

The most important aspect to a healthy Australian farm?

A healthy farm family

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Susan Brumby, Clinical A/Professor and Director
Hamilton, Australia

www.farmerhealth.org.au

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Sustainable Farm Families

- Introduction
- Australian Agriculture
- The Sustainable Farm Families Program
- Results
- Conclusion
- *Acknowledgment of the farm families, colleague Dr. Ananda Chandrasekara, the SFF team & Dr. Claudio Colosio*

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Australia

- 7,686,850 sq.km
- Largest island smallest continent
- Pop. 22.4million
- Literacy 99%
- Agriculture Production
- Mining- minerals, alumina, gold, coal



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Australian Agriculture

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Background - hard to reach places

- Population 22.4 million people
- Mostly eastern seaboard and south east corner of continent
- 80% of land is either desert or grassland
- 61% is used for agriculture (Australian Government Department of Agriculture, Fisheries and Forestry, *At a Glance*, 2010.)
- Gross value of Australian farm production 41.8 billion (farm gate) (Australian Bureau of Statistics, *Value of Principal Agricultural Commodities Produced 2008/09*)

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Australia's Agricultural Community

- **Oldest** workforce across Australia and Victoria
- Predominantly **family owned and operated** (NFF 2012)
- High rates of preventable illnesses, injury, suicides
- Lower computer and internet use vs other businesses
- 2007-08 over 60% exceptional circumstances

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Drought and floods

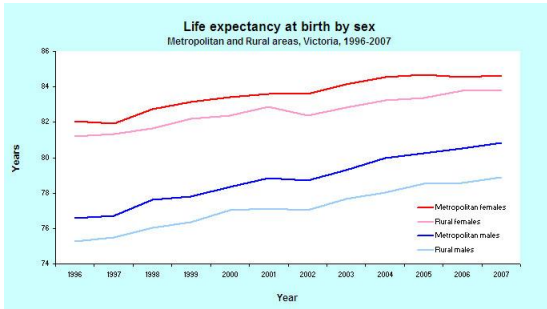


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Health Challenges in rural Australia

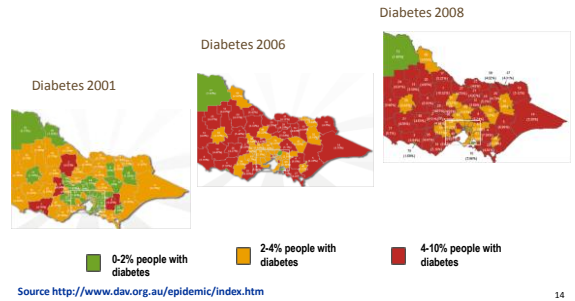
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Life Expectancy at Birth Victoria 1996-2007



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Diabetes incidence Victoria 2001- 2008



Source <http://www.dav.org.au/epidemic/index.htm>

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Chronic disease and farmers

Rural Australians face a risky environment. Increased:

- Occupational hazards
- Mental health burden
- Adverse climatic conditions
- Socio-economic constraints
- Food insecurity – ↓ access to fresh food
- Alcohol misuse

And reduced access to health services

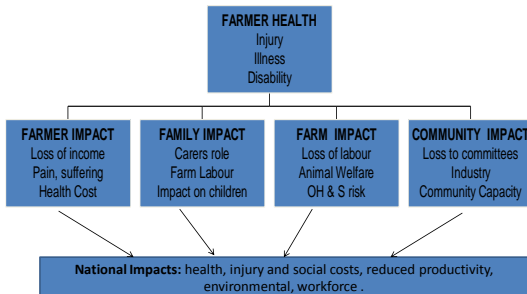
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Health issues of farming families

- ✓ High demands of job
- ✓ Aging workforce
- ✓ Unrealistic attitudes
- ✓ Diet and alcohol abuse
- ✓ Limited access health information
- ✓ Limited knowledge health system
- ✓ Multipronged stressors

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Why does farmer health matter?



Brumby, Susan (2009) Cardio, climate, coping and crops : connecting conditions in farming communities, in Martin, John; Rogers, Maureen and Winter, Caroline (eds), Climate change in regional Australia : social learning and adaptation, pp. 201-222, VURRN Press Incorporated, Ballarat, Vic.

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Sustainable Farm Families (SFF) Program

Previous Intervention Studies

- Worksite and community intervention studies targeting cardiovascular disease (CVD) tend to produce small, statistically significant changes (Lupton, Fønnebo, & Søgaard, 2003; Schuit et al., 2006; Martínez-González et al., 1998).
- Interventions in agricultural tend to target injury prevention, rather than chronic disease.
- In Australia, and overseas few interventions in agricultural populations have been published in scientific literature.

