Sustainable Farm Families: Future directions
Sustainable Farm Families:
Future directions

by Susan Brumby, John Martin, Stuart Willder

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Foreword

Investing in the health and wellbeing of a workforce promotes a culture which values health, energy, productivity and a desire to be an active, satisfied and participatory member of the community. In farm family businesses, the effects of poor health, unhealthy lifestyle, working whilst ill, work life imbalance and climate variability impacts not just on the workplace but family, environment and community (Brumby et al. 2009).

In 2009, the Collaborative Partnership for Farming and Fishing Health and Safety provided funding to the National Centre for Farmer Health, and its collaborative partners to undertake the Sustainable Farm Families (SFF) Future Directions project and revisit the participants of the original Sustainable Farm Families projects within the broad acre, cotton and sugar industries covering Victoria, Southern New South Wales, Central and Southern Queensland and Eastern South Australia.

The Sustainable Farm Families (SFF) Future Directions program provided ongoing evidence-based information to support and inform future health, wellbeing and safety directions for Australia’s agricultural industries. It considered the results and hypothesis of the original SFF program (funded through the Joint Research Venture for Farm Health and Safety) which ran from 2003-2007.

Recognising that health is not just the responsibility of the health sector, SFF works with farmers, their families, industry, health services and universities to collaboratively address and improve the health (physical and mental) and safety of farm families. SFF does this through engaging with farm families as active learners where they commit to healthy living and safe working practices and through engaging the broader rural communities in learning and change.

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Craig Burns
Acting Managing Director
Rural Industries Research and Development Corporation
Acknowledgments

The completion of the Sustainable Farm Families Future Directions project has taken a great deal of time and effort from all involved. The most important people to recognise are those farm families who agreed to again participate and be involved. They played an integral part in the program and their dedication and good will to continue and contribute is to be commended.

Credit must be directed to the Farm and Fishing Health and Safety Program partners for their support and dedication to the promotion of rural and farmer health. Appreciation to the Western District Health Service board and its Chief Executive Officer – Jim Fletcher for organisational support and his strategic vision in backing the Sustainable Farm Families – Future Directions project.

Acknowledgement is made to our collaborative partners the Cotton Research and Development Corporation (CRDC), Sugar Research and Development Corporation, Deakin University School of Medicine and La Trobe University’s Centre for Sustainable Regional Communities for their encouragement and dedication in improving the health, wellbeing and safety of farm families.

The Sustainable Farm Families Future Directions project brought together a team of primary producers, health professionals, industry representatives and university academics that were committed to making the health of rural farm families a priority. We would like to thank personally all members for their dedication, patience and assistance in making the project the catalyst of new research and evidence based practice that will assist in making the health of rural farm families a priority in Australia. In particular, we appreciate the input and support of Roz Lawson, Amy Hutchins, Dr Ananda Chandrasekara, Heidi Lindner, Tracey Hatherall, Hannah Simkin and staff at the National Centre for Farmer Health.

The Sustainable Farm Families team would also like to acknowledge formally the dedication and efforts made by individuals who were integral in the development, dissemination and collaboration with the project sites.
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Mr Allan Mayfield, Farm Management 500 (Clare)
Mr Jim Shovelton, Farm Management 500 (Benalla)
Ms Delwyn Seebeck, Victorian Farmers Federation.
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
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<tr>
<td>ABARE</td>
<td>Australian Bureau of Agriculture and Resource Economics</td>
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<td>ABS</td>
<td>Australian Bureau of Statistics</td>
</tr>
<tr>
<td>AIHW</td>
<td>Australian Institute of Health and Welfare</td>
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<td>BMI</td>
<td>Body Mass Index</td>
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<tr>
<td>Cm</td>
<td>Centimetres</td>
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<td>CRDC</td>
<td>Cotton Research and Development Corporation</td>
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<tr>
<td>DAFF</td>
<td>Australian Government Department of Agriculture, Forestry and Fisheries</td>
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<tr>
<td>DHS</td>
<td>Department of Human Services</td>
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<tr>
<td>DPI</td>
<td>Department of Primary Industries</td>
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<tr>
<td>EC</td>
<td>Exceptional Circumstances</td>
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<tr>
<td>FM 500</td>
<td>Farm Management 500</td>
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<tr>
<td>ICAC</td>
<td>International Cotton Advisory Committee</td>
</tr>
<tr>
<td>Kg</td>
<td>Kilograms</td>
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<tr>
<td>M</td>
<td>Metres</td>
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<tr>
<td>NCFH</td>
<td>National Centre for Farmer Health</td>
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<td>NFF</td>
<td>National Farmers Federation</td>
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<tr>
<td>NHMRC</td>
<td>National Health and Medical Research Council</td>
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<tr>
<td>OH&amp;S</td>
<td>Occupational Health &amp; Safety</td>
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<tr>
<td>RIRDC</td>
<td>Rural Industries Research and Development Corporation</td>
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<td>SFF</td>
<td>Sustainable Farm Families</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
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<td>SRDC</td>
<td>Sugar Research and Development Corporation</td>
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<tr>
<td>VFF</td>
<td>Victorian Farmers Federation</td>
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<tr>
<td>WDHS</td>
<td>Western District Health Service</td>
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Executive Summary

What the report is about

The health and wellbeing of all Australians is pivotal for economic and social success of the nation. Current data reveals that the health status of people living in rural and remote populations is poorer than their metropolitan counterparts. Australian farmers produce almost 93% of Australia’s domestic food supply (DAFF 2008). In 2008/2009 they earned the country $32.1 billion from farm exports (ABARE 2009). However there is a lack of understanding of the specific health statistics of rural farming populations. The Australian Bureau of Statistics classification groups rural health populations on the basis of geographical location rather than by employment in agricultural industry or living on farms.

The Sustainable Farm Families (SFF) Future Directions program aims to fill this gap by providing ongoing evidence-based information and support to Australia’s agricultural industries. The goal of which is to gain insight into the health, wellbeing and safety of Australia’s rural farming populations. SFF Future Directions takes into account the results and hypothesis of the original SFF program (funded through the Joint Research Venture for Farm Health and Safety) which ran from 2003-2007.

This longitudinal study was designed to examine whether participating in the original SFF program aided farmers in their ability to improve their health, wellbeing and farm safety issues. It increases our understanding of what impacts farm family health and identifies measures to improve their health, wellbeing and safety. Many of the specific strategies to improve farm family health were provided by the farmers themselves.

Who is the report targeted at?

The report is targeted at those interested in the impact of health and wellbeing on farm families in rural and remote Australia. Farm families, the farming workforce and agricultural industries, especially those involved in policy and resource allocation decisions will definitely gain insight into the health and safety issues faced by farm families. Research bodies including universities, health services and agricultural industries will find the information useful in future planning to effectively service the needs of Australian agriculture. Policy makers and government agencies will find this report of value in developing better policy to improve farmers’ and rural health, and in allocating future funding for farming family populations. This report also gives the general reader a snapshot of the health status, needs and of the attitudes of rural farm families towards their health.

Where are the relevant industries located in Australia?

The agricultural industries involved in this longitudinal study were:

- Mixed grazing, wool production, cropping, and beef production with locations at Benalla, Hamilton, Swan Hill and Horsham in Victoria, and Clare in Eastern South Australia
- Cotton Production: Wee Waa in New South Wales and Dalby Southern Queensland
- Sugar Production: Ayr and Ingham in central Queensland

Broadacre

Broadacre farming is used to describe large scale farming and may be composed of mixed grazing, wool production, cropping, and beef production. According to the Australian Bureau of Statistics there are 135 996 farms in Australia, of which 120 941 farms are solely dedicated to agricultural production (ABS 2010a).
Spread across the inland south eastern and south western parts of Australia, the broadacre cropping industry is Australia’s number one agricultural export commodity accounting for 5028 million dollars (DAFF 2010). Australia’s major export markets for wheat in 2004-05 were Japan (2.7 million tonnes), Indonesia (2.7 million tonnes), China (1.9 million tonnes), Iraq (1.6 million tonnes), and Korea (1.2 million tonnes) (ABARE, 2006). It is estimated that there are 13 293 cropping farmers in Australia, operating on an average of 2056ha per farm (ABARE 2006).

In Australia there are 48 866 farms that produce beef cattle, producing 2.1 million tonnes of beef and veal each year (ABS 2010b). In 2009 Australia exported 927 000 tonnes of beef and veal, resulting in $4.3 billion for the Australian economy (DAFF 2010). The major export markets for beef and veal were Japan (38%), the United States of America (27%) and Korea (12%) (DAFF 2010). Furthermore, in 2009, Australian live cattle exports were worth $665.5 million, these were predominantly exported to Indonesia (72%), China (11%) and Israel (3%) (ABS 2010b).

The Australian sheep industry consists of both sheep production for wool and meat. Sheep meat has been responsible for injecting $2.492 billion annually into the Australian economy (ABS 2010c). The total wool production in Australia is 370 610 tonnes per year (ABARE 2009). According to ABARE Australia accounts for 67% of the world’s wool exports, making it the world’s dominant producer and exporter of wool (ABARE 2009). Current sheep numbers are at an all time low following drought (ABS 2011d).

**Sugar**

Processing of sugarcane into raw sugar and exporting is Australia’s sixth largest agricultural export. Australia is a low-cost producer and major exporter, with an annual production of 4.5 - 5 million tonnes of sugar (Canegrowers 2010). About 20% of the sugar industry’s production is sold on the domestic market. In 2008-2009 Australian sugar exported 3.3 million tonnes of sugar, generating $1.217 billion (ABARE 2009).

The industry is comprised of 3736 cane farm businesses that supply cane to 25 sugar mills across Australia (ABS 2010e). The state of Queensland has the highest production rate of raw sugar of 90%, while New South Wales accounted for the remaining 10%. In Australia the average size of a cane farm is 100 hectares, however there are some farms that do exceed 1000 hectares (Canegrowers 2010). During the season, the mills will crush an average of 10 000 tonnes of cane daily. To manage this workload, the sugar industry employs approximately 22 000 people (SRDC 2006).

Figure 1: Location of key sugar cane infrastructure in Australia (Canegrowers Australia 2010)
Cotton

Contributing $1.7 billion to the national economy, the cotton industry plays an important role in Australian agriculture (Cotton Australia 2009). With a reputation as a reliable supplier of high quality cotton on the world market, Australian cotton farms are generally owned and operated by farm families, whilst simultaneously growing other crops, grazing sheep for wool and meat and beef production (Cotton Australia 2011).

Two-thirds of Australia’s cotton is grown in New South Wales, Queensland producing the rest. Typically between 500 to 2000 hectares, Australian cotton farms are technologically sophisticated and mechanised (CRDC 2004). Their innovation is evident by the $1 billion generated per year from cotton exports. In 2006 - 2007 Australia yielded almost two and a half times the world average (747 kg/ha) of cotton, producing 1,792kg/ha. The next highest yielding countries were Brazil (1,338 kg/ha), Mexico (1,247 kg/ha) and China (1,246 kg/ha) (ICAC 2007). However, long term dryness and decreasing water supplies has meant that cotton production fell in the period of 2008 (Cotton Australia 2011).

![Cotton production regions within Australia (ABS 2010e)](image)

Drought and a changing climate

Following the 2006 drought, exceptional circumstances (EC) were declared across many parts of Australia and farmers with poor access to health services were predicted to be most affected (Fritze 2007). Living and working in a variable and changing climate was regarded as having potentially large impacts on farm family health, wellbeing and profitability. Notwithstanding areas in Far North Queensland, specifically Ayr and Ingham, were experiencing increases in rainfall and high category cyclones. By 2008, more than half of Australian farmers were eligible for EC funding. With one of the worst dry periods experienced in over fifty years many farmers felt the pressure of life on the land in an ever changing environment. Farming conditions were challenging for many farm families, and health, wellbeing and safety were being affected within the farming business.

![Trend in total rainfall 1960-2010 (Australian Bureau of Meteorology 2011), showing increasing dryness in southern Australia and increasing wetness in much of Queensland.](image)
Background

The Sustainable Farm Families (SFF) program was developed in 2002 to assess the health status of farm families, proving to be versatile across a range of agricultural industries. The evidence-based health promotion program that is SFF provided farm families with information on personal health, wellbeing and safety, while exploring attitudes associated with life on the land. Developed by Western District Health Service, Victoria, the program involved collaboration with health services, university, agricultural agencies, training bodies and farming communities to actively recruit and maintain farming men and women throughout the program.

The SFF program was well received by farm men and women with statistically significant reduction of clinical indicators (blood pressure, fasting blood cholesterol, body mass index and waist measurement) which correlate to major diseases including cardiovascular disease and type 2 diabetes (Brumby et al. 2008). The SFF program was also successfully extended into further agricultural industries across Australia including:

- Dairy farmers in 11 locations across Victoria with support from the Geoffrey Gardiner Foundation, WestVic Dairy and Department of Primary Industries.
- Remote farming populations in 9 locations in Area Remote Accessibility Index (ARIA) of 4 & 5 in WA, QLD, NT and NSW with support from the Commonwealth Department of Health and Aging
- Victorian Farmers in 50 exceptional circumstances locations with support from the Victorian Department of Primary Industries and Department Human Services
- North West Tasmanian farmers in one location with support by the University of Tasmania and a variety of joint funders

Upon completion of the original Sustainable Farm Families program an economic evaluation was undertaken by Boymal et al. (2007). It was their recommendation that a longitudinal study be undertaken 5 years post the original program, to ‘determine whether improvements in clinical indicators have been maintained and possibly gather evidence about morbidity and mortality’ (Boymal et al. 2007).

The SFF - Future Directions program aims to provide evidence-based information to support future directions for health promotion in Australia’s agricultural industries. There is little empirical evidence of the status of farm families health - we know that they have higher injuries rates (Fragar & Franklin 2000), and higher suicides rates than non-farmers (Stark et al. 2006). The RIRDC reports “Living Longer on the Land in Broadacre Agriculture” (Brumby et al. 2008) and “Living Longer on the Land - Case studies in the Sugar and Cotton Industries” (Brumby et al. 2008) reported that statistically significant improvements in clinical health indicators related to preventable chronic disease in addition to self reported changes in behaviour with the use of sun protection and protective equipment were evident.

The Sustainable Farm Families – Future Directions is a longitudinal study that focuses on extending our understanding of the initial SFF program implemented in the broadacre, sugar and cotton industries (2003-2006/7). This is important work informing and assisting in meeting National priorities of promoting health in our local communities (National Health and Hospitals Reform Commission 2009).

Aims/Objectives

The original SFF staff of registered nurses Susan Brumby, Stuart Willder, social scientist Professor John Martin and partners revisited the initial ten sites of Clare, Hamilton x 2, Swan Hill, Benalla, Horsham, Wee Waa, Dalby, Ayr and Ingham, comprising 191 participants.
The goal was to reassess and further research the farm family’s health, (physical and mental) and safety status. This process creates longitudinal evidence as the outcomes of participating in the SFF program and its effects on health, lifestyle and farming business decisions reassessed over time. With little empirical evidence available regarding the status of health of farm families, this project aims to build on the initial research objectives and to create resources to aid in gaining more long-term information regarding farm families.

Specifically, the objectives for the SFF Future Directions were to:

- reassess and physically evaluate current health status from the maximum number of original participants available
- reflect and discuss using contemporary models of social learning to explore how the SFF program has affected farming practices, including plans for the future due to climate variability
- consider the long term benefits (health gain, equity and empowerment) from the SFF program on the individual, the farm and the family
- evaluate knowledge change relating to the SFF program and update on latest evidence around health conditions
- assess attitudes and behaviours towards farm health and safety
- communicate long term findings of the SFF program to both participants and industry.

**Methods used**

The participants’ data files contained self-reported questionnaires and records from the previous health assessments. To maintain consistency, original forms were used rather than more recent versions. Changes to the background and demographic information held in the files were made using questionnaires adapted from the Victorian Department of Human Services Service Coordination Tools (DHS 2002) (Appendix 1).

All original participants (191*) were contacted personally by phone to invite them to participate in the extension of the SFF program. Participants were required to complete the following questionnaires prior to attending workshop four:

- Health Conditions (appendix 2) (DHS 2002)
- Health Behaviours (appendix 3) (DHS 2002)
- Farm Safety Survey (appendix 4)
- Health and Wellbeing – Kessler K 10 (appendix 5) (DHS 2002)
- Agri-chemicals usage (appendix 6)

*Original numbers were 192 however one participant was now deceased.

Participants were advised about the 10-hour fasting requirement four weeks prior to the date of the workshop and an additional reminder was sent a week before the workshop. Fasting measures such as total cholesterol and blood glucose were taken via a finger-prick test (capillary) at the beginning of the workshop. Systolic and diastolic blood pressures were measured by two methods, using a standard sphygmomanometer, as used in the original workshop, and an electronic automatic sphygmomanometer. To maintain consistency of the data, the same equipment as the previous workshop was used to measure clinical outcomes. Height, weight, waist and hip circumferences were
measured; while body mass index (BMI) was calculated using the formula: BMI = weight (kg)/height (m)² in line with the World Health Organisation (WHO 2006). Body fat percentage was measured using single beam Bioelectrical Impedance Analysis (BIA) Omron™ body fat monitors (Stewart et al. 1993).

Upon completion of their physical assessment, participants were again given their individual results to record in their SFF resource manual from the initial workshop. New physical assessment charts were securely stored in medical records at the NCFH office and entered electronically using SPSS version 17.0 for Windows (SPSS Inc. 2007). All data was de-identified to preserve the anonymity of the participants. Data was double entered and cross-checked to maintain accuracy of the data.

For the duration of the SFF program, statistical analysis was undertaken using both SPSS and Microsoft Excel, reflecting the comparison between commencement and completion of the SFF program. Stratification into “elevated” and “non-elevated” groups for repeated measures analysis and binary variables used cut-off values chosen based on SFF triggers for referrals to health professionals. These values were decided upon by the South West Healthcare Multidisciplinary Ethics Committee, and were within Australia’s National Health and Medical Research Council (NHMRC 2001), Diabetes Australia, and Heart Foundation (2002) guidelines. For or all calculations during this report, statistical significance was defined by p = 0.05.

Following completion of all workshops and collection of data, an independent qualitative evaluation was undertaken by Roberts Evaluation Pty Ltd to determine if the SFF program:

- altered the way participants think about their physical and mental health and safety
- influenced participants’ health and safety decisions in their daily lives
- impacted on participants’ resilience and the way they deal with change
- influenced the way that participants see their health in relation to their farm practices and productivity (Sison & Storey 2010).

