How many children usually live in the household? 6. Who else usually lives in the household? 7. What gender/age are they? 8. What do they do? 9. How are they related to you? 10. Can you describe the main cultural connections of people living here?
Healthy Housing Intervention 1. How did you hear about the Healthy Housing programme, what/who led to your involvement in the programme? 2. When was this? 3. Describe the changes to the house? 4. Which groups were involved in the planning changes to your housing? e.g. public health nurse, occupational therapist. The main participants in planning house changes are the area coordinators, Special Programmes unit, architects and maybe contractors. These should probably be added to the list. 5. Where you involved in the planning of changes? Describe 6. What were your needs/priorities during the planning? (e.g., access to house, space, school or public transport proximity) 7. Did you move out during renovations? If so, describe (how was this managed, suitability of temporary accommodation, how long for) 8. How long did it take for the changes to be completed?	**Healthy Housing Intervention** 1. Explain the changes that have taken place in your home. 2. How/when did the process begin? 3. Why were the changes made?
	House management In your household who is the person who has the main responsibility for looking after the house? Describe why this person takes this role What are the things that this person has to do?
Health Management 1. In your household, is there a person who has the main responsibility for everyone's health? 2. Describe why this person takes that role? 3. Who requires the most care in the household? Why? 4. Can you describe/tell me about it? 5. How has the Healthy Housing programme affected the situation with this person? Can you describe any changes?	**Health Management** 1. In your household, who is the person who has the main responsibility for everyone's health? 2. Describe why this person takes that role? 3. Who requires the most care in the household? Why? 4. Can you describe/tell me about it? 5. How has the Healthy Housing intervention affected the situation with this person? Describe any changes?
Whanau/family wellbeing (since Healthy Housing) 1. Before the Healthy Housing intervention, what was the health of the household like? Can you give examples of the sort of health conditions in the household? 2. Have you noticed changes in the health of the people living here since the Healthy Housing	**Whanau/family wellbeing** (since Healthy Housing) 1. Before the Healthy Housing intervention, what was the health of the household like? Can you give examples of the sort of health conditions in the household? 2. Have you noticed changes in the health of the people living here since the intervention? If so, describe.

New Household: High Level Intervention Household Interview	New House: Low Level Intervention Household Interview
intervention? If so, describe. 3. Do you think these health changes are connected to specific alterations in the home? (temperature, dampness, space etc) 4. Have you noticed changes in the way the family functions/gets along since the intervention? 5. Can you describe /give examples of how the household used to function? 6. Have there been any changes in relationships between household members? Describe, give examples. 7. Has there been any change in interaction with the wider whanau/community? (e.g. Changes in visiting patterns by others, school, preschool attendance, and hosting meetings for groups e.g. church) Describe 8. Has the Healthy Housing intervention led to any changes in the household relating to: -Employment describe any changes -Food Management/ preparation/ choice (ease and place of preparation e.g. more outside cooking) describe any changes -Transport (distances to work or school, changes in cost, use/accessibility of public transport) -- Describe any change -Recreation/Play (where it takes place, who with, type of activity) Describe for children and adults. **Locality/ Neighbourhood** (if household move involved) 1. Are members of the household happy with the change in locality/neighbourhood? Describe why. How do the neighbourhoods differ? 2. Do you have family/close friends within walking distance? Yes/No 3. Have they visited in the last month? How often? 4. Have visiting patterns changed since the Healthy Housing intervention? **Household Economy** 1. Has the Healthy Housing intervention led to any changes in your household financial situation? Yes/No Explain why 2. Have you found that you are more able to manage things like rent since the intervention? Explain why? 3. Has there been any change in electricity or other bills (such as gas)? Describe. 4. Has the Healthy Housing intervention led to changes in the management of the costs of running the home? **Healthcare** 1. Do you see people in healthcare more or less since the intervention? Can you describe the change in the use of health services? 2. Before the Healthy Housing, what contact did you have with people in healthcare? 3. What sort of health care people? How often? (daily, weekly, yearly?) 4. Do you see people in healthcare more or less since the intervention? Explain. 5. Have you noticed whether changes to the house have affected the number of accidents or injuries to people around the house? (falls, burns, slippery inside & out, involvement of vehicles, child safety in general). Can you describe/give examples? **Social, Educational and Cultural Outcomes** 1. How have the changes to the house affected the way the household lives together? Can you describe the changes in the social interaction of the household? 2. Has communal living space changed (living room, kitchen etc)? 3. Can you describe how the change affects household routines/activities?	3. Do you think these health changes are connected to specific alterations in the home? (Temperature, dampness, space etc) **Household Economy** 1. Has the Healthy Housing intervention led to any changes in your household financial situation? Describe. 2. Have you found that you are more able to manage things like rent since the intervention? Explain why? 3. Has there been any change in electricity or other bills (such as gas)? Describe. 4. Has Healthy Housing offered assistance in managing the costs of running the home? **Healthcare** 1. Do you see people in healthcare more or less since the Healthy Housing intervention? Can you describe the change in the use of health services? 2. Before the intervention, what contact did you have with people in healthcare? 3. What sort of health care people? How often? (daily, weekly, yearly?) 4. Do you see people in healthcare more or less since the intervention? Explain.