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Sustainable Farm Families

Addresses health, wellbeing and safety by:

- Identifying and tracking farm families health indicators
- Delivering health and safety training to farmers
- Communicating findings of the project
- Providing information on family health, health as a social issue and farm productivity.

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Theoretical Approach

- Ajzen and Fishbein - theory of reasoned action and planned behaviour (Ajzen,1980)
- Kolb - theory of adult learning (Kolb 1984)
- Kirkpatrick - evaluation framework (Kirkpatrick 1998)
- Rogers - work on diffusion of innovation (Rogers 1998)
- Watts – propagation of a concept through networks

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SFF and the triple bottom line

Triple bottom line – financial, environmental, human (social)

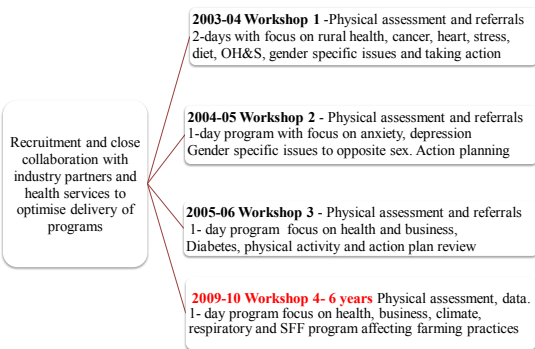
Death and illness could be prevented with:-

- ✓ improved health behaviours
- ✓ better access to health services/ information, and
- ✓ effective collaboration between health, government and primary industry services

Farmers to see good health, wellbeing and safety as 'good business'

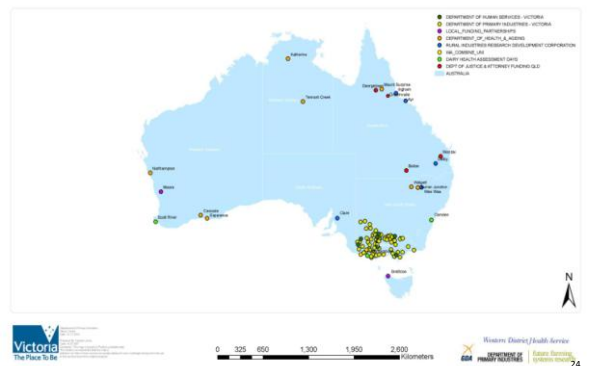


SFF Program what does it do?



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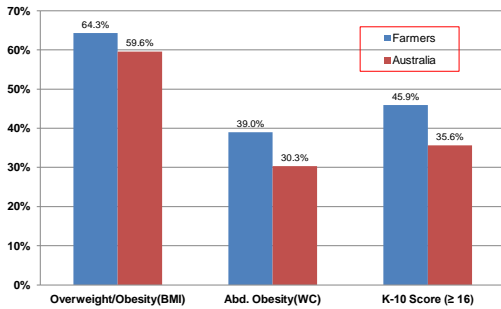
Results and discussion

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SFF baseline results

	N	Range	Mean (SD)
Age (years)	1619	18-79	49.0(11.2)
Weight (kg)	1619	37.0-171.0	80.8(16.0)
BMI (kg/m ²)	1619	14.8-59.9	27.4(4.7)
Fasting blood glucose (mmol/L)	1617	2.4-18.9	5.3(0.9)
Fasting blood Cholesterol (mmol/L)	1616	3.5-8.5	4.8(0.9)
Systolic blood pressure (mmHg)	1619	80-210	128.1(16.3)
Diastolic blood pressure (mmHg)	1619	50-120	79.3(10.2)
Body Fat %	Male	780	10.2-46.6
	Female	704	12.4-49.9
Waist circumference (cm)	Male	855	69.0-200.0
	Female	755	63.0-134.0
Psychological distress (Kessler-10) score	1277	10-38	15.8(4.7)

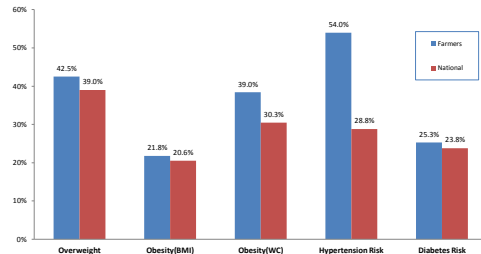
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Ref: Farming Fit? Dispelling the Australian agrarian myth. Brumby et al. BMC Research Notes 4:89, 30 March 2011