Semi-structured interviews were conducted over the telephone. A randomly selected sample of 54 participants including both males and females, under and over 50 years of age contributed. Representative and geographically diverse participants from grains, cotton, sugar and grazing industries were randomly selected across four states.

**Results/key findings**

To maintain consistency, the original research team revisited the ten locations across Australia, corresponding to as close as possible with the same time of year when the previous workshops were held on the original program. Overall attendance at Workshop Four had a retention rate of 77.5% - comprising broadacre (84.25%), cotton and sugar (69.84%).

Attendance at Benalla, Hamilton 1 and Clare was encouraging with around 87% returning; the attendance at Wee Waa and Dalby was lower as several people were unable to attend due to flood conditions and state of emergency in February 2010 in southern Queensland.
Participant numbers at Swan Hill, Horsham and Hamilton 2 were also a little lower than anticipated although it must be remembered that people are travelling 1-2 hours to participate. There was a very good attendance at the Clare workshop in South Australia (86%). Participation at Ingham was lower (68%) while at Ayr attendance was 100%. If people were unable to attend provision where possible was made to collect the data and offer a health assessment to ensure completion of and collection of data.

Key outcomes from the SFF Future Directions project reveal:

- retention of knowledge gained since commencement through the education process
- overall improvement of the participants’ health through measurable indicators for those participants at risk
- improvement in farm safety throughout the program

Further this was confirmed by the independent evaluation carried out by Roberts Evaluation Pty Ltd. (Sison & Storey 2010). The evaluation revealed that the SFF program and the SFF Future Directions program had:

- a substantial impact on farm families involved – 97% of farmers reported increased knowledge of relevant health issues
- provided farm men and women with tools to make lifestyle change (96%)
- changed the way participants thought about their health – 74% felt the program had improved their confidence to manage their own health
- influenced health and safety in the farmers daily lives – 96% were now more aware of safety on their farms.
- impacted on participants’ ability to adapt to change and become more resilient – 43% had increased their ability to change.

Further economic evaluation undertaken by Chudleigh, Simpson & Lai (2012) confirmed the investment contributed to demonstrating the impact of the Sustainable Farm Families (SFF) approach to improving health and safety on farms with a benefit-cost ratio of 5.6 to 1.

**Implications for relevant stakeholders**

**Industry**

The implications of the SFF Future Directions project for Australian agriculture industries are significant. The SFF Future Directions program provided insight for industry leaders into how farmers are coping over an extended period of time. With very little data regarding the health and wellbeing of their industry constituents, this project has the potential for industry to theorise what their future workforce will be like and the implications this may have on that industry. The various agricultural industries involved in the SFF Future Directions program benefited from the collaboration between health services and other industries in the development and implementation of this longitudinal study. Continuing industry involvement from the broadacre, cotton and sugar industries has been imperative to the coordination and success of this project.
Farming Communities

Community involvement has generated the desire for programs beyond the present funding timeframes and encouraged future program development by other agricultural industry and health services. Positive community response has seen the initial program receive major awards in 2005 (Victorian Public Healthcare Award for Excellence in Consumer Involvement in their Own Care), 2006 (Public Health Award for Excellence in Innovation), 2007 (Victorian Healthcare Association – Initiative in Population Health), 2009 (Australia Pacific Extension Network award for Excellence in Extension) the initiation of farm work safe workshops, additional funds for health and wellbeing grants and general stores and supermarkets changing the foods they stock for healthier choices. All of these constitute part of the benefits of SFF to participating communities. Importantly farm men and women returned and remained committed to improving their health, wellbeing and safety and felt that they had ‘become players’ in broader health discussions.

Policy Makers

The SFF research has seen an emerging interest from government and policy makers gaining more understanding about farming health, wellbeing and the future of the family farm enterprise. This has resulted in additional funding to expand the action research, number of participants and training opportunities. The involvement of the Commonwealth Department of Health and Ageing, Geoffrey Gardiner Dairy Foundation, Victorian Department of Primary Industries, Victorian Farmers Federation, WestVic Dairy, Victorian Department of Human Services and more recently the Department of Attorney General and Workplace in Queensland, has generated a broader cross-section of institutions interested in the state of farm family health, together with training an increasing number of health and industry professionals (International Council of Nurses 2009). Additionally it has been recommended as an initiative by the Western Australian farm inputs task force 2008 (2009). There has also been interest from international communities with papers presented at Public Health and Rural Ecosystem conference Canada (Brumby & Smith 2009) and papers published in international journals.

Rural Workforce (agricultural and health)

The availability of a suitably skilled workforce is essential to sustain effective agricultural systems into the future. In achieving this goal, the central role that the agricultural workforce plays in the delivery of high quality commodities is recognised. As with many workforce sectors, the agricultural sector is facing pressures to match its existing and future workforce supply to the demand expressed for services performed by skilled agri-professionals and farmers. This is a particularly challenging in a rural environment where a number of factors have significant impacts on successful workforce recruitment and retention. Importantly health crosses boundaries and is not just the premise of the agricultural industry but also the health sector and the broader community at large.

Others

Interest in SFF programs has been generated with key collaborative industry and sector partners coming together to continue the development of the SFF initiatives to improve the health, wellbeing and safety of farm families. This positive response from the wider Australian agricultural industry has been a key outcome for the SFF program. It is remarkable that a small rural health service has been able to draw on its grounded experience and continue to develop this initiative to the stage where it now has a prominent national and international focus.
**Recommendations**

There are many audiences who will have interest in this research. It includes policy makers such as Minister for Agriculture and Minister for Health at both state and Federal levels. Different agricultural industries and stakeholders such as farm lobby groups, industry groups and farm men and women who can take action to further develop the SFF approach.

Key recommendations from this project are:

1. National evidence based program to improve farmer health, wellbeing and safety is required. The Australian Government take leadership in generating a national commitment to farmer health, wellbeing and safety.

2. Include farmer health in regional strategic plans and health service plans as these plans create a future for the regions. It is important that reduced farmer health is not normalised as a by product of prosperous agricultural communities.

3. A partnership ethos is essential to the ongoing success of the SFF project. Continuation of the SFF project will largely depend on the partnerships arrangements established by key players, especially rural and regional health services, agricultural industry groups, universities and a whole of government approach.

4. An evidence-based approach is essential. Farmers returned to the SFF program over five years because they were aware of their personal health and wellbeing, and safety risks and how it relates to the likelihood of their future health status and farming ability.

5. Leadership, research and development and institutional support for a national SFF project. In order to create the opportunity for farmers across Australia to participate in a SFF program it is recommended that ministers for agriculture, health and regional development in all Australian governments (Federal and state) be informed of the benefits of farmer participation in an SFF program. And that these ministers be asked to investigate the funding SFF programs for farmers in their respective jurisdictions, ideally in partnership, but also independently. It is also recommended that all Australian agricultural industries consider sponsoring a SFF program for their farmer members, across Australia.
Introduction

There is a lack of understanding of the specific health statistics of rural farming populations. Current data reveals that the health status of people living in rural and remote populations is poorer than their metropolitan counterparts (AIHW 2010). The Australian Bureau of Statistics classification groups rural health populations on the basis of geographical location rather than by employment in agricultural industry, making it difficult to compare farmer health and wellbeing with the rural population very difficult.

Thus while the data is incomplete, sufficient evidence has become available that indicates the health of farm families is at risk and likely to be worsening. The importance of a collaborative effort between governments in Australia to address the health issues of Australians living in rural and remote areas was listed on the National Rural Health conference recommendations of 2011 (NRHA 2011). Presented to Minister Roxon, these recommendations target fisher and farmer health. Health practitioners now recognise that the social context plays an important role in determining health and occupational safety outcomes. Nowhere is this more relevant than for farm families. According to the National Farmers Federation (2006) 99% of Australian farms are family owned so that the workplace is also the home place. The family is a business unit, yet it also has all the emotional dynamics that can arise in the family context. Building human capacity in families, workplace and community is a major factor in addressing the health, illness, injury and harmonious community relationships (Doyle et al. 2006) and is seen as pivotal to the maintenance of mental health in rural communities, yet it also has been eroded by recent changes to rural life and adverse climatic conditions (Commonwealth Department of Health and Aged Care 2000; Fragar et al. 2007).

Investing in the health and wellbeing of a workforce promotes a culture which values health, energy, productivity and a desire to be an active, satisfied and participatory member of the community. In farm family businesses, the effects of poor health, poor lifestyle choices, undertaking work practices whilst ill, work life imbalance and more recently climate variability impacts not just on the workplace but family, environment and community (Brumby 2009). The Sustainable Farm Families project sets out to integrate key farmer issues with mainstream rural research, farm management analysis and quality assurance programs and in many ways fulfils the recently endorsed Hamilton Charter for Farmer Health (NCFH 2011).

The Sustainable Farm Families (SFF) Future Directions program provides ongoing evidence-based information to support and inform future health, wellbeing and safety directions for Australia’s agricultural industries. It aims to consider the initial results and hypothesis of the original SFF (funded through the Joint Research Venture for Farm Health and Safety) program which ran from 2003-2007, involving 128 farming men and women from three states over three years and the sugar and cotton program which ran for two years in NSW and QLD involving 63 participants.

The original SFF program has been recognised as innovative, producing statistically significant changes in risk factors for chronic disease and changes in health and safety behaviours. Due to its success and positive engagement with farm men and women it has had funding extended through a variety of industries, philanthropic organisations and government and over 2380 participants have been engaged with SFF programs including rural health and agricultural professionals that have undertaken SFF training across Australia. Revisiting the original 191 participants provided the opportunity to understand the longer term impacts of SFF 5-6 years post commencement.

Figure 5 outlines the programs that have been undertaken since 2004. Highlighted in green are the Broadacre and Cotton and Sugar SFF programs which have completed the longitudinal study SFF Future Directions. Highlighted in mauve is the Dairy program which is being revisited by the SFF team 5 years after their original program completed.
The sustainability impacts of SFF Future Directions relies on the ability to retain a healthy, productive workforce and farm family unit that is capable and able to remain farming, contributing to rural communities and able to implement environmental and ecological schemes if required. We are not able to hypothesise if farm men and women who have undertaken the SFF program have become more ecologically responsible although this could be incorporated into a survey instrument as part of future programs. Early work by Housome. (2006) illustrates that good health and well-being does enhance the uptake and adoption of agri - environmental schemes which contribute to a sustainable rural community. Further we do know that previous SFF participants, on the basis of discovering chronic health conditions, have made the decision to transition to off farm and to off farm work.

<table>
<thead>
<tr>
<th>Program name</th>
<th>Program state date</th>
<th>Program end date</th>
<th>Number of programs</th>
<th>Number of participants</th>
<th>Funding Agency</th>
</tr>
</thead>
<tbody>
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<td>Broadacre</td>
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<td>128</td>
<td>Rural Industries Research and Development Corporation (RIRDC) - Joint Venture for Farm Health and Safety</td>
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<tr>
<td>Dairy</td>
<td>2005</td>
<td>2007</td>
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<td>210</td>
<td>Geoffrey Gardiner Dairy Foundation, WestVic Dairy, Victorian Department of Primary Industries, United Dairy farmers of Victoria (in kind)</td>
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<td>Cotton and sugar</td>
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<td>2007</td>
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<td>RIRDC - Joint Venture for Farm Health and Safety</td>
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<tr>
<td>Rural and remote</td>
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<td>2008</td>
<td>9</td>
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<td>Commonwealth Department of Health and Ageing</td>
</tr>
<tr>
<td>Train the Trainer Program</td>
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<td>2009</td>
<td>9</td>
<td>143</td>
<td>Victorian Department of Human Services, and others</td>
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<tr>
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<td>2009</td>
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<td>Victorian Department of Primary Industries</td>
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<tr>
<td>Department of Primary Industries - Health and Wellbeing of Farm Families in a Climate of Change</td>
<td>2008</td>
<td>2012</td>
<td>25</td>
<td>397</td>
<td>Victorian Department of Primary Industries</td>
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<td>Tasmania</td>
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<td>2010</td>
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<td>Tasmanian Department of Human Services, and others</td>
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<td>Hamilton Western Australia</td>
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<td>2010</td>
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<td>16</td>
<td>Western District Health Service Combined Universities Centre for Rural Health, Geraldton</td>
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<td>Queensland - Department of Justice</td>
<td>2010</td>
<td>2011</td>
<td>4</td>
<td>60</td>
<td>Queensland Department of Justice and Attorney-General, Workplace Health and Safety</td>
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<tr>
<td>Bushfire recovery</td>
<td>2010</td>
<td>2011</td>
<td>1</td>
<td>13</td>
<td>North East Valley Division of General Practice - Commonwealth funding and philanthropic</td>
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</tbody>
</table>

Figure 5: Summary of the Sustainable Farm Families program’s history (Victorian Auditor-General’s Report 2010)
Objectives

Sustainable Farm Families - Future Directions aimed to extend the understanding of the initial SFF program implemented in the broadacre industry between the years 2003-2006 and the cotton and sugar industries between the years 2004-2005, in a longitudinal study. It aimed to consider the initial results and hypothesis of the original SFF program to reassess and further investigate farm family’s health and wellbeing.

Objectives of the original project:
• to consider the long term benefits (health gain, equity and empowerment) from the SFF program on the individual, the farm, and the family
• to measure and evaluate if clinical improvements have been maintained and to gather evidence about their morbidity or mortality
• to evaluate the acquired skills, knowledge and change in behaviour associated with completing the first program
• to communicate project findings to both participants and industry.

The original objectives have been reported against in ‘Living Longer on the Land – SFF in Broadacre Agriculture’ (Brumby et al. 2008) and ‘Living Longer on the Land – SFF Building and Extending our Future’ (Brumby et al. 2008). Key strategies employed to achieve these objectives included a training program delivered to farm families that discussed health, wellbeing, safety and injury in rural and farming populations, individual health assessments and assistance in formulating an individual improvement plan. This project was seen to complement farming industry initiatives relating to farming occupational health and safety, consistent with the assumption that as a farmer’s health and wellbeing is enhanced, OH&S incidents are reduced.

The hypothesis guiding this research was that there is a relationship between farm family health, the incidence of farm related accidents and farm business sustainability.

Specifically, the objectives for the SFF Future Directions program were to:
• reassess and physically evaluate current health status from the maximum number of original participants available
• use contemporary models of social learning to explore how the SFF program has affected farming practices, including plans for the future due to climate variability
• consider the long term benefits (health gain, equity and empowerment) from the SFF program on the individual, the farm and the family
• evaluate retained knowledge relating to SFF program and update on latest evidence around health conditions
• assess attitudes and behaviours towards farm health and safety
• communicate long term findings of SFF program to both participants and industry.
Methodology

The framework underpinning this project is based on the assumption that a farmer’s health has a four pronged impact on the farmer themselves, the health of their family unit, their farm and ultimately the local community. It is important to note that most farms in Australia are still family owned and operated (NFF 2006), with health, wellbeing and safety having a huge impact on family and workplace lives. This framework is summarised in Figure 6.

![Figure 6: Relationship showing impact of poor health and injury on farmers, families, farms and communities (Brumby 2005)](image)

The effectiveness of the Sustainable Farm Families (SFF) project in retaining any improvement in five clinical health indicators among previous SFF farm family members was analysed: body mass index, fasting blood glucose, total fasting cholesterol, blood pressure and waist circumference and to assess changes in attitude and practice to health, wellbeing and safety since commencing the SFF program in 2003 or 2006 for the Cotton and Sugar industries.

Ethics approval for the SFF Future Directions program was granted through the South West Health Care Multidisciplinary Ethics Committee (project no. 3/2003, 20/10/2009). Study integrity and compatibility was ensured by utilising the same set of evidence-based physical and mental health tools developed by the Department of Human Services (2002) that were used in the original SFF programs. These include demographics, health conditions, health behaviours and psychosocial profile. These tools were used in conjunction with the physical health assessment and the collection of anthropometric measurements detailed in the original submission.

Applying Ajzen and Fishbein’s (1980) Theory of Reasoned Action and Theory of Planned Behaviour, which posit that factors such as individual beliefs, social norms, and perceived power or control strongly influence behavioural intention and outcomes, the project designers originally hypothesised that active stakeholder engagement in health workshops and screenings would encourage motivation to comply and ultimately elicit measurable reductions in clinical risk factors (Brumby et al. 2006). The training and delivery model was based on Kolb’s (1984) adult learning model which allows participants to follow a systematic approach to identify and comprehend new information. Kolb’s model is based on the understanding that adults learn best when they reflect on their own experiences, acquire new concepts, and actively experiment with new ways of working, which become part of their experience base. This model is supported with videos, graphs, statistics, and reflection on one’s own farming or health practice.

A workshop approach (as used successfully in the original program) provided the opportunity for the SFF team to interact with participants in a variety of ways and take advantage of the small group discussion atmosphere. Behavioural changes were encouraged by engaging participants to share their values and beliefs in peer group discussions, presenting the consequences of poor health and safety behaviour, and providing ways to modify behaviour to produce positive health outcomes.
Figure 7: Kolb’s (1984) Adult Learning Model

Using Kolb’s experiential theory of adult learning, each workshop topic was introduced by using his iterative learning cycle. Kolb identified:

- **reflection and discussion** - what do I think about the issue?
- **conceptualisation and adding the facts** - What do these facts mean to my family, my farm business and me?
- **actions** - What will I decide to do with this new information?
- **personal experiences** – Becomes part of my personal experience.

For example, in the workshop on respiratory illness undertaken in SFF Future Directions, the participants are asked to address the following questions in small groups:

- what do you believe are the major causes of respiratory illness in rural Australia?
- what are the major respiratory hazards on your farm?
- how you can reduce your exposure to respiratory hazards and protect yourself?

In the action planning part of the workshop, program participants are invited to identify strategies that they could adopt to prevent themselves, their families or staff succumbing to the illness or injury.

**SFF Future Directions workshop**

Through the SFF Future Directions initiative the original SFF team revisited the original ten sites (191 participants) to reassess and further research the farm family’s health and wellbeing. This process provided longitudinal evidence on the outcomes of participating in the SFF program and its effects on health, lifestyle and farming business decisions.

The SFF Future Directions workshop involved:

- attendance at a 1 day workshop
- updated demographic information
- physical health assessments (height, weight, waist, blood pressure, fasting blood glucose, fasting total cholesterol, respiratory test, biometrical impedance)
• self report data collection through structured surveys (health, wellbeing, safety)
• focus group discussions using social learning methods
• farm safety survey – farm injury, use of protective equipment, use of helmets.
• pre and post knowledge assessment
• action planning and reflection to address behaviour, lifestyle and business decisions
• feedback to all participants of the results of the original SFF program
• workshop evaluation.