New Household: High Level Intervention Household Interview	New House: Low Level Intervention Household Interview
4. Has there been any change in the time that people spend at home Yes/no. Can you describe how the change affects the household? 5. Has there been any change in educational activities of the household since the Healthy Housing intervention? (children in school, job training courses) 6. Describe any changes 7. Has there been any change in the social life of the household since the intervention? (visiting friends, involvement in sports, cultural events). Describe ***Other*** 1. Has the Healthy Housing intervention led to any other changes in the household? Describe. 2. What other things would improve your living environment? (What is your wish list for the house?) 3. Can we contact you again some time in the future to study the effects of Healthy Housing in the long term?	**Other** 1. Has the Healthy Housing intervention led to any other changes in the household? Describe. 2. What other things would improve you living environment? (What is your wish list for the house?) 3. Can we contact you again some time in the future to study the effects of Healthy Housing in the long term?

Revisited House: High Level Intervention Household Interview	Revisited House: Low Level Intervention Household Interview
Background Information 1. Are you in paid work at the moment? What does that involve? Are there other unpaid, voluntary activities that occupy you? 3. Who currently lives in the house? 4. What gender/age are they? 5. What do they do? 6. How are they related to you? **Healthy Housing Intervention** 1. Recall/ recap on changes that were made. **House management** 1. Have there been any changes in who has the main responsibility for looking after the house? Describe why. 2. What are the things that this person has to do? **Health Management** 1. What recent health problems have affected the people living here? 2. Can you describe/tell me about it? 3. Who requires the most care in the household? Why? 4. How has the Healthy Housing intervention affected the situation with this person? Can you describe any changes? **Whanau/family wellbeing** 1. Have you noticed changes in the health of the people living here in the last year? If so, describe. 2. Do you think these health changes are connected to specific alterations in the home? (temperature, dampness, space etc) 3. Have you noticed changes in the way the family functions/gets along in the last year? 4. Can you describe /give examples of how the household used to function? 5. Have there been any changes in relationships between household members? Describe, give examples. 6. Has there been any change in interaction with the wider whanau/community? (e.g. Changes in visiting patterns by others, school, preschool attendance, and hosting meetings for groups e.g. church) Describe 7. In the last year has the Healthy Housing intervention led to any changes in the household relating to: -Employment describe any changes -Food Management/ preparation/ choice (ease and place of preparation e.g. more outside cooking) describe any changes -Transport (distances to work or school, changes in cost, use/accessibility of public transport) -- Describe any change -Recreation/Play (where it takes place, who with, type of activity) Describe for children and adults. **Healthcare** 1. Have you see people in healthcare more or less in the last year? Can you describe the change in the use of health services? 2. What sort of health care people? How often? (daily, weekly, yearly?) 3. Have you noticed whether changes to the house have affected the number of accidents or injuries to people around the house? (falls, burns, slippery inside & out, involvement of vehicles, child safety in general). Can you describe/give examples?	**Background Information** 1. Are you in paid work at the moment? What does that involve? Are there other unpaid, voluntary activities that occupy you? 2. Who currently lives in the house? 3. What gender/age are they? 4. What do they do? 5. How are they related to you? **Healthy Housing Intervention** 1. Have any changes occurred since our last visit in June? (Prompts: privacy, play, safety, education, community, church) **House management** 1. Have there been any changes in who has the main responsibility for looking after the house? Describe why. 2. What are the things that this person has to do? **Health Management** 1. What recent health problems have affected the people living here? 2. Can you describe/tell me about it? **Whanau/family wellbeing** (since Healthy Housing) 1. Have you noticed changes in the health of the people living here in the last year? If so, describe. 2. Do you think these health changes are connected to specific alterations in the home? (Temperature, dampness, space etc) **Healthcare** 1. Have you see people in healthcare more or less in the last year? Can you describe the change in the use of health services? 2. What sort of health care people? How often? (daily, weekly, yearly?)