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Prevalence (%) of cardiovascular risks (age standardised data) compared with Australian national population data



Ref: Cardiovascular risk factors and psychological distress in a cohort of the Australia farming community Brumby et al 2012 (in press)

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Mean change clinical parameters base to y2&y3

Statistics for all participants that attended both years	Year 2 N=1244 (±Standard Error)	Year 3 (±Standard Error)
Body mass index (n=1619)	-0.11(0.03)** (n=1244)	-0.07(0.04) (n=883)
Total Cholesterol (n=1616)	-0.08(0.02)** (n=1239)	0.01(0.03) (n=880)
Blood glucose level (n=1617)	0.03(0.02) (n=1240)	0.11(0.03)* (n=880)
Waist circumference (n=1610)	-0.51(0.13)** (n=1225)	-0.90 0.17*** (n=876)
Systolic blood pressure (n=1619)	-0.80(0.39)* (n=1237)	-2.22 0.50*** (n=848)
Diastolic blood pressure (n=1619)	0.96(0.27)** (n=1237)	-0.74 0.36* (848)

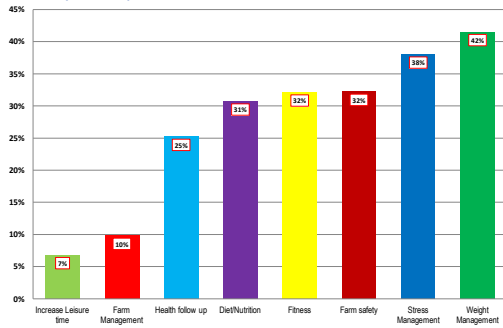
Significance values *** p ≤ 0.001, ** p ≤ 0.01, * p ≤ 0.05. Based on two-tailed significance tests

Mean change clinical parameters (at risk)

Statistics for all participants that attended both years that were at risk	Year 2 Mean (±Standard Error)	Year 3 Mean (±Standard Error)
High Body Mass Index (BMI ≥25) (n=1102)	-0.20(0.04)** (n=841)	-0.12(0.06)* (n=585)
High total cholesterol level (TC>5.5mmol/L) (n=310)	-0.76(0.06)** (n=255)	-0.75(0.08)** (n=234)
High blood glucose level (BGL>5.5mmol/L) (n=481)	-0.34(0.04)** (n=349)	-0.28(.06)** (n=234)
High Waist circumference (WC-men>102cm, women>88cm) (n=629)	-1.65(0.23)** (n=458)	-2.16(0.29)** (n=318)
Systolic blood pressure (SBP≥140mmHg) (n=451)	-7.48(0.79)** (n=356)	-10.75(0.99)** (n=244)
Diastolic blood pressure (DBP≥90) (n=356)	-5.33(0.52)*** (n=279)	-8.94 (0.67)*** (n=191)
High Body Mass Index (BMI ≥25) (n=1102)	-0.20(0.04)** (n=841)	-0.12(0.06)* (n=585)

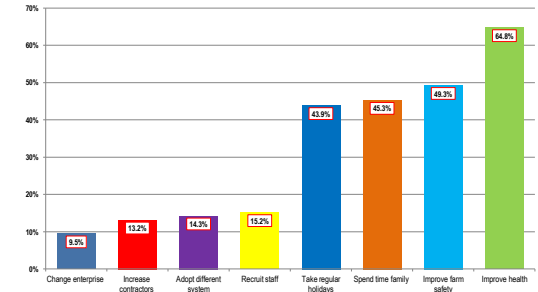
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Action Planning Choices yr.1 (multiple responses)(n = 1792)



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Has SFF prompted you to think differently about work on the farm (n=1254)



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SFF making a difference



Has SFF made a difference ?



- ✓ More aware of themselves and family
- ✓ Think first myself – family - farm business
- ✓ Better understanding of improved health outcomes
- ✓ Connection made health, well being, safety, farm business
- ✓ Improved health risk factors (Brumby et al 2008)
- ✓ Social learning framework important

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In conclusion



- ✓ Agriculture - the most healthful industry
- ✓ Knowledgeable rural health and agricultural professionals
- ✓ Farmer Health fundamental to sustainability
- ✓ Ill health and injury not *normalised*
(Ref: <http://www.farmerhealth.org.au/page/hamilton-charter-farmer-health> (Hamilton Charter for Farmer Health))
- ✓ Work collaboratively - “keeping farmers, families and workers alive and well in agriculture”

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National Centre for Farmer Health Biennial Conference



‘Sowing the Seeds of Farmer Health’

17-19 September 2012
Hamilton, Victoria, Australia

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