Workshops were held in original sites to assist previous SFF farmers in the region to return and support community capacity. Each workshop of the SFF– Future Directions included specific activities linked to the objectives of measuring SFF success in reducing clinical and safety risk factors and improving health. Workshops and assessments lasted one day and consisted of focus groups, physical assessments and presentation of updated pertinent rural and agricultural health and safety topics. Prior to delivery of any information, focus group discussions moderated by a social scientist provided the opportunity for farm men and women to talk in groups relating to the various issues affecting the links between family health and farm productivity. An agenda of the SFF Future Directions workshops may be found in appendix 7. To maintain consistency of the data across all of the 10 locations, the same agenda was implemented at all workshops and included workshops previously requested.

Focus groups

Focus groups were used throughout the workshops to assist the participating families to identify farm family health issues. As this project is as much about consciousness raising as it is about understanding relationships between farm family health, farm related accidents and farm sustainability, focus groups were an important vehicle for eliciting information and developing understanding.

Following the participants breakfast the first session at workshop 4 was a focus group that required reflecting on learnings from the previous workshops attended. It also gave the participants time to analyse what kind of impact the program has had on their farming family.

Areas for focus group discussion included:
• current attitudes to health, wellbeing and safety and had these changed since participating
• health behaviours that they had changed since participating in SFF
• what had changed since participating in SFF? Including the exchange of ideas about general farm health and safety
• had they made a significant family career and farming business decision as a result of participating in the SFF program
• had a changing climate impacted on their health, wellbeing or farm business decisions
• had they used or referred to the SFF participant manual since the original program?

Focus group responses were scribed and following completion of the workshop, later themed. This involved thematic analysis of the focus group data into common theme groups to see find the frequent responses.
Review action plans

Participants followed up the focus group session with a short individual presentation on how the program has influenced their farming family lives over the past five or so years. Participants were asked to share their action plans which they had developed during the SFF programs in their table groups, and then to tell their story back to whole group. They were asked to rate their results using a self rated scale of achievement (Appendix 8) as follows:

5 = Great results: way beyond my expectations
4 = Had an impact that others could see
3 = Moderate results
2 = Got started for a few weeks
1 = Thought about it
0 = Did absolutely nothing

This part of the discussion was always interesting, as it generated humour, some poignant moments, insight and participants were always very supportive of each other. These sessions required trust amongst participants, and were an important means of reinforcing many of the key themes of the workshop. Feedback was amusing at times, and also confronting when people shared incidents or learnings with each other. Examples where individuals had put into practice learnings from the original SFF program were made and this process made evident the effect of health and wellbeing on the individual, the family and the business.

Data gathering

Table 1 provides a summary of the data gathering schedule over the life of the project including SFF – Future Directions. This includes a listing of the surveys, the physical assessments, and activities such as the action plans and focus groups. The information from some of these previous workshops has been used in the preparation of this report.

<table>
<thead>
<tr>
<th>Sustainable Farm Families Methodological Tools</th>
<th>Workshop 1</th>
<th>Workshop 2*</th>
<th>Workshop 3*</th>
<th>SFF Future Directions Workshop 4</th>
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<td>1 day</td>
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<td>Health conditions and behaviours</td>
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<tr>
<td>Focus Groups</td>
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</tr>
</tbody>
</table>

Table 1: Table of methods used throughout the program - survey, assessment and action plans undertaken

* Please note the Cotton and Sugar industries did a combined workshop 2/3
Conclusion

Throughout this chapter the methods adopted to develop and govern the SFF Future Directions project have been outlined. To ensure that the workshop program has been designed and delivered in accord with the aims and objectives of the program, comprehensive research was undertaken on the theoretical and health issues of participation over time. Whilst data collection has been a key focus of the research, it has also been the requests of the farm men and women that have needed to be addressed and respected in designing the methodology. The farm men and women participating in both the SFF program and the SFF Future Directions program invested significant time as did the health and industry professionals. Conversely it is also noted that participants received many benefits from the participation.
1. Design and delivery of the SFF Future Directions Program

Development and recruitment

The development of the SFF project began at the WDHS in early 2002 when the concept of health, wellbeing and safety education delivery to farm families within agricultural industries and health services was investigated with Farm Management 500 (FM500) and the Victorian Farmers Federation. FM500 is a farm consultancy service which was interested in linking health indicators and farming business indicators together. From the prior experience of WDHS, Farm 500, and the VFF it was apparent that the need to focus on farmer health wellbeing, farm safety and the sustainability of the farm was very real, and there was an opportunity for innovative service delivery research.

The initial recruitment of the sugar participants involved industry publications such as SRDC Update and eNews, SRDC’s Regional Workshop series, and SRDC networks such as Women in Sugar groups and the regional Canegrowers companies.

The initial recruitment of the cotton participants for the combined SFF cotton involved email lists of the Australian Cotton Growers Research Association, the Cotton Growers Association and WinCot (Women in Cotton). Magazines such as the Australian Cotton grower’s magazine and CRDC spotlight had success stories placed in them. Radio interviews were also undertaken. Personal visits and presentations to groups were made in Wee Waa and Dalby by a CRDC coordinator.

Upon completion of the original program an economic evaluation of the SFF program was undertaken by Boymal et al (2007), recommending that a longitudinal study be performed 5 years post the original SFF program. It was apparent that the success of the initiative would depend on revisiting and strengthening partnerships between industry and the health service to re-recruit and contact original participants. This groundwork was essential to ensure the success of the project, providing a strong foundation for a collaborative approach which brought health, university, agriculture and industry representatives together again to improve the health of farming populations.

Once the SFF Future Directions program was approved, participants were contacted personally by phone by Western District Health Service. Industry leaders (Farm 500 facilitators, CRDC, SRDC and VFF) in the 10 locations also alerted past participants to the up and coming workshop. With such a positive response from the farmers regarding the original SFF program, participants were generally pleased to re-visit the SFF program, catching up with fellow participants and receiving a physical assessment again were some of the benefits expressed.

Reasons for participating

Following the original SFF project, participants were eager to come back for the SFF Future Directions workshop. Below are some of the reasons participants stated for coming back to the SFF Future Directions program:

- ‘physical assessment, provided an opportunity to see changes’
- ‘opportunity to see how the group as a whole was going’
- ‘provided participants with extra motivation to keep going with their good work’
- ‘participants could catch up with fellow participants they may not have seen for a long time’
- ‘to share their story and health journey.’
The learning process for program deliverers

The program deliverers (Brumby and Willder) are registered nurses with Masters in Health Management and Nursing respectively and both hold Certificate IV Workplace Training and Assessment qualifications. Working with LaTrobe’s Centre for Regional and Rural Development (Martin has a Masters Degree in Adult and Continuing Education and a Graduate Certificate in Higher Education), the WDHS developed the theoretical basis for the SFF Program. These skills were reused in designing the SFF Future Directions program.

Updating workshop and program design

The program designed by Brumby, Martin and Willder was intended to continue participant motivation as well as delivering appropriate health education and data collection. At the outset of each program the facilitators had to ensure all the appropriate paperwork had been returned by participants. Participants were again provided with their unique four digit identification code. These codes were used subsequently for all research data collection exercises, and for recording and analysis of data. The initial reception involved allocation of relevant paperwork.

Participants were taken individually for a brief physical assessment where standard measurements and blood sampling were captured and noted in the participant’s health record. Participants were then given a brief interpretation of their results. Following the initial assessment all participants were offered a healthy breakfast and given the opportunity to complete the pre-workshop knowledge questionnaire.

Figure 8: Enjoying a healthy breakfast and a chat

The first session was a structured focus group session where they were asked to reflect on the reason they were here and what they hoped to get out of the program. Data was collected at this point in the way of comments and reflective thoughts of participants to aid in the collation of data on the motivation of farm families to attend to family health issues. This served also as the ‘ice breaker’, leading into the more formal educative sessions which constituted the major part of the workshop. These are detailed, below.

Updating the resource manual

A resource manual was developed by a working group with expertise in adult learning, health promotion, social science, rural health and farming expertise consisting of representatives from the organisations in the partnership. The resource manuals were presented in 2 ring A 4 folders, tabbed, indexed, with a small number of colour plates and references. This approach offered a simple means of adding additional chapters in years 2, 3 and 4 as seen in Table 1.1.
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<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
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<td>Farm Health and Safety</td>
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<td>You are what you eat (Diet and Nutrition)</td>
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<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory Health</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

*Table 1.1: Resource manual chapters included over life of the SFF Future Directions project*

* Chapters used in year 2 when gender sessions swapped

Each chapter included sections where participants could write their thoughts and make notes on their assessments about their own risks, opportunities for change and action planning. The chapters were formatted following the workshop program with active learning logs throughout the manual. In the SFF Future Directions project participants were given a new chapter on Respiratory Health, a new physical assessment sheet and agrichemical handout.

For example, the chapter on ‘respiratory health’ had the following sections:

A. Introduction to topic and discussion
   In your table groups discuss: What do you believe are the major causes of respiratory illness in rural Australia? What are the major respiratory hazards on your farm?

B. The Facts
   Information about common respiratory illnesses in Australia and risks on farm.

C. Taking control
   In your table groups discuss: the ways in which you can reduce your exposure to respiratory hazards and protect yourself.
   Write them in your resource kit.

**One-on-one physical assessment**

One of the most successful facets of the project, and the most influential in gaining attendance again at SFF Future Directions, was the physical assessment process undertaken by all participants with the same nurse educator that participated in the original program. Whilst an assessment was undertaken at the beginning of the workshop a further one-on-one was not undertaken at the end and participants indicated in their evaluations that they would have liked this opportunity. Many of the participants felt that they wanted to discuss further what had happened since the original program had been completed.

As with the previous workshops, upon participants’ arrival, fasting blood samples were collected, and the initial physical assessments performed. This assessment process allowed participants to review and assess their physical health status over the years of the program, providing them with a better understanding of the status of their health over time.
The physical assessment process began on the morning of the program as the participants arrived. Participants were required to fast for a minimum of ten hours prior to the program to aid in the accuracy of the testing procedures. All the physical assessment testing equipment was internally quality tested with regular control testing and calibration procedures undertaken prior to each workshop. All participants were also remeasured each year with the same equipment to limit measurement inaccuracies. The initial screening included the following privately recorded tests (appendix 9):

- fasting total cholesterol and blood sugar using Accutrend and Medisense calibrated meters
- weight (kg) and height (m) measurement
- body mass index
- body fat percentage using hand held Omron Bodylogic meters
- blood pressure (both manual and automatic sphygmomanometers (Omron) )
- pulse and oxygen saturation using
- respiratory screening PIKO 6
- vision check
- waist and hip measurement using National Heart Foundation measurement guidelines.

This was a confidential process. The results were recorded in the participant’s health record, and in the participant’s resource manual for their own reference if desired. Although confidential, most participants openly shared this data with their table group and friends with no fear of retribution, identifying the SFF Future Directions program as a safe environment where they could be free to be open and honest about their thoughts and how they had gone over this period of time.

Revisiting the action plan reports

Following breakfast participants began with discussion of their learning from the previous workshops of the program, and how it may have influenced their farming family lives. Participants were given the opportunity to discuss the progress on their action plans in their table groups, to share their plans and results with the whole group, and to rate their results using the same scale of achievement that was used in the previous workshops. These sessions required substantial trust amongst participants, and were an important means of reinforcing many of the key themes of the workshop. Feedback was amusing at times, and also confronting when people shared significant incidents or learnings with each other.
Refresh, revisit and reinvigorated - revisit workshop 1, 2 and 3 learnings

To assist participants in refocusing their thoughts from the first, two or three workshops, the first presentation revisited the key learnings from previous years. This included state of rural health, cardiovascular disease, cancer, farm safety, stress, diabetes, diet and nutrition.

Respiratory health

Following feedback from participants at previous workshops respiratory health was added. Respiratory diseases are a common problem associated with farming, with irritants such as organic and inorganic dusts, fumes and pesticides extensively found in rural locations (Reed & Quartararo, 2006). This session was introduced in workshop 4 to assist farm families to consider the risks associated with living in such environments, and the impact it may have on health, wellbeing and safety. Participants considered and discussed ways in which their risks may be reduced while working with these harmful substances, such as engineering out problems or reducing exposure by using appropriate personal protective equipment. During the session, the SFF team worked to break down preconceived notions that the participants may have of ‘just continuing with current practices’.

Figure 11: Participant undergoing an experiential activity of what it can feel like to have breathing difficulties.

Agri-chemicals

This session was developed in response to high demand from the participants in the final evaluations of the previous SFF program. Participants recognized the dangers and the misnomers associated with chemical use and requested that SFF include agri-chemicals as a topic. It is envisaged that incorporating the agri-chemicals session will provide the farming participants with additional farm safe practices they can undertake. In particular, increased awareness of the need for improved handling practices, considering engineering options, and correct use and application of protective equipment.

Evaluation of the program

Upon completion of each session participants were asked to complete an evaluation of the session (appendix 10). This is important for quality control and to make sure that the correct and relevant information is being presented to the participants. This evaluation process asks participants what they felt could be improved, some of the responses are as followed (for results see appendix 11):

- ‘Information on aged population and how to deal with working at an older age’
- ‘Organised meetings outside of the SFF program for motivation’
- ‘Information on hearing and noise reduction’.
Pre and post knowledge

The pre and post-session questionnaire was used to evaluate the knowledge of all participants at the beginning and end of each workshop. Questions were asked about their basic understanding of disease processes, risk factors, rural health facts and lifestyle questions. The participants were asked to complete the questionnaire again at the beginning and the end of the workshop, to assess both retention since the first workshop and gains in their level of understanding and knowledge (appendix 12).

Testing the change in knowledge of the participants was assessed by fitting a generalised linear model with binomial distribution and logit link. Where this method failed to predict a result (converge), Fisher’s exact test was then used. All statistical analyses were performed using GenStat (GenStat Committee 2003).

Figure 12: Participants looking through their medical results
2. Identify and track farm family health indicators

In total, 191 participants (98 men and 93 women) completed the original Sustainable Farm Families program, spread across 10 programs in 9 separate locations. Programs were delivered in Victoria – Benalla, Hamilton x 2, Horsham, Swan Hill, South Australia – Clare, Queensland – Ayr, Ingham, Dalby, New South Wales – Wee Waa. This report comprises the original SFF broadacre project that ran from 2003-2006 made up of 3 workshops over 3 years and the joint venture of SFF cotton and sugar project that ran 3 workshops over 2 years from 2006-2008. As a result only baseline and workshop 4 (60-72 months later) will be referred to for the remainder of this report.

The purpose of this chapter is to present the results on farm families’ health indicators. This data as observed is an integral part of the program with participants regularly comparing their own data within social networks. Participants also found the de-identified presentation of group data given to each group at the conclusion of each year to be valuable in assessing a snapshot of their collective health.

Retention rates over the SFF program

The project was successful in retaining the involvement of participants, given the challenges and unpredictable demands of farming and the weather. Notwithstanding the perceived value of the program itself, retention was supported by the active role which the NCFH played in contacting participants to follow up on missing information, and in providing information through newsletters, the SFF website.

<table>
<thead>
<tr>
<th>Baseline Workshop 1 SFF Workshops</th>
<th>12 month Workshop 2 SFF Workshops</th>
<th>60-72 month Workshop 4 SFF Future Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>191 (100%)</td>
<td>170 (89%)</td>
<td>148 (77%)</td>
</tr>
</tbody>
</table>

Table 2.1: Participant attendance at the SFF workshops and SFF Future Directions

There are varying sample sizes for data as some participants returned paperwork for all workshops but may not have been able to attend the workshop. This table covers those participants for which full sets of data are available.
Baseline health indicators

Data was collected on key personal health indicators as outlined on pages 29 and 30 of this report (Table 2.2). These measures indicated that the aggregate health status of the participants. Of interest was the average age of the farmer participant at 47 years with a mean body mass index of 26.6, cholesterol and blood glucose levels were within normal limits.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of participants (n=191)</th>
<th>Percentage of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>98</td>
<td>51%</td>
</tr>
<tr>
<td>Female</td>
<td>93</td>
<td>49%</td>
</tr>
<tr>
<td>Born in Australia</td>
<td>177</td>
<td>93%</td>
</tr>
<tr>
<td>Current smoker</td>
<td>9</td>
<td>5%</td>
</tr>
<tr>
<td>Previous smoker</td>
<td>44</td>
<td>23%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>47.35</td>
<td>9.65</td>
</tr>
<tr>
<td>Body mass index (kg/m²)</td>
<td>26.60</td>
<td>4.24</td>
</tr>
<tr>
<td>Total cholesterol (mmol/L)</td>
<td>5.14</td>
<td>1.08</td>
</tr>
<tr>
<td>Waist circumference (cm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>97.16</td>
<td>9.95</td>
</tr>
<tr>
<td>females</td>
<td>85.68</td>
<td>11.21</td>
</tr>
<tr>
<td>Blood sugar level (mmol/L)</td>
<td>5.10</td>
<td>0.65</td>
</tr>
<tr>
<td>Blood pressure (systolic)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(mmHg)</td>
<td>126.8</td>
<td>15.37</td>
</tr>
<tr>
<td>Blood pressure (diastolic)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(mmHg)</td>
<td>79.83</td>
<td>8.85</td>
</tr>
</tbody>
</table>

Table 2.2: Average baseline characteristics of SFF Future Directions participants (n=191)

Participants were asked to report on specific health conditions they may have experienced. There were a broad range of conditions reported, although musculoskeletal, allergic disorders and cardiovascular conditions were clearly the most common as illustrated in Figure 12.
Figure 13: Distribution of self-reported health conditions in baseline workshop (n=191)

The category identified as ‘Other’ in figure 13 includes skin, eye, nutrition, psychosocial, neoplastic disorders, immunology, and infections and infestation conditions.

Comparison of data from workshop 1 to workshop 4

For the remainder of this results section only those for which we have baseline and workshop 4 data will be included.

The participants came from varying types of agriculture across the broadacre (mixed farming), cotton and sugar industries. Many of which were mixed farming operations and included two or three different enterprises such as wool and beef production in addition to cropping (Figure 14). Farm survey data was used to form an overall picture of the characteristics of the participants.

Figure 14: Type of agriculture undertaken by SFF Future Directions participants (n=147)

The type of agriculture undertaken by SFF participants between baseline and the Future Directions program 60-72 months later is depicted in Figure 14. Over this time period there has been an increase
in the percentage of farmers in the cattle and cropping industries. Sheep, sugar and cotton farming numbers have remained relatively the constant. Participants that identified themselves as ‘no longer farming’ was 8.2% and have been removed from this figure. The category identified as ‘Other’ in figure 14 includes poultry, viticulture, horses, rice, and dairy farming.