Revisited House: High Level Intervention Household Interview	Revisited House: Low Level Intervention Household Interview
Locality/ Neighbourhood (if household move involved) 1. Are members of the household happy with the change in locality/neighbourhood? Describe why. How do the neighbourhoods differ? 2. Have visiting patterns changed since the Healthy Housing intervention? 3. Has there been any change in the social life of the household in the last year (visiting friends, involvement in sports, cultural events). Describe. **Household Economy** 1. Has the Healthy Housing intervention led to any ongoing changes in your household financial situation? Describe. (e.g. rent, electricity, running the household) **Social, Educational and Cultural Outcomes** 1. How have the changes to the house affected the way the household lives together? Can you describe the changes in the social interaction of the household? 2. Has communal living space changed (living room, kitchen etc)? 3. Has there been any ongoing changes in the time that people spend at home Yes/no. Can you describe how the change affects the household? 4. Has there been any change in educational activities of the household in the last year? (children in school, job training courses) 5. Describe any changes **Other** 1. Has the Healthy Housing intervention led to any other changes in the household? Describe. 2. What information, skills and resources help you maintain your house (e.g. have you been given any information/ education sessions about heating, mould, ventilation etc.)? 3. What other things would improve the way you live (health, social)? (What is your wish list for the house?) **Sustainability** 1. Think of another household where the Healthy Housing programme could make a difference. 2. Why would you choose them? 3. What kind of changes would you make to their house? 4. What effect would it have? 5. What is the best thing about the programme for the community? Can you describe that for me? 6. If you had to say one thing about the programme that was the very best thing that has happened, what would that be? **Follow-up** 1. Can we contact you again in a year to study the effects of Healthy Housing in the long term?	**Household Economy** 1. Has the Healthy Housing intervention led to any ongoing changes in your household financial situation? Describe. (e.g. rent, electricity, running the household) **Other** 1. Has the Healthy Housing intervention led to any other changes in the household? Describe. 2. What information, skills and resources help you maintain your house (e.g. have you been given any information/ education sessions about heating, mould, ventilation etc.)? 3. What other things would improve the way you live (health, social)? (What is your wish list for the house?) **Sustainability** 1. Think of another household where the Healthy Housing programme could make a difference. 2. Why would you choose them? 3. What kind of changes would you make to their house? 4. What effect would it have? 5. What is the best thing about the programme for the community? Can you describe that for me? 6. If you had to say one thing about the programme that was the very best thing that has happened, what would that be? **Follow-up** 1. Can we contact you again in a year to study the effects of Healthy Housing in the long term?

Appendix C: Provider interviews for non Healthy Housing providers

Part 1

Can you explain what you know about the Healthy Housing programme?

How has Healthy Housing used your service/ agency?

Could you describe the impact that Healthy Housing has had on your service/agency?

How do you receive referrals/connect with Healthy Housing?

Could you provide an example of collaboration?

Can you describe any barriers to working with the programme?

Do you believe that this programme will continue to be supported Why?

Part 2

Could you describe your perception of the outcomes for Healthy Housing?

What about for your service/agency, what have you gained?

Can you describe an incident about a family/household referred by Healthy Housing that you/ your agency have helped?

What worked well? Why?

What didn't work so well? Why?

What else was needed? Why?

Can you describe an incident about a family/ household referred by Healthy Housing that you/your agency were unable to assist?

What were the obstacles? Why?

What else was needed? Why?

Appendix D: Healthy Housing team provider interviews

Part 1

Have the interactions between Housing New Zealand and health changed over last year and how?

Could you describe the impact that Healthy Housing now has on your service?

Could you provide an example of collaboration?

Can you describe any barriers/risks?

Do you believe that this programme will continue to be supported Why?

What about for your service, what have you gained? Health data.

Could you describe your perception of current outcomes for the Healthy Housing programme?

Part 2

Can you describe an incident about a family/household that the public health nurses have helped?

What worked well? Why?

What didn’t work so well? Why?

What else was needed? Why?

Can you describe an incident about a family/household that the public health nurses were unable to help?

What were the obstacles? Why?

What else was needed? Why?