**Farmers’ perceptions of own health conditions**

Prior to the first workshop, participants were asked to self-assess their current health status (Table 2.3). Interestingly, there was an increase in the number of farm families reporting that their health was either ‘excellent/very good’ or ‘fair/poor’ than had been in the initial SFF program. Of these participants 86% of females and at least 92% of males rated their health status as good to very good or excellent in both baseline and Future Directions program.

![Table 2.3: Participants self-reported rating of health status from baseline to SFF Future Directions](image)

<table>
<thead>
<tr>
<th>Self-assessed health status</th>
<th>SFF Future Directions broadacre, sugar and cotton workshop 1 participantsa</th>
<th>SFF Future Directions 60-72 months later</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females (n=72)</td>
<td>Males (n=76)</td>
</tr>
<tr>
<td>Excellent/Very Good</td>
<td>47.2% (34)</td>
<td>44.7% (34)</td>
</tr>
<tr>
<td>Good</td>
<td>40.3% (29)</td>
<td>50.0% (38)</td>
</tr>
<tr>
<td>Fair/Poor</td>
<td>12.5% (9)</td>
<td>5.3% (4)</td>
</tr>
</tbody>
</table>

* SFF participants include people 19 years and over

A high proportion of the original SFF participants reported a very mild incidence of pain (37.5% of women and 48.7% of men), 25% of females and 30.3% of male participants reported moderate to severe incidence of pain. This correlates to the facts that the highest self-reported health condition in the baseline year was musculoskeletal issues. The research team found that musculoskeletal injury and pain was commonplace and to many participants was “expected with the job” (Clare, South Australia). Participants would often state that if they did not wake in the morning with some type of pain “they maybe dead”. Given this information the issues of “fit for farming” and occupational health factors warranted further consideration. It appeared that pain and injury were expected within the industry and farming men and women experienced this in each of the agricultural industries.

The above comments conflict with that entered in Table 2.3 and has been common place in all of the research undertaken with the SFF projects. Farming participants perceive their health to be in a good or even very good status yet commonly complain of pain or injuries that cause significant discomfort to daily living. This phenomenon is often discussed at workshops that in order to be a farmer you must over assess your general health and suffer the “pain associated with the job”.

![Table 2.4 Baseline distribution of degree of bodily pain by gender of baseline to Future Directions](image)
Alcohol and smoking

Alcohol, though widely used and enjoyed in Australian society, is a depressant drug. Although conversely, evidence exists that low levels of consumption offers a protective health benefit (Klatsky & Udaltsova 2007) particularly associated with cardiovascular disease. However it is when these levels increase that the dangers to health also augments. Significant ill health has been associated with alcohol consumption. In chronic conditions alcohol increases the risk of heart, stroke and vascular disease, liver cirrhosis and some cancers (WHO 2004). The harm to health associated with alcohol is not only restricted to drinkers but families, bystanders and the broader community may be affected (NHMRC 2009). The SFF Future Directions program explored the self-reported alcohol consumption habits of participants in order to gain some insight into the levels of alcohol being consumed by farm families.

Alcohol consumption in the SFF project was higher in men particularly in the ‘weekly’ or ‘drinking more than twice a week’ category. Table 2.5 illustrates the low levels of non-drinking participants in the baseline year. Drinking at a short term risky level as identified by the National Health and Medical Research Council equates to more than 6 standard drinks for men and more than 4 standard drinks for women in any one occasion (NHMRC 2001). In Table 2.6 it is evident that more males drink at risk than females. It also shows that both men and women increased their numbers in the higher risk categories of weekly and more than twice a week.

<table>
<thead>
<tr>
<th>How often do you have a drink containing alcohol?</th>
<th>Workshop 1</th>
<th>60-72 Month</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females (n=72)</td>
<td>Males (n=76)</td>
</tr>
<tr>
<td>Never</td>
<td>11.1% (8)</td>
<td>5.3% (4)</td>
</tr>
<tr>
<td>Monthly</td>
<td>33.3% (24)</td>
<td>11.8% (9)</td>
</tr>
<tr>
<td>Weekly</td>
<td>13.9% (10)</td>
<td>21.1% (16)</td>
</tr>
<tr>
<td>More than twice a week</td>
<td>41.7% (30)</td>
<td>61.9% (47)</td>
</tr>
</tbody>
</table>

Table 2.5: Distribution of drinking patterns by gender from baseline to SFF Future Directions 60-72 months later

The number of alcohol consumers has decreased from baseline to SFF Future Directions, with 12 participants identifying as never drinking increasing to 15 participants. Only participants that completed the SFF Future Directions were included in the analysis, total numbers were 148 participants.

<table>
<thead>
<tr>
<th>How often do you have more than 4 (women) and 6 (men) standard drinks on one occasion?</th>
<th>Workshop 1</th>
<th>Workshop 4 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females (n=72)</td>
<td>Males (n=76)</td>
</tr>
<tr>
<td>Never</td>
<td>77.8% (56)</td>
<td>43.2% (33)</td>
</tr>
<tr>
<td>Monthly</td>
<td>22.2% (16)</td>
<td>47.3% (36)</td>
</tr>
<tr>
<td>Weekly</td>
<td>0.0% (0)</td>
<td>5.4% (4)</td>
</tr>
<tr>
<td>More than twice a week</td>
<td>0.0% (0)</td>
<td>4.1% (3)</td>
</tr>
</tbody>
</table>

Table 2.6: How often do you have more than 4 (women) and 6 (men) standard drinks on one occasion?

The NHMRC are now recommending that no more than two standard drinks of alcohol be consumed by either male or female on one occasion, as it reduces the risk of harm from alcohol-related disease or injury (NHMRC 2009). However to maintain consistency the original program the measures of 4
standard drinks for women and 6 standard drinks for men were maintained. Over the period of 72 month assessment phase information related to alcohol consumption does hold additional questions. Table 2.5 highlights that the intake of drinks containing alcohol had actually diminished over the course of the research phase which initially appears encouraging. Unfortunately when we look at individuals who do consume alcohol at a high risk level using the previous scale recommended by the NHMRC we can see that of those who did consume alcohol at higher levels both men and women in the weekly and more than twice weekly consumption did increase. Males who previously overindulged on a monthly basis in the initial sample showed a greater level of moderation upon review with consumption down by 16%.

**Previous referrals, then and now**

Of the 148 SFF Future Directions, 53 males and 39 females required referrals to appropriate agencies and services following the baseline workshop. This equated to 70% of males and 54% of females receiving a referral letter in response to health indicators of concern. The primary site for referral was the general practitioner (72%), followed by the dietician (9%). The primary health condition requiring referral was cardiovascular assessment for both men and women, followed by skin and mucous membrane assessments. Participants received a copy of their referrals which were sent to a health professional of their choice. This proved to be a very important aspect of the original program, as it became apparent in subsequent workshops that many of these referrals had led to diagnosis of early cancers, referral for specialist advice, surgical interventions and initiation or change of medication.

In workshop 4 participants were asked whether or not they had acted upon the referrals they had been given from the previous SFF program they attended. 93.5% (n = 86) of participants that had been referred identified that they had acted upon their referral, supporting Barnes et al. (2004) work the more input the participant has in the referral process the more comfortable they are with the process and more likely they are to act upon it. There were 6 people that had not acted on their referral from their last workshop.

**Figure 15: Actions taken by SFF Future Directions participant as a result of SFF referrals (n = 86)**

The emphasis on systematic collection of health data enabled monitoring of changes in health status and key health indicators. This data was an important source of insight into the effectiveness of the SFF project. It also provides insight into the capacity for this kind of education to make a constructive intervention into improving the health of farm families.
The numbers of participants at risk in terms of particular clinical indicators are depicted in Table 2.7. These indicators are used to determine risk for diseases such as diabetes, cardiovascular disease and more recently cancer.

<table>
<thead>
<tr>
<th>Clinical Indicator</th>
<th>Number of participants in baseline year at risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Mass Index ≥25</td>
<td>93 (48.7%)</td>
</tr>
<tr>
<td>Total cholesterol level ≥5.5mmol/L</td>
<td>65 (34.0%)</td>
</tr>
<tr>
<td>Total blood glucose level ≥5.5mmol/L</td>
<td>41 (21.6%)</td>
</tr>
<tr>
<td>Waist circumference Women ≥88cms</td>
<td>37 women (39.8%)</td>
</tr>
<tr>
<td>Men ≥102cms</td>
<td>28 men (28.6%)</td>
</tr>
<tr>
<td>Blood pressure (systolic) ≥140mmHg</td>
<td>53 (27.7%)</td>
</tr>
<tr>
<td>Blood pressure (diastolic) ≥90mmHg</td>
<td>44 (23.0%)</td>
</tr>
</tbody>
</table>

Table 2.7: Participants at risk in baseline year in terms of particular clinical indicators

*Please note one participant identified themselves as a diabetic and has been removed from this analysis.

Table 2.8 shows the mean change in clinical indicators between baseline and the set of measurements taken 60-72 months later for all participants. That is the mean changes in clinical parameters of all participants whether at risk or not at risk in the baseline year. Those statistically significant are highlighted by *. Total cholesterol levels decreased significantly (p ≤ 0.05) for all participants between workshop 1 and workshop 4. Other clinical indicators increased, blood glucose levels and body mass index both increased significantly (p ≤ 0.001).

<table>
<thead>
<tr>
<th>Clinical Indicator</th>
<th>Workshop 4 (60-72 months) Mean (± Standard Error)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body mass index (n=147)</td>
<td>+0.53 (0.17)**</td>
</tr>
<tr>
<td>Total cholesterol mmol/L (n=148)</td>
<td>-0.17 (0.08)*</td>
</tr>
<tr>
<td>Total blood glucose mmol/L (n=148)</td>
<td>+0.50 (0.05)**</td>
</tr>
<tr>
<td>Waist circumference women (cm) (n=72)</td>
<td>+0.435 (0.66) N/S</td>
</tr>
<tr>
<td>Waist circumference men (n=76)</td>
<td>+1.13 (0.51)*</td>
</tr>
<tr>
<td>Blood pressure (systolic) mmHg (n=140)</td>
<td>+0.16 (1.18) N/S</td>
</tr>
<tr>
<td>Blood pressure (diastolic) mmHg (n=140)</td>
<td>+0.74 (0.76) N/S</td>
</tr>
</tbody>
</table>

Table 2.8 Mean change in clinical parameters from baseline to workshop 4 for all participants

Please note: Significance values ***p ≤ 0.001, **p ≤ 0.01, *p ≤ 0.05. Based on two-tailed significance tests. N/S not statistically significant.

Participants at risk revealed significant improvement in key areas of fasting cholesterol, systolic and diastolic blood pressure. Whilst blood glucose and waist circumference had changed, these changes were not statistically significant. However, body mass index for those with elevated BMI had increased.
<table>
<thead>
<tr>
<th>Numbers at risk in baseline year 2004-05</th>
<th>Change from baseline in 2010 mean change and standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body mass index ≥ 25 (n=93)</td>
<td>+0.47 (0.22)*</td>
</tr>
<tr>
<td>Total cholesterol level ≥ 5.5mmol/L (n=51)</td>
<td>-0.92 (0.12)***</td>
</tr>
<tr>
<td>Total glucose level ≥ 5.5mmol/L (n=29)</td>
<td>+0.02 (0.09) N/S</td>
</tr>
<tr>
<td>Waist circumference Males ≥102cms (n=21)</td>
<td>+1.04 (1.38) N/S</td>
</tr>
<tr>
<td>Waist circumference Females ≥88cms (n=27)</td>
<td>-0.54 (1.19) N/S</td>
</tr>
<tr>
<td>Blood pressure systolic ≥140mmHg (n=37)</td>
<td>-5.94 (2.27) **</td>
</tr>
<tr>
<td>Blood pressure diastolic ≥90mmHg (n=30)</td>
<td>-6.23 (1.38)***</td>
</tr>
</tbody>
</table>

Table 2.9: Participants at risk in Baseline and changes in risk factors

Please note: Significance values ***p ≤ 0.001, **p ≤ 0.01, *p ≤ 0.05. Based on two-tailed significance tests. N/S not statistically significant.

Most statistically significant changes highlighted over the 60-72 month timeframe include improvement in cholesterol, systolic and diastolic blood pressure and an increase in body mass index. These results reflect many of the initial findings from the original 2 and 3 year research projects as reported in the previous publications highlighting the improvements in the key risk factors for cardiovascular disease.

**Psychological distress**

The Kessler Psychological Distress Scale 10 (K10) is used as a measure of non-specific psychological distress. A very high level of psychological distress, as shown by the K10, may indicate a need for professional help. The focus of the K10 is to measure psychological distress and does not include any questions to identify psychosis, as this is difficult using a brief questionnaire. The K10 instrument may be appropriate to estimate the needs of the population for community mental health services and has been used for Australian Bureau of Statistics health surveys, in a number of Australian states and the Australian Population Health Survey 2007.

![Figure 16: SFF Future Directions Kessler 10 scores of psychological distress compared with the Australian Population Health Survey 2007](image)

Figure 16 reveals that the SFF participants in the Future Directions participants had higher levels of low-moderate distress compared to the Australian Population Health Survey in 2007 which had higher
levels in both categories of high-very high. You can see from Table 2.10 below that SFF participants have reduced their psychological distress levels, moving from the high-very high categories into the low-moderate categories. As you will see in the coming chapters one of the key impacts from the SFF project has been education on stress management and lifestyle changes, as one participant stated: ‘More aware of stress, and a few things have happened in the last 12 months and are more aware of its impact. I got out the manual and re-read the section on stress’, whilst others are taking holidays and ‘not feeling guilty about taking time off the farm’.

<table>
<thead>
<tr>
<th>K10 level</th>
<th>SFF original program 2005-06 (n=147)</th>
<th>SFF Future Directions 2010 (n=147)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk</td>
<td>57.4%</td>
<td>67.1%</td>
</tr>
<tr>
<td>Medium risk</td>
<td>32.6%</td>
<td>26.7%</td>
</tr>
<tr>
<td>High risk</td>
<td>7.8%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Very high risk</td>
<td>2.1%</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

Table 2.10: Kessler 10 scores from original SFF program in 2005-06 compared to SFF Future Directions 2010

The Kessler 10 scores depict a lowering of psychological distress over the sample measured in 2010 compared to initial testing in 2005. The 2005/06 periods were times of significant climatic stress and hardship across Australian agriculture with drought and hardship commonplace across the eastern states. This could provide reason for a lowering of K10 assessment scores in 2010 with climatic conditions more favourable for farming enterprises across Australia. Another hypothesis the SFF team believe is influential of these results includes education training, support and guided direction on the topics of mental health and well being for farm families.

**Farm health and safety**

The issue of occupational health aspects of farming was addressed through a Farm Health and Safety survey (see appendix 4). The initial version of the survey was developed for the project, and refined over the three years with assistance from the Australian Centre for Agricultural Health and Safety based at Moree through the Optimal Data Set (Fragar et al. 2000). Limited farm data was collected in the first year of the SFF program, as Sustainable Farm Families has progressed, so too has the amount of information collected. As a result the farm safety survey delivered in the Future Directions program contained more information, such as helmet use when riding a motorbike. Data was collected on type of industry, history of use of sun protection, personal protective equipment and the extent of farm injury throughout the entire SFF project.

**Personal protective equipment (PPE)**

The farming environment has the potential to be a hazardous workplace. Farmers may be working with varying degrees of dangerous equipment such as tractors, augers, and chemicals. Furthermore, their health and safety is at risk from constantly working outdoors and being exposed to extreme weather conditions such as ultraviolet (UV) radiation.

Understanding whether there were changes in the use of personal protective equipment (PPE) when using chemicals, workshop or outdoor equipment after participating in the SFF project, is important when understanding the impact education of farm health and safety have on the occupational safety. In workshop 1 participants were educated on Farm Safety. Figure 17 shows the frequency of personal protective equipment usage for chemicals, farm workshop and ultraviolet radiation exposure, from participants in baseline to the workshop held 60-72 months later.
Personal protective equipment used when using chemicals

The use of chemicals and pesticides in the farming industry is very common. The harmful nature of chemicals and pesticides has been well documented, particularly the impact they have on health (Hoppin et al, 2002). Respiratory disorders such as asthma and skin conditions (eczema) are examples of the effects of chemicals and pesticides (Hoppin et al 2002; Fragar et al. 2005). Chemicals are absorbed through the skin, inhaled into the lungs, ingested into the stomach or injected through the skin. With this in mind the SFF program targets educating farmers on using protective equipment whilst handling chemicals or pesticides to minimise exposure.

Participants were asked about their usage of PPE when using or assisting in chemical or pesticide application. PPE included overalls, safety glasses, gloves, mask/respirator, and boots. Figure 17 shows the total number of protective equipment utilised by participants from baseline to 60-72 months increased. A Wilcoxon Signed Ranks Test was conducted to examine if there was a significant change in the number of items worn from baseline to 60-72 months later. This showed that there was a significant increase in the total utilisation of protective equipment $z=-3.243$ (corrected for ties) $p=0.001$. The mean of the ranks in the baseline workshop were 34.81, this increased to 42.69 60-72 months later.

Personal protective equipment used for outdoor tools, workshop and machinery

Participants were asked if they used protective gear (eye protection, gloves, ear muffs) when using farm workshop or outdoor equipment such as power tools, post hole driver/auger, angle grinders, lawn mower or assisting in the use of them. Figure 17 depicts the total number of protective equipment used by participants from baseline to the Future Directions project. It is evident that since workshop 1 more people have identified that they are now using more protective equipment when operating machinery. A Wilcoxon Signed Ranks Test was employed to discern if there had been an improvement in the total number of protective equipment used in the broadacre, cotton and sugar industries after the SFF program was delivered in their respective areas. The mean of the ranks at baseline for number of items worn was 37.91, this increased to 42.69 60-72 months later.
Use of items for protection against ultraviolet radiation

According to the Australian Cancer Council, skin cancer is the most common cancer diagnosed in Australia (Cancer Council 2011). Australia and New Zealand have the highest rates of skin cancer in the world. With this in mind SFF program posed questions regarding sun safe measures taken by participants and also included messages and information through the SFF newsletters. In the farm safety survey (see appendix 4) participants were asked to report the number of items worn for protection against the harmful exposure to ultraviolet radiation.

To compare the use of total sun protection items between baseline and workshop 4, a Wilcoxon Signed Ranks Test was employed. This showed that there was a significant increase in the use of total sun protection items worn between the two time periods $z=-3.606$ (corrected for ties), ($p=0.000$). The mean of the ranks at baseline for number of items worn was 38.42, this increased in workshop 4 to 42.85. Figure 18 delves deeper into this increase in sun protection by looking at the increase in specific items worn. It is interesting to note that there was a small decrease in peak hat usage while there was a small increase in broad brim hat numbers, inferring that more people are taking the sun smart message and opting for better sun protection. Pleasingly was the increase in long pants, a decrease in sun cream was noted and an area of concern, although participants did note that they avoided the outdoors during peak times of 11:00am – 3:00pm.

Figure 18: Distribution of sun protective items worn by SFF Future Directions participants in baseline and 60-72 months later (n=144)

The use of sun protection aids revealed that many farmers had changed their current practices since their first evaluation in the baseline assessment. The use of sun protection aids showed a significant increase in particular the wearing of long pants and sunglasses. A decrease in the use of sunscreen was noted but all other aids and methods associated with sun protection saw an increase in use. Particular education within the program focused on the combination of sun protection factors and the understanding of UVA and UVB.

Motorbike helmet usage

It is difficult to analyse the use of helmets in the original SFF program as the question was introduced in workshop 3 for the broadacre project and the cotton and sugar project only ran for two years. With this in mind below are the responses for the workshop 4 program determined by gender.
### Table 2.11: Use of motorcycle helmet by SFF Future Directions participants 2010 by gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>Females (n=67)</th>
<th>Males (n=72)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes all the time</td>
<td>9.0%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Usually</td>
<td>3.0%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Occasionally</td>
<td>6.0%</td>
<td>20.8%</td>
</tr>
<tr>
<td>No</td>
<td>22.4%</td>
<td>38.9%</td>
</tr>
<tr>
<td>Never ride or passenger</td>
<td>56.7%</td>
<td>20.8%</td>
</tr>
</tbody>
</table>

When asked why they did not wear a helmet when riding a motorbike, the most common response was that the farmers were moving slowly (11.1%), it was also stated that they felt helmets were inconvenient (9.9%) and too hot to wear (9.9%) and uncomfortable (7.4%). This has been a common theme across all SFF projects. As a result the design of motorbike helmets has now changed to incorporate a more practical design for farmers, to improve farm safety. A version of the new helmet design was taken to the SFF Future Directions workshops, alerting the participants of their availability of the T-69 THH “Shorty” helmet, the overall response to the helmets was good, especially the fact that they are lighter, not as hot, allow for improved hearing, and meet Australian standards (figure 19). A ‘Shorty’ helmet was donated by Barry Francis Motorcycles, a local motorbike trader, to take to the programs.

![Figure 19: SFF Future Directions participant trying the new ‘Shorty’ helmet](image)

### Pre and post knowledge

The pre- and post- knowledge surveys assess participants’ retention and increase in knowledge over time. An analysis was performed comparing the baseline pre- questionaries to the pre- questionnaires completed 60-72 months later in the Future Directions workshops. Due to the addition of new relevant questions in the pre- and post- surveys over the duration of the SFF program, some of the questions that were asked in the baseline workshop may not have been asked in the Future Directions program. As a result, this analysis only examines questions that remained constant from baseline to workshop 4.

Tables 2.12 and 2.13 show that there has been an overall retention in learnings for both female and male participants, from the original program to SFF Future Directions. Of the 19 questions analysed of the female participants, 12 (63%) had significant increases in learnings retained since baseline where P=0.10. This was similar with males where 9 of the 16 (56%) questions asked had a significant increase in learnings, where P=0.10. It is also noted that in only one question knowledge was reduced whilst in all others there were increases, although the increase was not statistically significant.
<table>
<thead>
<tr>
<th>Question – Correct response (% of total female participants)</th>
<th>Pre session baseline %</th>
<th>Pre session 60-72 months later %*</th>
<th>Significant improvement in knowledge (P&lt;0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Who has the better health status metropolitan or rural women?</td>
<td>62%</td>
<td>93%</td>
<td>Yes</td>
</tr>
<tr>
<td>4. What are the 3 major risk factors for cardiovascular disease?</td>
<td>77%</td>
<td>86%</td>
<td>No</td>
</tr>
<tr>
<td>5. List 3 things that assist in the prevention of cardiovascular disease.</td>
<td>58%</td>
<td>74%</td>
<td>No (P=0.10)</td>
</tr>
<tr>
<td>6. List 2 major risk factors for diabetes</td>
<td>67%</td>
<td>89%</td>
<td>Yes</td>
</tr>
<tr>
<td>7. What does the National Heart Foundation recommend as the best form of exercise?</td>
<td>94%</td>
<td>89%</td>
<td>No</td>
</tr>
<tr>
<td>8. How much exercise does the National Heart Foundation recommend per day?</td>
<td>87%</td>
<td>94%</td>
<td>No</td>
</tr>
<tr>
<td>9. How often should you exercise per week?</td>
<td>38%</td>
<td>77%</td>
<td>Yes</td>
</tr>
<tr>
<td>10. The percentage of Australian adults that experience anxiety or depression is:</td>
<td>46%</td>
<td>70%</td>
<td>Yes</td>
</tr>
<tr>
<td>11. What are the risk factors for bowel cancer? (at least one correct answer)</td>
<td>87%</td>
<td>91%</td>
<td>No</td>
</tr>
<tr>
<td>12. How is bowel cancer detected? (at least one correct answer)</td>
<td>59%</td>
<td>84%</td>
<td>Yes</td>
</tr>
<tr>
<td>13. Women over 50 suffer a degree of incontinence, which interferes with daily life at the rate of:</td>
<td>35%</td>
<td>40%</td>
<td>No</td>
</tr>
<tr>
<td>14. What is hormone therapy?</td>
<td>85%</td>
<td>93%</td>
<td>No</td>
</tr>
<tr>
<td>15. What percentage of Australian women experience mild to moderate menopause symptoms?</td>
<td>41%</td>
<td>39%</td>
<td>No (p=0.091)</td>
</tr>
<tr>
<td>16. How much fat is required in grams per day in our diet?</td>
<td>32%</td>
<td>50%</td>
<td>No (P=0.074)</td>
</tr>
<tr>
<td>17. How much fibre is required per day in our diet?</td>
<td>60%</td>
<td>62%</td>
<td>No</td>
</tr>
<tr>
<td>19. List two diseases which are genetically linked?</td>
<td>60%</td>
<td>70%</td>
<td>No (P=0.064)</td>
</tr>
<tr>
<td>20. What is the leading cause of death for Australian women?</td>
<td>37%</td>
<td>72%</td>
<td>Yes</td>
</tr>
<tr>
<td>24. How would you rate the relationship between health and your farm productivity?</td>
<td>66%</td>
<td>88%</td>
<td>Yes</td>
</tr>
<tr>
<td>25. With the increase in life expectancy the average years an Australian woman will spend with a physical handicap on average is:</td>
<td>8%</td>
<td>22%</td>
<td>No (P=0.066)</td>
</tr>
</tbody>
</table>

Table 2.12: Comparison of baseline to SFF Future Directions pre questionnaires, correct response (% of total female participants)

*Improvements in knowledge in the Future Directions program are highlighted in green whilst decrease in knowledge is in highlighted in red.
<table>
<thead>
<tr>
<th>Question – Correct response (% of total male participants)</th>
<th>Pre session baseline %</th>
<th>Pre session 60-72 months later %*</th>
<th>Significant improvement in knowledge (P&lt;0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Who has the better health status metropolitan or rural women?</td>
<td>77%</td>
<td>97%</td>
<td>Yes</td>
</tr>
<tr>
<td>4. What are the 3 major risk factors for cardiovascular disease?</td>
<td>75%</td>
<td>84%</td>
<td>No</td>
</tr>
<tr>
<td>5. List 3 things that assist in the prevention of cardiovascular disease.</td>
<td>48%</td>
<td>66%</td>
<td>Yes</td>
</tr>
<tr>
<td>6. List 2 major risk factors for diabetes</td>
<td>58%</td>
<td>77%</td>
<td>Yes</td>
</tr>
<tr>
<td>7. What does the National Heart Foundation recommend as the best form of exercise?</td>
<td>93%</td>
<td>91%</td>
<td>No</td>
</tr>
<tr>
<td>8. How much exercise does the National Heart Foundation recommend per day?</td>
<td>90%</td>
<td>95%</td>
<td>No</td>
</tr>
<tr>
<td>9. How often should you exercise per week?</td>
<td>30%</td>
<td>46%</td>
<td>No (P=0.088)</td>
</tr>
<tr>
<td>10. The percentage of Australian adults that experience anxiety or depression is:</td>
<td>30%</td>
<td>58%</td>
<td>Yes</td>
</tr>
<tr>
<td>11. What are the risk factors for bowel cancer? (at least one correct answer)</td>
<td>72%</td>
<td>87%</td>
<td>No (P=0.067)</td>
</tr>
<tr>
<td>12. How is bowel cancer detected? (at least one correct answer)</td>
<td>53%</td>
<td>75%</td>
<td>Yes</td>
</tr>
<tr>
<td>13. List two methods by which we can treat prostate cancer.</td>
<td>31%</td>
<td>41%</td>
<td>No</td>
</tr>
<tr>
<td>16. How much fat is required in grams per day in our diet?</td>
<td>44%</td>
<td>63%</td>
<td>No (P=0.075)</td>
</tr>
<tr>
<td>17. How much fibre is required per day in our diet?</td>
<td>59%</td>
<td>79%</td>
<td>No (P=0.061)</td>
</tr>
<tr>
<td>19. List two diseases which are genetically linked</td>
<td>55%</td>
<td>67%</td>
<td>No</td>
</tr>
<tr>
<td>20. What is the leading cause of death for Australian men?</td>
<td>91%</td>
<td>83%</td>
<td>No</td>
</tr>
<tr>
<td>24. How would you rate the relationship between health and your farm productivity?</td>
<td>63%</td>
<td>83%</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 2.13: Comparison of baseline to SFF Future Directions pre questionnaires, correct response (% of total male participants)

* Improvements in learnings are highlighted in green, whilst decrease in learnings are highlighted in red.

This retention and increase in knowledge shows how proficient the SFF program is in delivering information to participants. It should be noted that some of the responses had a decrease in learnings started from a very high level. An example of this is “What does the National Heart Foundation recommend as the best form of exercise?” The percentage of correct responses for women was 94% in the baseline year, and for men it was 93% in baseline.

**Reviewing action plans**

Following the completion of the first and second workshops participants were asked to complete an action plan. This involved filling in three specific actions that they identified to work on over the next twelve months and reporting back to the group on how they felt they went. This procedure was completed following each SFF workshop, at the 12 month and 24 month. The action plan results of the
Future Directions participants will be discussed in the following section, this analysis involves comparison of the baseline action plan to the Future Directions action plan 60-72 months later.

Figure 20: Distribution of action plan target areas for baseline and workshop 4 SFF participants (n=123)

* Due to cotton and sugar completing a two year program, action plans completed in workshop 1 have been analysed. Broadacre completed three workshops, action plans from workshop 2 were analysed.

Figure 20 highlights the participants chosen actions. It can be seen that there are links with the clinical indicators, suggesting that the participants were aware of areas they needed to address. It also reflects the farmers’ priorities. Men and women from the same farm could set different personal goals, adopt different actions and have different outcomes.

Assessment of action plans in SFF Future Directions

Figure 21: Distribution of results for the SFF baseline and SFF Future Directions action plan targets for those that returned (n=123)

These results illustrate how SFF participants rated their own achievements. Some of the achievements included taking holidays, improving farm safety, putting on more staff, taking up sport, changing diet,
having a health check, reducing weight and increasing fitness. The significance of such positive perceptions about peoples’ capacity to change their lifestyle and to exercise choices which had important consequences for their health, wellbeing and safety should not be underestimated. It is interesting that 83% of participants rated their achievement of action plans with moderate to high results in workshop 2 or 3. In the SFF Future Directions workshop participants were asked again to rate their achievements of the same action plan, impressively this increased slightly to 86% in the SFF Future Directions workshop. Consistent results such as those in the figure 21 demonstrate the positive impact the ability to change. This is also confirmed by the Roberts Evaluation undertaken in 2010 (Sison & Storey 2010).

Future Directions focus groups

Focus groups allow small group discussion on specific questions and topics. The questions are listed below with a summary of responses.

How has your thinking changed about health, well being and safety since participating in the original program?

Upon reflection of their time in workshops 1, 2 and 3, 23.19% of participants stated that they now have an increased awareness of the impact their choices make have on their daily lives. Emphasis was placed on the importance of being better informed and how the program has resulted in participants feeling empowered by their ability to make informed decisions about health and wellbeing, and farm safety. Following on from this, the relevance of the supermarket tour held in workshop 1 was still highlighted in workshop 4, with 21.74% commenting that they have opted for a healthier diet, focussing on label reading and growing fresh vegetables. Furthermore, 20.29% are now paying more attention to their health by having more regular check-ups.

More aware of how we do things and we have carried what we learnt into our communities through mental health. We ran a great program following on from SFF and would like to do more. (SFF Future Directions Clare participant)

Have you made a significant family, career or farming business decision as a result of participating in the SFF program?

A strong focus throughout analysis of the impact of the SFF project is the change to lifestyle, with 42.57% of people making connections with their lifestyle choices. These changes vary from retiring from farming altogether, taking on part time work, or employing contractors, thus giving them time to spend with family members, or take holidays.

With this in mind, it was found that 22.22% of responses were about decision making and its impact on health and wellbeing and safety. An example of this “we kept talking about it and thinking about it – we have taken some steps, [SFF] is like an umbrella, we have taken some incremental steps” most importantly it “helped us make decisions in a more informed manner.” It is interesting to note that participants stated that prior to the SFF program they would just keep working no matter what, putting everything else on the backburner. As one participant stated, the SFF “course has made us think about our options – is something worth it...previously we used to duck our heads down and work hard. Now we ask is it worth the effort? Weigh up the options/happiness.”
What specific behaviours/practices have changed in your farming family with regard to health, wellbeing and safety?

Changes to lifestyle were the most noticeable, with 20.89% of participants stating that they have changed their lifestyle for the sake of their families. There was a particular emphasis on increasing recreation time, doing activities as a family and not feeling guilty for taking time off from the farm and delegating responsibility to others – not having to do it all on their own. Following changes to lifestyle, 17.91% of responses reflected efforts to make the farm a safer work place. There was more awareness of the dangers of unsafe work practices with attention being given to upgrading equipment, and not working alone.

Exercise also featured quite high in participant’s behavioural changes with 16.42%. An essential change identified was the need to alter their routines where possible to fit in the recommended amount of exercise. Many people were looking for ways in which to combine work with exercise, while others were content with taking the dog for a walk or walking with family members. The family diet was subject to more scrutiny for health outcomes. Typical responses were “change in diet – type of food, variations, more fruit and veggies. “Before I didn’t care too much”.

By the way….has a changing climate impacted your health and well being and farm business decisions?

The effects of a changing climate had a mental, social and economic impact upon farm families of the SFF Future Directions program. Participants reported that the changing climate has increased stress levels for 19.3%, affecting the decision-making of 28.9% with an economic impact for 13.3% and similar percentage making changes to their stock or crop. This increase in stress by the changing climate has left some participants “feeling locked in – with no alternative.” Hogan et al (2011) commented that health plays a substantial role when examining how farmers’ adapt to climate change circumstances. While many of the participants stated that climate change had had a negative impact on their farms, there were some that had a more positive outlook “There are opportunities – rainfall pattern will change – need to tap into the projections” another example was more ironic, “in some ways it has allowed us to do more health wise because the farm wasn’t as busy. If we had water I’d be really busy.”

Figure 23: “By the Way – has a changing climate impacted on your health, career or farm business decision” (Brumby et al. 2011)

The continuing drought conditions were mentioned by 20.5% and the impact it was having on them financially, physically and emotionally. Many participants mentioned how depressing it looked “looking out of the window was really depressing there was just dust everywhere...every time you opened the window”. In the more northern areas of Australia where the program was being run, there
were parallel problems of conditions being too wet, “sometimes it’s really wet and we can’t do anything” (Ingham participant).

Figure 23 from Brumby et al. (2011) shows that the participants felt that climate change has had the largest impact on their farming decisions, “Regardless of what people want to call it, the changing climate has impacted on our decisions.” One participant commented on the importance of planning and adapting to the changing climate, “modelling projects what is likely to happen in future – when we think about what we will be doing we think about the modelling projections. Lots of people don’t and don’t adapt.” Decisions around planning for the future were important for many participants “It [climate] has had an impact on marketing decisions – do we forward sell or not?” and “started to think about our future.” As one participant commented “In adversity there is both challenges and opportunities.”

Figure 24: Participants in a focus group discussion

Looking back & moving forward: Where to from here?

When reflecting on learnings from SFF over the life of the program, goals relating to improving health were considered highest priority by some 30.43% such as “bring health to centre stage” and “To be here!” The participants stated that they would like to make lifestyle changes (20.29%) such as “Being selfish – want more time for myself,” and having “more time with family”.

The participants stated that education of farm family health and safety was very important to them now (13.04%), and the importance of educating their other family members “setting a new example for next generation – they learn from us.” Rated as equally important by participants was the business itself (13.04%), it was found that participants are now rethinking their current farming business “moving on from the job” and “in 5 years I won’t be farming – I agree with what others say – got to move on.”

From the above focus group discussions it is evident that farm families participating in the program are placing more emphasis on the impact of their health and wellbeing on their farm businesses. Becoming more proactive by having regular medical checkups and in general being more aware of their own health, participants are setting out to improve the farming family unit. Of particular note was the impact the mental health topics from workshop 1 and 3 on the participants. Appreciating the importance of taking some down time, participants increased their guilt-free time away from the farm with planned vacations with their families.

Evaluation of SFF Future Directions workshops

During the workshops, participants were asked to rate each session against a set of questions about the presentation, their learning and aspects which could be improved (Appendix 10). Overwhelmingly, participants reported very positively on both the quality of the presentations, and their appreciation of the opportunity to learn about health issues, especially in relation to their own situation. The latter in particular seems to have become a major driver for their continuing participation in the workshops. The understanding of the physical assessments, the one on one discussions, and the specific data on their own health proved to be an important factor in encouraging the farmers to return.

These characteristics of the program itself were matched by a strong emphasis on personal and peer responsibility. The program aims not simply to produce better health, but also to assist the participants to develop a strong sense of urgency in maintaining their own health, and to see it as part of a commitment to lifelong learning.
As part of the Workshop 4 evaluation participants were asked what they most enjoyed about the SFF Future Directions program. A common theme was the appreciation of the physical assessment and the monitoring that occurs with it, one specific quote was ‘having the health check up to see what’s changed over the last 4 years; the information provided and the practical example’. Another common theme that presented itself from the Workshop 4 evaluations was how empowered the SFF program made the participants feel, ‘The experience and learning about my body, environment hazards and what I can do to improve my quality of life,’ commenting that they enjoyed the ‘preventative aspect, putting responsibility and influence over health back to individual,’ especially how ‘it empowers people to make informed decisions about their lifestyles’. Empowering the participants when it comes to health, wellbeing and farm safety issues has been a key feature of the SFF Future Directions program.