Appendix E: Comparison of year one and year two Evaluation Crosswalk questions

Year One Evaluation Cross walk Questions		Year Two Evaluation Cross walk Questions	
How does the state sector collaboration and efficiency impact on expected outcomes? What was the level of communication between agencies involved in Healthy Housing programme? What was the nature of the communication between various service providers and with their clients in considering decisions about house allocation? How do the various parties regard their experience as participants in Healthy Housing intervention; particularly the fairness and transparency of decision making? Has there been effective and efficient collaboration between the joint agencies to assess and meet the social and health needs of the occupants? How effectively did Housing New Zealand engage with the household?		**How does the state sector collaboration and efficiency impact on expected outcomes?** What was the level of communication between agencies involved in Healthy Housing programme? What connections with other agencies? What was the nature of the communication between various service providers and with their clients in considering decisions about house allocation? How do the various parties regard their experience as participants in Healthy Housing intervention; particularly the fairness and transparency of decision making? Has there been effective and efficient collaboration between the joint agencies to assess and meet the social and health needs of the households? How effectively did Housing New Zealand engage with the household? What contributes to sustainability of the intervention for households? What improvements/changes in your collaboration/interactions with Healthy Housing would you like to see happen?	New
What variables facilitated expected improvements in health and wellbeing of households? What is the reduction in the risk of housing-related health conditions, diseases and injuries? Is there an increase in the knowledge and behaviours that will minimise housing-related illness? Is there improved health for present Housing New Zealand households? What are the improvements in self assessed wellbeing? Does the household have, or have access to the knowledge, skills and resources to maintain a healthy living environment in the house? What is left behind that helps households to maintain the environment? How have the interventions influenced household functioning in regard to: privacy needs/ play, safety of small children /participation in community groups/ school attendance, homework, and interaction with their social network? How have the interventions affected household participation in community and society such as: Neighbourhood/ ethnic, religious/ school, community, sports groups /employment and education? How accurate are the Joint Assessments? How appropriate were the housing intervention(s)? How appropriate were the health/social intervention(s)?		**Which variables facilitated expected improvements in the health and wellbeing of households?** What is the reduction in the risk of housing-related health conditions, diseases and injuries? What increases are there in the knowledge and behaviours that will minimise housing-related illness? What is the extent of health improvements for the households? What is the extent of improvements in self assessed wellbeing? Does the household have, or have access to the knowledge, skills and resources to maintain a healthy living environment in the house? How have the interventions influenced household functioning in regard to: privacy/ play/ safety of small children/ participation in community groups/ school attendance/ homework/ interaction with their social / cultural network? How have the interventions affected household participation in community and society such as: neighbourhood/ ethnic/ religious/ school/ community/ school groups/ employment/ education? How appropriate were the housing intervention(s)? How appropriate were the health/social intervention(s)? How does the 'strengths-based solutions focus' philosophy contribute to the health and wellbeing of	

		households?	New
		How can housing interventions be improved/changed to increase the health and wellbeing of households?	New
		How can health/social interventions be improved/ changed to increase the health and wellbeing of households?	New
Which variables facilitated: An expected reduction of unmet housing needs? An improvement quality of housing? A reduction inequality of housing?		**Which variables facilitated: an expected reduction of unmet housing need/an improvement in the quality of housing?**	
What changes have been made in housing stock?			
Are the changes made to housing stock appropriate for the needs of the household (ie, according to financial, generational, social and cultural needs) within the constraints of Housing New Zealand's specifications?		Are the changes made to housing stock appropriate for the needs of the household (i.e. according to financial, generational, social and cultural needs) within the constraints of Housing New Zealand's specifications?	
What interventions occurred?		What housing interventions occurred?	
How satisfied was the household with these interventions?		How satisfied was the household with these interventions?	
Is the changed physical makeup of the house and grounds appropriate for the house composition?		Is the changed physical makeup of the house and grounds appropriate for the house composition?	
What is the meaning of this home (house and grounds) to the householders in the context of their past experiences, current and anticipated future needs?		What is the meaning of this home (house and grounds) to the householders in the context of their past experiences, current and anticipated future needs?	
What are the levels of comfort in the house such as temperature, noise, space, air quality (presence of dust, mould, provision for air movement)?		What are the levels of comfort in the house such as temperature, noise, space, air quality (presence of dust, mould, provision for air movement)?	
Have overcrowding issues been resolved in a way that is acceptable to the householders?		Have overcrowding issues been resolved in a way that is acceptable to the householders?	
Has housework altered significantly since the intervention (consider change in crowding, cleanliness of new additions, increase in space, house pride)?		Has housework altered significantly since the intervention (consider change in crowding, cleanliness of new additions, increase in space, house pride)?	
Has there been a change in rent/arrears/ability to pay rent/damage to home since the intervention?		What are the resources that will support the providers in sustaining positive results for households?	New
How successful is the allocation of Housing New Zealand's housing to applicants on basis of need?		Has there been a change in rent/arrears/ability to pay rent/damage to home since the intervention?	
Has there been effective use of Housing New Zealand's housing stock?			
		Has there been effective use of Housing New Zealand's housing stock?	
		How do housing interventions contribute to improvements in the quality of housing?	New
How sustainable is the Healthy Housing programme?		**How sustainable is the Healthy Housing intervention?**	
Does the intervention comply with Social Assessment System?		Does the intervention comply with Social Allocation System?	
What are the limitations on sustaining the results of the interventions?		What are the housing limitations on sustaining the results of the interventions?	
What are the resources that will support the household in sustaining positive results?		What are the resources that will support the household in sustaining positive results?	
What were the unexpected and unintended outcomes and consequences?		What were the unexpected and unintended outcomes and consequences?	New
		What effect does the programme have on the community?	New
		What are the health/social issues that are limitations on sustaining the results of the intervention?	New
		How does access to health and social services contribute to sustaining the effects of Healthy Housing intervention?	New

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