Additionally, another evaluative aspect of the program was whether or not the participants would recommend the SFF program to other farm families. Impressively 100% of respondents stated that they would, with a large number of them already recommending it to members of their community in other SFF rollouts. Reasons offered for this recommendation was largely due to the practicality and relevance of the course, as expressed in these responses ‘good practical outcome focussed program that inspires participants to alter their lifestyles’, ‘It’s just so relevant to our lives and work; covers health areas that a lot of people are not informed (correctly if at all) about, e.g. respiratory health’. Of particular note was the ‘impact on personal life, great learning, opportunity to get health check, not threatening way to learn’. It was mentioned in the program design section of this report that a key focus of delivery was to provide an environment where the participants felt safe and welcomed, free to openly discuss issues, this was successfully achieved.

![Figure 25: Participant responses for “The SFF program was successful in updating my knowledge” across all SFF Future Directions workshops](image)

Figure 25 depicts how the participants rated the success of the program in updating their knowledge. This graph shows that there were no ratings of “disagree” or “strongly disagree”. Respiratory health and Agri-chemicals in particular were recognised as very useful in portraying information to the participants.
Figure 26: Participant responses for “I can apply the content to my life and work” across all SFF Future Directions workshops

As outlined in figure 26 being able to learn is one thing but being able to reflect and consider how to apply the learning to your life and work once you leave the workshop is vitally important. This is important when assessing the success of sessions and workshop as a whole and for identifying future adjustments. Importantly the participants have also identified methods for improving the SFF Future Direction program with recommendations such as:

- providing hearing checks (Benalla),
- Ag-chemical section, e.g., more examples of specific chemicals (Clare),
- Bit more input/advice for the individual’s issues – this will also give more statistics on the progress/success of the program (Dalby)

Appendix 11 includes the full workshop evaluations.

External evaluation of the SFF Future Directions program

An external evaluation was undertaken by Roberts Evaluation Pty Ltd (Sison & Storey, 2010) to discern the impact of the original program and follow-up workshops on farming participants. This involved interviewing 54 participants, 7 of which had an in-depth interview. Further to this 6 industry partners were interviewed. This external evaluation found that the entire SFF program had a ‘profound impact on the farmers involved’.

SFF has clearly created awareness amongst farmers of the importance of their health. Approximately 68% of the respondents, mostly men aged between 45 and 64, had altered their previous “she’ll be right” attitude to one of preventative action. They are now going for regular checkups in order to maintain their current level of health, and mitigate the risks which they now know are increasing as they age. The program has increased 97% farmers’ knowledge of relevant health issues (pg 5-6).

Specifically it had changed the way participants thought about their health, wellbeing and safety, that health and safety now has an influence on the way they run their daily lives.

Farmers’ increased priority, awareness, and confidence with regard to their health has translated into a series of health-supporting behaviours, including improved diet (55%), increased exercise (45%), taking time away from the farm, doing activities to de-stress (45%), and seeking treatment for health issues (19%) (pg 6).
Furthermore it was found that the SFF program had increased the participants’ resilience and the way they deal with change.

This is likely to stand farmers in good stead in the challenging and unpredictable nature of farming; particularly in light of larger issues such as climate change. Furthermore, the wider findings that farmers’ physical and mental health has improved is a good indication that their capacity to make good decisions in the face of change will be enhanced (pg 6).

Sison & Storey (2010) recommended that the SFF model be continued and implemented to new groups of farmers whilst maintaining further follow-ups with current farmers. New suggestions for improvement of the program, these have come from the participants themselves such as maintaining the high level of knowledge and experience demonstrated by the facilitator and the health professionals.

**Conclusion**

The SFF Future Directions program confirms that the improvements from the initial intervention have continued for the majority of participants returning to the program of those at risk. The investment the made has contributed to further understanding and demonstration of the impact of the Sustainable Farm Families (SFF) approach. Recent work undertaken by Chudleigh et al (2012) confirms this investment as value for money with a benefit-cost ratio of 5.6 to 1 and an internal rate of return of 21.5%. The challenge for health promotion professionals seeking similar outcomes is to engage with a diversity of organisations and associations in their region to offer similar programs and remain committed to the collection of data, proper process, coordination and the format for program delivery. While it provides participants with information they can use it does this in a reflective and discussion format. We are constantly affirmed by this process which reveals that farming participants have a good general knowledge about health and wellbeing. As outlined by Sison & Story (2010) it is important to maintain a high level of expertise ensuring the farmers are getting quality of care.

The clinical indicators from participants returning to the SFF Future Directions program after five years illustrates the success of the original program and of the need for ongoing action to address the health and wellbeing of the nation’s farm families. The project has demonstrated the capacity for this kind of project to be an effective intervention, both to ensure that people get urgent treatment, and to provide a stimulus for farm families to take greater responsibility for efforts to improve their own health, wellbeing and safety status. The health assessments provide the trigger for people to take action, while the educational component offers important insights into how people can take action to improve their health, wellbeing and safety. The results provided in this report show that along with the workshops, in the original program and now five years on, the ongoing support and reinforcement has sustained the health and farm safety actions for a significant period of time.
3. Communicate, disseminate and develop project findings

Communication of workshop findings through conference papers and articles in industry magazines, journals and radio occurred throughout the program and were considered pivotal in communicating with participants and linking partners together and across sectors. This was seen as important to the success of the program, and also by the partners in raising the importance of health, wellbeing and health and safety in the various agricultural, health, government and industry sectors.

Communication channels that were to be met include:

- general media – rural and regional stories of people who have benefited from SFF and how it has given better health, better understanding of health, (physical and mental) and better business through enhancing their family business.

- regular emails to key stakeholders including health, agriculture and agribusiness advising of progress

- media coverage of specific SFF workshops or conferences

- radio coverage as available

- working towards a Farmer Health stream at rural health conferences

Communication materials that have been utilised for the SFF Future Directions program include:

- web based and hard copy SFF newsletters for industry partners, pre and post workshop (Farmer Health newsletter, and SFF Future Directions newsletter (appendix 13))

- two posters were developed to assist in promoting the SFF Future Directions program and in raising communication profile. This was presented at the International Union of Health Promotion and Education, Geneva

- a fridge magnet – The most important aspect of a healthy Australian farm? – A healthy farming family was developed (Figure 27). This was provided to all participants with the invitation to attend the SFF Future Directions workshop. They were popular as they were a good size to enable holding material on the kitchen or shearing shed fridge.

![SFF Future Directions fridge magnet](image-url)
SFF Future Directions papers presented at conferences:

- Department of Human Services Victoria Rural Health Conference 2010, Ballarat. “Keeping the rural heart beating” (This was a keynote address), 21st -23rd April
- Australian Cotton Growers Conference August 2010, Gold Coast QLD. “Sustainable Farm Families - the human resource in the triple bottom line
- International Union of Health Promotion and Education, Geneva July 2010. Two poster presentations included a guiding poster

Media:

- ‘We are family – original group reunites’, Hamilton Spectator, November 28 2009
- Inclusion on National Centre for Farmer Health website www.farmerhealth.org.au
- ‘Looking backward looking forward – sustainable farm families’, CRDC Spotlight, Spring 2009 pg 25
- ‘Wayne’s world is now balanced’ Hamilton Spectator – Farming Focus, January 23 2010
- ‘Profound impact is felt eight years on’ Hamilton Spectator, March 5 2011
Results

The SFF Future Directions program aims to turn initial results and hypothesis into valid evidence-based information to support future directions for Australia’s agricultural industries. As outlined earlier in this report work of this type working with farm populations is not readily available. The initial results RIRDC reports (Living Longer on the Land in Broadacre Agriculture and Living Longer on the Land - Case studies in the Sugar and Cotton Industries) indicated that statistically significant improvement in clinical health indicators related to preventable chronic disease in addition to self reported changes in behaviour with the use of sun protection and protective equipment were evident. This is important work in informing and assisting in meeting National priorities.

The SFF Future Directions Project has achieved some very important outcomes and research findings.

The significant outcomes include:

- high participation rates in the SFF program over the 5-6 years
- participant retention of knowledge gained over the 5-6 years
- reduction of clinical indicators which correlate to major diseases including, for example cardiovascular disease (CVD) and type II diabetes in people with risk factors
- increased use of protective aids and equipment on farms and positive lifestyle changes consistent with action planning by participants
- increase commitment to family holidays, off farm activities and other stress reduction activities
- 100% participants recommending the program to other farm families
- increase in planned physical activity
- improved ability to adapt to change and reporting greater resilience.
Implications

RIRDC

The SFF - Future Directions addresses RIRDC’s Goal 2 of Addressing National Rural Issues. These National Rural Issues are focussed on the profitability, resilience and sustainability of our rural sector and communities and include farm health and safety and improving the physical health and safety of farm men and women and their families. Investing in the health and wellbeing of a workforce promotes a culture which values health, energy, productivity and a desire to be an active and satisfied member of the community. In farm family businesses, the effects of poor health, unhealthy lifestyle, working whilst ill, work/life imbalance and, more recently, climate variability impacts not just on the workplace but family, environment and community (Brumby, 2009). Ageing and working productively are imperative to Australian agriculture.

Farm men and women

Reducing poor health outcomes, higher injury rates and reducing illness and premature death are all included as rural policy priorities of government, rural industries and communities. It is a national priority to research and promote good health, whilst addressing the rural priority of productivity and adding value to the community. This report shows that the SFF Future Directions project has taken steps to achieve this goal of improving the physical health of farm families. The economic analysis undertaken by Boymal et al. in 2007 and Chudleigh et al (2012) indicated that the original SFF project and the SFF Future Directions was good value for money in terms of changing behaviours and improving health outcomes for farm men and women and in the long term saving government money. Boymal et al. also commented that ‘cost saving from the predicted reduced incidence of Type 2 diabetes (and subsequent savings in related health care) over 10 years exceeded the total cost of the SFF project itself. Indicating that the first few years of the SFF project generated net cost savings to government, if only considering its outcomes in terms of diabetes incidence. Additionally the external Roberts Evaluation (Sison and Storey 2010) showed that farmers that had participated in the SFF program had increased their resilience and the way they deal with change. The recent work undertaken by Chudleigh et al (2012) confirms this investment as value for money with a benefit-cost ratio of 5.6 to 1 and an internal rate of return of 21.5%.

Healthy farm families produce fibre, food, and nutrition, essential determinants of health. Unhealthy farming conditions produce farm families and men and women whose health is under pressure, and are potentially unable to sustain themselves, their productive capacity, and their markets. Redressing the fragmented range of services for farmer health should be put high on social, agricultural and political agendas. Empowering farmers and others to consider the health impacts (individual, family, community, environment) of agricultural production is essential to ensure that negative impacts on farmer health is recognised and not normalised as a by product of production (NCFH 2010).

Environmental

Programs like SFF assist in the social reinforcement of good health, wellbeing and safety with participants feeling more empowered about their own health, their families and the impact it has on their farm business. SFF also illustrated that farmers feel they make better decisions regarding their farm and recognise the role that improved health plays in making better decisions. This supports the AIHW which emphasises the importance of a pleasant environment to aid positive mental health (2011). Whether this improvement on health, wellbeing and safety leads directly to greater environmental sustainability and adaptability to climate change is still difficult to determine (Brumby 2009). However, those farmers who are in good health are more resilient and are able to cope with the ongoing demands of climate variability (Hogan et al 2011). Studies undertaken by Hounsome in the UK indicated that farmers most likely to adapt to agri-environmental schemes in Wales had better self
reported mental health than non adopters. Hounsome went on to propose that to enhance the uptake of agri-environmental schemes would require targeting the health and wellbeing of farmers (Hounsome et al., 2006). Therefore we could presume that farmers would be unlikely to adopts agri-environmental schemes or adjust to more sustainable schemes if in poor health. It is not a stretch to infer that improving health may assist in farm men and women increasing their uptake of environmental schemes.

**Workforce**

This SFF RIRDC project demonstrates that there are significant opportunities to (a) provide the workforce in the health sector with competencies in rural and agricultural health and (b) provide the agricultural sector with competencies in health, well-being and safety (self-management interventions) and subsequent reductions in preventable chronic disease and injury. Innovative workforce redesign and reform activities can increase the utilisation of the current rural workforce in clever ways and look at opportunities for sustaining the workforce. It is essential that the future rural workforce is educated and trained to meet 21st century challenges but in a way that provides the flexibility and recognition of place to ensure that skilled and limited resources are used in the most effective and efficient way.
Recommendations

Key recommendations from this project are:

1. National evidence based program to improve farmer health, wellbeing and safety

The role of the Australian Government is central to the health and wellbeing of our rural community and whilst some effort has been made there is still much work to do. Farmers remain central to these communities as much as rural society is dependent on this economic activity. Healthy farmers produce fibre, food, and nutrition, essential determinants of anyone’s health. Unhealthy farming conditions produce farm families whose health is under pressure, and are potentially unable to sustain themselves, their productive capacity, and their markets. The Australian Government can take leadership in generating a national commitment to farmer health and wellbeing by establishing the framework for collaboration across the range of health, industry and educational sectors whose engagement will be central to the ongoing success of the SFF project. In the first instance this will be implemented most productively through establishing a funded national program for regional partnerships to deliver the SFF program across Australia.

2. Include farmer health in rural and regional strategic plans as well as health service plans

Population demands, changing industries, environmental challenges and aging workforces are set to create serious issues for our farming communities. Whilst rural and regional health services are the primary service deliverers for health promotion programs like SFF an understanding and a need to work across municipalities, industries, governments is pivotal to regional success. Many regional strategic plans acknowledge the positive impact that agriculture has on their economy and environment forming the basis of their robust rural community. These plans create a future for the regions. It is important that reduced farmer health is not normalised as a by product of prosperous agricultural communities.

3. A partnership ethos is essential to the ongoing success of the SFF project.

There are several key factors which contribute to the success of the SFF program. These include the presentation of important health, wellbeing and safety information related to their current conditions in a highly interactive manner with participants who share a common business interest; sustainable farming. The NCFH team, under WDHS, have partnered with a wide range of institutions and organisations to design, deliver, evaluate, find and extend the program well beyond the first program with broad acre, cotton and sugar farmers. Continuation of the SFF project will largely depend on the partnerships arrangements established by key players, especially rural and regional health services, agricultural industry groups, universities and a whole of government approach.

4. An evidence-based approach is essential.

Farmers returned to the SFF program over five years because they were aware of their personal health and wellbeing, and safety risks and how it relates to the likelihood of their future health status and farming ability. They are empowered by knowing about the key underlying causes of health and wellbeing and safety and where they, their family and their farm business now stand in relation to the information. A central feature in the success of the SFF project is the local engagement of farmers in an informative program where they both learn about basic health improvement strategies and engage in a discussion with their peers, local health professionals and academics about the reasons for their health status. Another important feature of the SFF program is its evidence-based research approach. Information on participants overall health, well being and safety is collected overtime and recorded on their local health file with them understanding their cardiovascular health, (blood pressure, cholesterol, body mass index) predisposition to cancer (family history, diet, activity, exposure to sun) and diabetes (blood glucose, waist measurement, family history, lifestyle). In addition information on the causes of anxiety and depression, sexual and reproductive health and well
being are also provided improving the long term call on health services through early onset of conditions related to their factors which have not been understood or dealt with by individuals.

5. Leadership, research and development and institutional support for a national SFF project.

The NCFH and its partners have provided leadership, research and development support for the SFF project since its inception and extension beyond the initial cohort of broadacre farmers. With support from the Australian, Victorian governments and industry partners (such as the Gardiner Dairy Foundation for the SDFF) the NCFH has worked with universities, agricultural industry associations and community health services to extend and deliver SFF programs. For these programs to become embedded in the annual health promotion practice of rural and regional health services it will require funding for a five year period. Importantly this will also help to deliver on the recommendations for the national rural health conference (2011) of improving health promotion in rural areas with a particular focus on farming and fishing health, safety and wellbeing, and to recognise the needs of rural and remote. It is recommended, therefore, that the Australian Government work with the NCFH to fund a five-year program to implement the recommendations in the report.
Conclusion

The SFF Future Directions project has enabled the research team to revisit farmers who participated in the program from 2003-06, and who never expected that we would return to assess their health and well being – even though they asked for this on our last workshop. The clinical evidence shows that those returning had continued to attend to their health and wellbeing, notwithstanding the effects of ageing. For most participants the SFF program had provided them the opportunity to not only better understand the nature of their own health and wellbeing, and its causes, it afforded them the opportunity to reflect on their future in farming and how they could be more in control in an industry so dependent on the vagaries of the natural environment. The SFF program format is both deliberative and reflective in its approach, a hallmark of its acceptance by participants, but a challenge for rural health services more accustomed to deliberative approaches to client health and wellbeing.

We have made recommendations which aim to institutionalise the SFF process into Australian agricultural industries. To do this requires a partnership with the institutions of rural health at Federal and state levels. We believe this is consistent with broader public policy moves in the Australian Federation where is it so well recognised that engagement by government and their instrumentalities is an essential part of broader social change. The SFF process was designed with these considerations in mind but our health and wellbeing institutions are slow to respond to these initiatives with many still operating on cultures of command and control. We have always advocated partnerships as the basis for the development and conduct of the SFF program. The results in this report confirm that such arrangements work. However in thin institutions such as rural health services where health promotion expertise of the kind required developing and running programs like the SFF governments would do well by our agricultural industries to invest in our farmers and rural communities by way of structuring arrangements for SFF programs to continue.

In an age where food security has become a topical policy issue and the release of a National Food Plan forecast it is essential that governments recognise the key role our farmers play in sustaining our society with the food and fibre we need to remain a leading nation. Embracing programs like the SFF will provide a key platform to help ensure Australian farmers remain healthy and well contributing to a sustainable farming future.
Appendices

Appendix 1 DHS (2002) – consumer information
### Appendix 2 Health conditions

#### Profile: Health Conditions

**Overall Health**
- In general, how would you say your health is?
  - Excellent
  - Very Good
  - Good
  - Fair
  - Poor

**Vision**
- How is your eyesight for reading?
  - Excellent
  - Good
  - Fair
  - Poor

**Hearing**
- How is your hearing?
  - Good hearing, both ears
  - Difficulty hearing with one ear
  - A little trouble hearing both ears
  - A lot of trouble hearing both ears
  - Deaf in both ears

**Falls**
- Have you had a fall inside/outside the home in the past 6 months?
  - Yes
  - No

If yes, record number of falls __________

#### Health Conditions
- (include all issues and history e.g. allergies, medical conditions, disabilities, continence, dental, developmental problems, anxiety and depression)

1. __________
2. __________
3. __________
4. __________
5. __________

#### Current Medications
- (include prescriptions, over the counter, alternative products and pain killers)

1. __________
2. __________
3. __________
4. __________
5. __________
6. __________
7. __________
8. __________

**Comments:**

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<th>Sign</th>
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Appendix 3 Health behaviours

Profile: Health Behaviours

Smoking
- Never smoked
- Has quit smoking
- Currently smokes
  If quit, record when: Date/Year ____________

Prostate Screening Test ($0 and over)
- Yes
- No
- PSA Blood Test Date ____________
- Digital Rectum Examination Date ____________

Alcohol
How often do you have a drink containing alcohol?
- Never - if never, proceed to Continence
- Monthly
- Once a week
- 2 to 4 times per week
- 5+ per week

How often do you have more than 6 standard drinks on one occasion - males, or 4 standard drinks - females?
- Never
- Monthly
- Once a week
- 2 to 4 times per week
- 5+ per week

How many standard drinks do you have on a typical day when you are drinking?
- 1 to 2
- 3 to 4
- 5 to 6
- 7 to 8
- 8+ per day

Continence
My water works bother me
- Monthly
- Weekly
- Daily
- Never

Breast Screen
- Yes
- No
  If yes, record when: Date/Year ____________

Pap Smear
- Yes
- No
  If yes, record when: Date/Year ____________

Physical Activity
Would you accumulate 30 minutes or more of moderate intensity physical activity on most days of the week?
- Yes
- No

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<td>Date</td>
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- Nasal congestion
- Frequent cough
- Wheezy breathing
- Morning cough
- None of the above

Over the last month I have had:
- Cough with phlegm (sputum)
- Shortness of breath
- Chest pain or tightness

Respiratory
Do you currently have a cold?
- Yes
- No

Over the last month I have had:
- Nasal congestion
- Frequent cough
- Wheezy breathing
- Morning cough
- None of the above

How many standard drinks do you have on a typical day when you are drinking?
- 1 to 2
- 3 to 4
- 5 to 6
- 7 to 8
- 8+ per day

Continence
My water works bother me
- Monthly
- Weekly
- Daily
- Never

Breast Screen
- Yes
- No
  If yes, record when: Date/Year ____________

Pap Smear
- Yes
- No
  If yes, record when: Date/Year ____________

Physical Activity
Would you accumulate 30 minutes or more of moderate intensity physical activity on most days of the week?
- Yes
- No

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<th>Name:</th>
<th>Designation/Agency</th>
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<tbody>
<tr>
<td>Sign</td>
<td>Date</td>
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</table>

- Nasal congestion
- Frequent cough
- Wheezy breathing
- Morning cough
- None of the above

Over the last year I have had:
- Cough with phlegm (sputum)
- Shortness of breath
- Chest pain or tightness
Appendix 4 Farm safety survey

Please take time to complete this survey

1. Please indicate the main types of farming undertaken. (Number the relevant boxes, e.g., Cattle 1, Cropping 2, Viticulture 3, etc.)

<table>
<thead>
<tr>
<th>Enterprise No.</th>
<th>Enterprise</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Cattle</td>
<td></td>
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<tr>
<td>b) Sheep</td>
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<tr>
<td>c) Cropping</td>
<td></td>
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<tr>
<td>d) Dairy</td>
<td></td>
</tr>
<tr>
<td>e) Cotton</td>
<td></td>
</tr>
<tr>
<td>f) Viticulture</td>
<td></td>
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<tr>
<td>g) Market Gardening</td>
<td></td>
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<tr>
<td>h) Sugar</td>
<td></td>
</tr>
<tr>
<td>i) Horticulture</td>
<td></td>
</tr>
<tr>
<td>j) Other</td>
<td></td>
</tr>
<tr>
<td>k) Poultry</td>
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</tr>
</tbody>
</table>

2. Do you use chemicals (pesticides, herbicides, strong detergents) on your farm?

   - Yes
   - Occasionally
   - No

   If yes or occasionally, what protective gear is used when applicable?
   - a) Overalls
   - b) Mask/Respirators
   - c) Goggles/Safety glasses
   - d) Gloves
   - e) No Protective Gear

3. When using workshop or outdoor equipment e.g., lawn mower, power tools, post hole driver/auger or assisting in the use of these, do you wear protective gear?

   - Yes
   - Occasionally
   - Never
   - Don’t ever use or assist

   If yes or occasionally please indicate:
   - a) Goggles/Safety glasses
   - b) Ear muffs/Ear plugs
   - c) Gloves
   - d) Other

4. Do you use any sun protection?   - Yes all the time
   - Usually
   - Occasionally
   - Never

   What do you use?
   - a) Long sleeved shirts
   - b) Broad brim hat
   - c) Peak hat
   - d) Sunglasses
   - e) Long pants
   - f) Sun cream - SPF rating

5. Have you suffered any farm injury/illness in the last 12 months?   - Yes
   - No

   If yes, proceed to question 6
   If no, proceed to question 10 over the page

6. What was the contributing factor? (Please tick and indicate)

   - a) Farm vehicle (e.g., truck, ATV, ute)
   - b) Mobile plant/Machinery (e.g., tractor, auger, post hole driver)
   - c) Fixed plant equipment (handpiece, pump, dairy plant, irrigation plant)
   - d) Workshop equipment (e.g., welder, angle grinder, drills, ladder)
   - e) Hand tools (e.g., secateurs, axe, spades, hammers, handsaw)
   - f) Powered Implements (e.g., chainsaw, pneumatic tools)
   - g) Materials (e.g., rope, wire, nail)
   - h) Farm Structure (e.g., gate, dam, silo, crush, channel)
   - i) Animal (horse, cattle, sheep, pigs, spider, dog)
   - j) Chemical (e.g., pesticide, herbicide, diesel, explosives)
   - k) Working environment (e.g., sun, dust, smoke exposure, tree branch)
7. Description of injury/illness - please provide a brief description.

E.g.: During harvest I was climbing on the Ford 5000 tractor. I slipped off the tractor and my head hit the ground.
E.g.: I was lamb marking and vaccinated myself with Coopers 5.1 vaccine using a disposable vaccinator.
E.g.: Fell off the ladder during pruning due to unstable ladder on slippery surface after a frost.

What were you doing?

What went wrong?

What actually caused the injury/illness?

8. What was the body location of the injury/illness?

9. a. What was the nature of injury/illness? (Please tick and give details)
   - [ ] a) Soft tissue (e.g. cut, puncture, bruise, burn, foreign body, dermatitis).
   - [ ] b) Bone, tendon, joint (fracture, sprain, repetitive stress injury).
   - [ ] c) Animal related illness (e.g. leptospirosis, scabby mouth).
   - [ ] d) Other (poisoning, inhalation, absorption, chemical).

9. b. What treatments were involved? (Please tick and indicate)
   - [ ] a) None (did nothing).
   - [ ] b) Self managed (i.e., pain killers, bandage, rest).
   - [ ] c) Health Service (bush nursing, hospital).
   - [ ] d) General Practitioner.
   - [ ] e) Other (physiotherapy, chiropractor, naturopath).

10. Do all your tractors have a ROP (Roll-Over Protection) fitted?  [ ] Yes.  [ ] No.

11. Do all your PTO's (Power Take Off) have guards in place?  [ ] Yes.  [ ] No.

12. Do all your tractors have a cabin?  [ ] Yes.  [ ] No.

13. Have you undertaken a First Aid Certificate?  [ ] Yes.  [ ] No.

14. Do you know how to perform basic life support?  [ ] Yes.  [ ] No.

15a. Do you wear a motorcycle helmet when on a motorbike or ATV?
   - [ ] Yes all the time.  [ ] Usually.  [ ] Occasionally.  [ ] No.  [ ] Never ride or a passenger.
   
   If you don’t wear a helmet all the time, why not?

15b. Do you wear a helmet when riding a horse?
   - [ ] Yes all the time.  [ ] Usually.  [ ] Occasionally.  [ ] No.  [ ] Never ride.
   
   If you don’t wear a helmet all the time, why not?

16. Do you eat your own meat (e.g., slaughter/contract kill)?  [ ] Yes.  [ ] No.
   
   If yes, what kinds of meat (e.g., lamb, beef, pork).
Appendix 5 Health and wellbeing – Kessler K10 mental health survey

### Health and Well Being

For all questions, please fill in the appropriate response circle with a tick.

<table>
<thead>
<tr>
<th>In the past 4 weeks:</th>
<th>None of the time</th>
<th>A little of the time</th>
<th>Some of the time</th>
<th>Most of the time</th>
<th>All of the time</th>
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<tbody>
<tr>
<td>About how often did you feel tired out for no good reason?</td>
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<tr>
<td>About how often did you feel nervous?</td>
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<tr>
<td>About how often did you feel so nervous that nothing could calm you down?</td>
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<td>About how often did you feel hopeless?</td>
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<td>About how often did you feel restless or fidgety?</td>
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<tr>
<td>About how often did you feel so restless you could not sit still?</td>
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<td>About how often did you feel depressed?</td>
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<td>About how often did you feel that everything is an effort?</td>
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<tr>
<td>About how often did you feel so sad that nothing could cheer you up?</td>
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<tr>
<td>About how often did you feel worthless?</td>
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### Personal and Social Support

During the past 4 weeks, was someone available to help you if you needed and wanted help? For example, if you:

- Felt very nervous, lonely or blue
- Got sick and had to stay in bed
- Needed someone to talk to

- Yes, as much as I wanted
- Yes, quite a bit
- Yes, some
- Yes, a little
- No, not at all

- Needed help with daily chores
- Needed help just take care of yourself

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<table>
<thead>
<tr>
<th>Name:</th>
<th>Designation/Agency: WDH5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign:</td>
<td>Date: 3rd March 2010</td>
</tr>
</tbody>
</table>
Appendix 6 Agri-Chemicals Usage
Appendix 7 SFF Future Directions workshop agenda

SUSTAINABLE FARM FAMILIES™

AGENDA

7:30 – 9:00am  Physical evaluations including fasting cholesterol, blood glucose, blood pressure, eyesight, weight and height. 10 minute appointments
7:30 – 9:00am  Breakfast and completion of pre questionnaire
9:00 – 9:30am  Focus Group  Reflection on learnings and impact on farming families from Workshop 1 and 2 program
9:30 – 10:45am Participants’ individual presentations from Action Plans
10:45 – 11:00am Morning Tea
11:00 – 11:30am Good things come in three’s – refresh, revisit and reinvigorate
11:30 – 12:30pm TOPIC Twelve: Respiratory Health - If you can’t breathe nothing else matters
12:30 – 1:15pm TOPIC Thirteen: Agri-chemicals
1:15 – 1:45pm Lunch
1:45 – 2:15pm Feedback on SFF ‘…beyond the bale - beefing up knowledge and giving the whole grain on farmer health
2:15 – 2:45pm Focus Group Where to from here? Looking back and moving forward: a sustainable farming future
## Sustainable Farm Families™

### Action Plan

| Program: | Write goals that are 'SMART':
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A - specific</td>
</tr>
<tr>
<td>Goal</td>
<td>How I plan to achieve my goal</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>Example 1: Reduce my weight by 5kg in the next 10 months.</td>
<td>- Walk 5 mornings per week for 20 minutes; -- Join the local walking club and play one afternoon each week</td>
</tr>
<tr>
<td></td>
<td>Example 2: Improve farm OAHS by building a secure chemical shed</td>
</tr>
<tr>
<td></td>
<td>Example 3: Reduce my stress by spending 2 hours quality time per week with my family</td>
</tr>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
</tbody>
</table>

Please indicate if you wish us to send you specific assistance literature and/or resources to help you achieve any of your goals.

Signed: ___________________________ Date: ___________________________

---

52

Appendix 8 Action plan
### Appendix 9 Physical assessment

#### Sustainable Farm Families – Physical Assessment Form

<table>
<thead>
<tr>
<th>Health Indicator</th>
<th>Recommended Values</th>
<th>Assessment</th>
<th>Date</th>
<th>Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight and height</td>
<td>Per individual</td>
<td>Weight</td>
<td>Height</td>
<td></td>
</tr>
<tr>
<td>Oxygen Saturation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of Body Fat</td>
<td>M: 10-20% F: 20-30%</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Blood Glucose Level: (Fasting)</td>
<td>≤ 5.4mMoles</td>
<td>≥ 5.4mMoles</td>
<td>Refer</td>
<td></td>
</tr>
<tr>
<td>Blood Cholesterol: (Fasting)</td>
<td>TC &lt; 5.5mMoles refer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Pressure:</td>
<td>≤ 140/90</td>
<td>≥ 140/90</td>
<td>Refer</td>
<td></td>
</tr>
<tr>
<td>Pulse Rate:</td>
<td>60-100 regular</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye Sight: Ticking</td>
<td>6/6 Standard</td>
<td>L eye</td>
<td>R eye</td>
<td></td>
</tr>
<tr>
<td>Without glasses</td>
<td>6/6 Excellent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With glasses or contact lenses</td>
<td>6/12 = above poor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waist/Height ratio:</td>
<td>W/H 1.0 to 1.0 ratio</td>
<td>Waist</td>
<td>Hip</td>
<td></td>
</tr>
<tr>
<td>Respiratory Assessment</td>
<td>Red = 65 refer</td>
<td>Fev1</td>
<td>Colour</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yellow = 55-75</td>
<td>Fev1/Fev1</td>
<td>Colour</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Borderline</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Green = .75</td>
<td>Fev1</td>
<td>Colour</td>
<td></td>
</tr>
</tbody>
</table>

Referral from previous year actioned?  □ Yes  □ No  □ N/A (no referral last year)

If yes, please list outcomes/comments:

If no, why not

Signature of person completing this form: [Signature]  Date: [Date] (Year 4)
Appendix 10 SFF Future Directions workshop evaluation

## Sustainable Farm Families - Course Evaluation Form

**ID Code:________ Date:________ Venue:________**

<table>
<thead>
<tr>
<th>Score each question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Session</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The session was successful in updating my knowledge about</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The session was successful in updating my perceptions of how I can influence my health status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can see how I can apply the content of the session in my life and work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There was an appropriate balance between information giving, activities and time for questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The session was conducted at an appropriate pace</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I found the language and concepts easy to grasp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Resource Kit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing in the resource kit was a helpful activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The resource kit contained useful information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Learning Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt I was an active learner in the session</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Course Organisation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The organisation of the session positively assisted learning and understanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Please turn over the page and complete the questions on the other side.*
### Comments about the course overall (to be completed at the conclusion of the program)

<table>
<thead>
<tr>
<th>The venue and food were appropriate</th>
<th>Strongly disagree □</th>
<th>Disagree □</th>
<th>Agree □</th>
<th>Strongly agree □</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The pre-session information was appropriate</th>
<th>Strongly disagree □</th>
<th>Disagree □</th>
<th>Agree □</th>
<th>Strongly agree □</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I was comfortable with the format of the course and the discussions?</th>
<th>Strongly disagree □</th>
<th>Disagree □</th>
<th>Agree □</th>
<th>Strongly agree □</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The course should be:</th>
<th>Longer □</th>
<th>Shorter □</th>
<th>More practical □</th>
<th>Not changed □</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Comments about the course overall (to be completed at the conclusion of the day’s program)

What is the highest level of education you received?

- □ Primary School
- □ Secondary School - Up to Year 11
- □ Secondary – Completed Year 12
- □ Tertiary - Bachelor
- □ Post-Graduate studies

Have you attended TAFE? □ Yes □ No

If yes, what course did you attend at TAFE

How much does it cost on average for a visit to the GP?

Does your GP bulk bill? □ Yes □ No

Would you recommend the course to your friends or industry people? □ Yes □ No

Give reasons for your answer:

What have you liked about the course overall?

What do you think could be improved?

THANK YOU
Appendix 11 SFF Future Directions evaluation results
**SUSTAINABLE FARM FAMILIES**
**FUTURE DIRECTIONS**
**WORKSHOP 4**

**SUMMARY OF WORKSHOP EVALUATIONS**

The session was successful in updating my awareness about ...

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Comment/Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical assessments</td>
<td>60</td>
<td>35</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Individual</td>
<td>42</td>
<td>56</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Good things come in 3’s</td>
<td>68</td>
<td>32</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Respiratory Health</td>
<td>82</td>
<td>17</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Agri Chemicals</td>
<td>67</td>
<td>31</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Beyond the Bale</td>
<td>41</td>
<td>41</td>
<td>0</td>
<td>0</td>
<td>18</td>
</tr>
</tbody>
</table>

**Updating my awareness**

- **Physical assessments**
- **Individual**
- **Good things come in 3’s**
- **Respiratory Health**
- **Agri Chemicals**
- **Beyond the Bale**

**No. of respondents**

- **Strongly Agree**
- **Agree**
- **Disagree**
- **Strongly Disagree**
- **No Comment/Not Applicable**
SUSTAINABLE FARM FAMILIES
FUTURE DIRECTIONS
WORKSHOP 4
SUMMARY OF WORKSHOP EVALUATIONS

I can apply the content to my life and work

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Comment/Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>43</td>
<td>54</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Good things come in 3’s</td>
<td>66</td>
<td>33</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Respiratory Health</td>
<td>59</td>
<td>40</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Agri Chemicals</td>
<td>60</td>
<td>38</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Beyond the Bale</td>
<td>42</td>
<td>41</td>
<td>0</td>
<td>0</td>
<td>17</td>
</tr>
</tbody>
</table>

Application to life and work

No. of respondents

Application to life and work

No. of respondents

58
### SUSTAINABLE FARM FAMILIES:
FUTURE DIRECTIONS
WORKSHOP 4
SUMMARY OF WORKSHOP EVALUATIONS

The balance between information, activity and questions was appropriate

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Comment/Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>48</td>
<td>50</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Good things come in 3's</td>
<td>63</td>
<td>37</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Respiratory Health</td>
<td>64</td>
<td>31</td>
<td>4</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Agri Chemicals</td>
<td>62</td>
<td>35</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Beyond the Bale</td>
<td>44</td>
<td>39</td>
<td>1</td>
<td>0</td>
<td>16</td>
</tr>
</tbody>
</table>

#### Balance of presentation

![Chart showing the balance of presentation for different topics.](image-url)

- **Strongly Agree**
- **Agree**
- **Disagree**
- **Strongly Disagree**
- **No Comment/Not Applicable**

#### Balance of presentation

![Chart showing the balance of presentation for different types of responses.](image-url)

- **Strongly Agree**
- **Agree**
- **Disagree**
- **Strongly Disagree**
- **No Comment/Not Applicable**
SUSTAINABLE FARM FAMILIES
FUTURE DIRECTIONS
WORKSHOP 4
SUMMARY OF WORKSHOP EVALUATIONS

The pace was appropriate

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Comment/Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>54</td>
<td>46</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Good things come in 3's</td>
<td>65</td>
<td>33</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
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<td>30</td>
<td>4</td>
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<td>1</td>
</tr>
<tr>
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<td>57</td>
<td>40</td>
<td>1</td>
<td>0</td>
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<tr>
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<td>47</td>
<td>36</td>
<td>1</td>
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<td>16</td>
</tr>
</tbody>
</table>

Appropriate pace

No. of respondents

Individual  Good things come in 3's  Respiratory Health  Agri Chemicals  Beyond the Bale

Appropriate pace

No. of respondents

Strongly Agree  Agree  Disagree  Strongly Disagree  No Comment/Not Applicable

<table>
<thead>
<tr>
<th>Individual</th>
<th>Good things come in 3's</th>
<th>Respiratory Health</th>
<th>Agri Chemicals</th>
<th>Beyond the Bale</th>
</tr>
</thead>
</table>
The language and concepts were easy to grasp

<table>
<thead>
<tr>
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<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Comment/Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
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<td>6</td>
</tr>
<tr>
<td>Individual</td>
<td>65</td>
<td>35</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Good things come in 3's</td>
<td>76</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Respiratory Health</td>
<td>69</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Agri Chemicals</td>
<td>64</td>
<td>34</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Beyond the Bale</td>
<td>50</td>
<td>32</td>
<td>0</td>
<td>0</td>
<td>18</td>
</tr>
</tbody>
</table>
Writing in the resource kit was helpful

<table>
<thead>
<tr>
<th></th>
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<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Comment/Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical assessments</td>
<td>33</td>
<td>33</td>
<td>2</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>Respiratory Health</td>
<td>31</td>
<td>31</td>
<td>2</td>
<td>0</td>
<td>27</td>
</tr>
</tbody>
</table>
The resource kit was an excellent guide

<table>
<thead>
<tr>
<th></th>
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<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Comment/Not Applicable</th>
</tr>
</thead>
<tbody>
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<td>46</td>
<td>27</td>
<td>1</td>
<td>0</td>
<td>26</td>
</tr>
</tbody>
</table>

Resource kit as a guide

- Physical assessments
- Individual
- Good things come in 3's
- Respiratory Health

No. of respondents

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Comment/Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>No Comment/Not Applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SUSTAINABLE FARM FAMILIES
FUTURE DIRECTIONS
WORKSHOP 4
SUMMARY OF WORKSHOP EVALUATIONS:

I felt I was an active learner

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Comment/Not Applicable</th>
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[Bar chart images showing active learning for each category with response counts]
The organisation of the sessions aided learning and understanding

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Appendix 12 Pre/post knowledge questionnaire

Sustainable Farm Families Pre / Post Sessions Questions (Men)
Please answer the questions listed. If you are unsure of the answer please leave the question blank. No names are required but please fill in your U.I. number on the back of your name tag.

1. Who has the better health status metropolitan or rural men?

2. What do you think are the main signs or symptoms of depression (list up to 3):

3. If you thought someone you know closely was experiencing depression, what would you do? (List up to 4)

4. What are the 3 major risk factors for cardiovascular (heart attack, stroke, heart disease) disease?

5. List 3 things that assist in the prevention of cardiovascular disease.

6. List 2 major risk factors for diabetes?

7. What does the National Heart Foundation recommend as the best form of exercise?
   - Brisk walking
   - Cycling
   - Swimming
   - Running

8. How much exercise does the National Heart Foundation recommend per day?
   - 10 minutes
   - 30 minutes
   - 60 minutes
   - 2 hours

9. How often should you exercise per week?
   - 3 times
   - 5 times
   - 7 times
   - 10 times

10. The percentage of Australian adults that experience anxiety, substance abuse or depressive disorders is:
   - 20%
   - 10%
   - 5%
   - 2%
11. What are the risk factors for bowel cancer?

12. How is bowel cancer detected?

13. List two methods by which we can treat prostate cancer?

14. What is hormone therapy?

15. What percentage of Australian women experience mild to moderate menstrual symptoms?
   - 1 out of every 5 women
   - 2 out of every 5 women
   - 3 out of every 5 women
   - 4 out of every 5 women

16. How much fat is required in grams per day in our diet?
   - About 10 grams per day
   - About 20 grams per day
   - About 40 grams per day
   - About 50 grams per day

17. How much fibre is required per day in our diet?
   - About 10 grams per day
   - About 20 grams per day
   - About 40 grams per day
   - About 50 grams per day

18. Approximately every three days a person is intellectually injured on a farm in Australia.
   - True
   - False

19. List two diseases which are genetically linked?

20. What is the leading cause of death for Australian men?
   - Cardiovascular Disease
   - Cancer
   - Diabetes
   - Accidents, (including road poisoning, injury, violence)

21. A standard drink is any drink containing 10 grams of alcohol.  
   - True
   - False

22. The likelihood of stress occurring in jobs over which people have little control is more likely to occur than those people working in jobs with high level of control.
   - True
   - False

 please fill in U.1 --
23. There are 3 main human exposure routes for chemicals please list them.

1........................................ 2........................................

3........................................

24. How would you rate the relationship between health and your farm productivity?
   □ Very important
   □ Important
   □ Slightly important
   □ Not important

25. With the increase in life expectancy the average years an Australian woman will spend with a physical handicap on average is:
   □ 14 years
   □ 10 years
   □ 5 years
   □ 2 years

26. When UV Index levels reach 3 (moderate) and above for most of the day, when is the worst time of the day to be in the direct sun?
   □ 11 am to 3 pm EDT
   □ 9 am to 12.00 midday EDT
   □ 12.00 midday to 4.00 pm EDT
   □ 2 pm to 6.00 pm EDT

27. The Cancer Council Victoria recommends five simple steps to protect against sun damage when the UV Index is 3 or above: Can you list them?

1........................................ 2........................................

3........................................ 4........................................

28. One standard drink always contains the same amount of alcohol regardless of container size or alcohol type (ie beer, wine, or spirits).
   □ True or □ False

29. Organic Trotch dust exposure (tick the correct answer)
   □ Occurs 4-12 hours following exposure to grain/organic dust
   □ Has flu-like symptoms, fevers, headaches, muscle aches, shortness of breath
   □ Usually disappears in 24 hours
   □ Not often recognised
   □ All of the above

Thank you for your time and involvement.

Sue Bunbury and Stuart Wilder
Researchers

More post questions: V17 (guideline group) Sustainable Farm Families 16
Sustainable Farming Families Pre/Post Session Questions (Women)

Please answer the questions listed, if you are unsure of the answer please leave the question blank. No names are required but please fill in the U.I. with the number on the back of your name tag.

1. Who has the better health status metropolitan or rural women?

2. What do you think are the main signs or symptoms of depression (list up to 3)?

3. If you thought someone you knew closely was experiencing depression, what would you do? (List up to 4)

4. What are the 3 major risk factors for cardiovascular (heart attack, stroke, heart disease) disease?

5. List 3 things that assist in the prevention of cardiovascular disease.


7. What does the National Heart Foundation recommend as the best form of exercise?
   - Brisk walking
   - Cycling
   - Swimming
   - Running

8. How much exercise does the National Heart Foundation recommend per day?
   - 10 minutes
   - 30 minutes
   - 60 minutes
   - 2 hours

9. How often should you exercise per week?
   - 3 times
   - 5 times
   - 7 times
   - 10 times

10. The percentage of Australian adults that experience anxiety, substance abuse or depressive disorders is:
    - 20%
    - 10%
    - 5%
    - 2%
Sustainable Food Futures

11. What are the risk factors for bowel cancer?

12. How is bowel cancer detected?

13. Women over 50 suffer a degree of incontinence, which interferes with daily life at the rate of:
   - 70%
   - 40%
   - 25%
   - 30%

14. What is hormone therapy?

15. What percentage of Australian women experience mild to moderate menopausal symptoms?
   - 1 out of every 5 women
   - 2 out of every 5 women
   - 3 out of every 5 women
   - 4 out of every 5 women

16. How much fat is required in grams per day in our diet?
   - About 10 grams per day
   - About 30 grams per day
   - About 40 grams per day
   - About 50 grams per day

17. How much fibre is required per day in our diet?
   - About 10 grams per day
   - About 30 grams per day
   - About 40 grams per day
   - About 50 grams per day

18. Approximately every 3-4 days a person is fatally injured on a farm. [ ] True or [ ] False

19. List two diseases which are genetically linked?

20. What is the leading cause of death for Australian women?
   - Cardiovascular Disease
   - Cancer
   - Diabetes
   - Accidents, (including road poisoning, injury, violence)

21. A standard drink is any drink containing 10 grams of alcohol. [ ] True or [ ] False

22. The likelihood of stress occurring in jobs over which people have little control is more likely to occur than in those people working in jobs with high level of control. [ ] True or [ ] False

Women pre-post questions V (Helen Kaye) Sustainable Food Futures
23. There are 3 main human exposure routes for chemicals please list them

1--------------------------------------------------------------- 2---------------------------------------------------------------

3---------------------------------------------------------------

24. How would you rate the relationship between health and your farm productivity?
- Very Important
- Important
- Slightly important
- Not important

25. With the increase in life expectancy the average years an Australian woman will spend with a physical handicap on average is:
- 14 years
- 10 years
- 5 years
- 2 years.

26. When UV Index levels reach a (moderate) and above for most of the day, when is the worst time of the day to be in the direct sun?
- 11 am to 3 pm EDST
- 9 am to 12.00midday EDST
- 12midday to 4.00pm EDST
- 2pm to 6.00pm EDST

27. The Cancer Council Victoria recommends five simple steps to protect against sun damage when the UV Index is 3 or above. Can you list them?

1--------------------------------------------------------------- 2--------------------------------------------------------------- 3--------------------------------------------------------------- 4--------------------------------------------------------------- 5---------------------------------------------------------------

28. One standard drink always contains the same amount of alcohol regardless of container size or alcohol type (e.g. beer, wine, or spirit).  
☐ True or ☐ False

29. Organic Toxic dust syndrome (tick the correct answer)
- Occurs 4 - 12 hours following exposure to grain/organic dusts
- Has flu like symptoms, fevers, headaches, muscle aches, shortness of breath
- Usually disappears in 24 hours
- Not often recognised
- All of the above

Thank you for your time and involvement

Sue Bunney and Smart Willder
Researcher
Appendix 13 SFF Future Directions newsletter

Sustainable Farm Families™ - Future Directions

MARCH 2011

ISSUE 5

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Personal protective equipment

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Keeping farming fit

Changing climate

Message from the ‘Prof’


Reporting back:

SFF - Future Directions

It has been a while since we last caught up with you in November 2009-July 10. It was wonderful to see you all and discover how your health, wellbeing and safety had changed since our first program.

Over 80% of the original participants participated in SFF - Future Directions follow up and we have full sets of data on 77% of participants.

We would like to thank you for your involvement with both the original SFF program and Future Directions program. Your measurements and the other data collected from the Future Directions program, can be seen throughout this newsletter and illustrate how you put your learning’s into practice. It was and still is a challenging time with a changing climate from drought to floods, bushfires and cyclones, although it’s great to see livestock prices high, wool gaining momentum and some yields for cropping have remained sound despite the weather challenges.

Independent external evaluation

As part of the funding agreement, an independent evaluation of the Sustainable Farm Families™ Future Directions program was performed by Roberts Evaluation and we thank those of you who participated in this external review.

Fifty four SFF participants from 4 states and all industries were interviewed over the phone to assess the impact of the SFF programs over time. In depth case studies were also undertaken.

The report found that SFF programs had:

• changed the way farmers thought about their health and safety
• influenced farmers health and safety decisions in their daily lives
• improved the way farmers dealt with change
• clearly linked health with farm practices and productivity

The evaluation report recommended that:

• SFF continue the longitudinal studies such as the Future Directions to other SFF programs
• SFF programs continued to be delivered to new farming groups
• High level presentation skills remain


A huge thank you to those that participated!

Further information:
T: 5551 8533
E: ncfl@wths.net
W: www.sustainablefarmfamilies.org.au
W: www.farmerhealth.org.au

Keep in contact via the farmer health website:
www.farmerhealth.org.au

National Centre for Farmer Health

Director National Centre for Farmer Health
Clinical Associate Professor Susan Brumley

SFF Principal Researcher Stuart Wilder
SFF Facilitator Professor John Martin

Back at Swan Hill 2010
Your health results: Below you will find 2 graphs. One illustrates how those farm men and women with risk factors went over the 5-6 years since baseline and the other is how your stress levels changed. Interesting!

The graph to the right shows the number of people in the "high risk" category in workshop 1 (yellow) and the changes to those people at workshop 4 - SFF Future Directions (purple).

For example in workshop 1 there were 51 people with elevated cholesterol over 5.5mmol and in workshop 4 this had reduced to 24 people.

There was also a statistically significant decrease in total cholesterol, and blood pressure (both systolic and diastolic) for the people at risk in workshop 1 to the Future Directions workshop.

Great Work!!!

As seen above there was a decrease in the number of people at risk with cholesterol, blood glucose, body mass index and blood pressure. These farm men and women had moved from at risk to no longer at risk and if you remember back to the cardiovascular session (Chapter 2 in your manuals), lowering cholesterol and blood pressure helps lower your risk of developing cardiovascular disease and diabetes later on in life. Well done!!! Important we also know from the results that the more risk factors you had the better you did in getting rid of them!!!!

We’ve heard about how well the people who were at risk in workshop 1 went but how did everyone else go? Unsurprisingly, the participants who started without any risk factors have started to develop a few! The tyranny of time and ageing!!! Those at risk had a specific area or areas to focus on and were able to do that. For those without risk factors it’s hard to not let your guard slip and find yourself becoming complacent or not having a check-up since we last saw you. For instance we know that: 6 people moved from a healthy BMI to overweight, 13 people had raised cholesterol, 2 people had hypertension. Those of you who discovered new risk factors were surprised and hopefully now are working vigorously to address this.

Stress/Psychological Distress
Along with the clinical health indicators levels of stress were measured from workshop 1 to workshop 4. As you can see in the graph to the left there was an improvement (reduction) in moderate, high and very high stress levels, with 67% of farm men and women reporting low stress levels in workshop 4. This is excellent work as raised stress levels may put you at risk of mental health issues such as depression and anxiety. It was good to see people identifying stress as a major issue and taking action. Remember that eating a healthy balanced diet and exercising help to reduce these risk factors for cardiovascular disease, diabetes and stress.

2. Measurement of psychological distress from workshop 1 to workshop 4
Personal protective equipment and you

Remember filling out the farm safety surveys? Here is some interesting information that was gathered from them regarding your use of Personal Protective Equipment (PPE). We were able to assess the change in total number of protective items used when working with chemicals, workshop/ machinery, or ultraviolet radiation (UV).

As always it’s best to remove yourself from the exposure or danger by thinking about how you work or by engineering the problem out. If you cannot then PPE is necessary.

The graph to the right shows the total Personal Protective Equipment (PPE) used from workshop 1 to the Future Directions workshop 4. As you can see there was an increase in the total number of PPE items worn when working with chemicals and when using workshop or machinery equipment. It is also good to see that more farmers are taking home the sun smart message and taking more precautions with UV radiation. Well done!!! Changing behaviours and thinking about this is not easy.

As seen in the top right and left hand photos at the top of the page (modeled by Swan Hill participants) the new ‘Shorty helmet’ which meets Australian Standards, has been quite popular at the SFF Future Directions workshop, providing a lighter alternative to the traditional motorbike helmets.

Your action plans – what did you focus on?

The graph below depicts what your action targets were in workshop 1 to the Future Directions workshop. There was a shift with more people identifying stress management as an area to work on. Examples of some stress actions were ‘taking a holiday’, ‘more time for themselves’, or ‘spending more time with the family’. It’s good to see stress levels came down! (see graph #2)

Farming Fit

Along with stress, fitness and weight management were interest areas with an emphasis on making time to ‘work in’ exercise on the farm. To help you do this you may find the Farming Fit DVD really helpful. It can be viewed or ordered at:

www.farmerhealth.org.au

or ring 03 55518533. It is free, features real farm men and women and can be posted to you.
Changing climate

A changing climate made it difficult for farm families, with prolonged drought and then recent floods and cyclones. As one farmer stated, "The last 8 or 9 years has tested us out – a lot of farms are up for sale and I have never seen it like this before in my lifetime. Many of these are due to financial problems."

The graph reveals that a changing climate impacted on farming decisions, with 29% of responses. 19% stated that the changing climate has increased stress. 39% commented on climate itself, stating this was just part of the farming cycle – too wet, to dry – whatever! What we learned was that:

- Climate change or variability is not universally accepted across all areas of agriculture
- Climate change has a significant mental, social and economic impact upon farming families across SE Australia

A message from the Prof...

It was great to reconnect with the participants on the program after a few years away. I felt like Nellie Melba returning to so many places to see you all turn up and contribute to the program. There are many highlights for me but the session which I have been closely involved with is at the outset when you tell us how well you have stuck to your plans since the program started. While there have been a few specific actions, eg build a proper chemical storage facility, most are focussed on ongoing actions that will make a difference to their health, wellbeing and farm safety. Such as planning for and taking a break; thinking more carefully about my diet, and getting out for a walk or a bicycle ride once a day for 30mins of moderate exercise. Keeping this focus will ensure a quality of life and a more sustainable farming business. Well done and best wishes,

Prof John Martin.
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Sustainable Farm Families: Future directions

By Susan Brumby, John Martin and Stuart Willder
Pub. No. 11/169

The health and wellbeing of all Australians is pivotal for economic and social success of the nation. Current data reveals that the health status of people living in rural and remote populations is poorer than their metropolitan counterparts. However there is a lack of understanding of the specific health statistics of rural farming populations.

The Sustainable Farm Families (SFF) Future Directions program aims to fill this gap by providing ongoing evidence-based information and support to Australia’s agricultural industries, to gain insight into the health, wellbeing and safety of Australia’s rural farming populations.

RIRDC is a partnership between government and industry to invest in R&D for more productive and sustainable rural industries. We invest in new and emerging rural industries, a suite of established rural industries and national rural issues.

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