

A report on 5-days intensive training programme at National Centre for Farmer Health, Hamilton, Australia

I have attended 5-days intensive training program from 26 February to 2 March, 2018 on Agricultural Health and Medicine (Unit course HMF701; Trimester 1, 2018) at National Centre for Farmer Health (NCFH), Hamilton, Victoria, Australia.

This unit, designed by NCFH, addressed the health and safety concerns encountered by the agricultural workforce in rural and remote areas. The lecture series and their related activities were discussed about the common causes of diseases, mental illness and work related injury that adversely affect the health and well-being of the human resource in agricultural industries, including obesity, diabetes, cancers, zoonotic infections, physical trauma, behavioural health, addiction and agricultural safety. Increasing knowledge of these factors could be adopted to improve the effectiveness of current strategies aimed at improving the health condition of farming communities.

TRAINING SCHEDULE

Day 1: Monday 26 February 2018

- Welcome address CE of Western District Health Service, Hamilton
- Agricultural health and medicine
- Brief personal introductions
- Agriculture today and discussion on issues facing agriculture in the next decade
- Public perceptions and farming populations
- Farm dangers
- Agricultural respiratory health
- Welcome address by Hamilton – Southern Grampians Shire Council and visit of colonial Australian Art Exhibition/Gallery

Day 2: Tuesday 27 February

- Health assessment (Blood glucose/BP/cholesterol measurements/weight/height)
- Health assessment and occupational history
- Performing health assessment, PiKo-6 tests
- Veterinary chemicals
- Australian zoonoses
- General practice in farming communities
- Study Time (preparation for Assessment 1)

Day 3: Wednesday 28 February

- Agricultural tour (Hamilton livestock exchange and Mepungah Pastoral Farm visit)

- Agricultural surgery, skin cancer and farm trauma
- Rural emergency medicine
- Agricultural cancers
- Agricultural chemicals and label interpretation

Day 4: Thursday 1 March 2018

- Psychosocial conditions
- Activity: DASS-21 questionnaire
- Suicide and mental illness management
- Addiction in agricultural and rural settings
- Assessment 1: Quiz
- Personal protection equipment
- Dinner at Blue Malt Restaurant, Hamilton

Day 5: Friday 2 March

- Musculoskeletal injuries and ageing
- Agricultural ergonomics and manual handling
- Agricultural health co-morbidities
- Group work, TV advt. and the year 2030
- AgriSafe™
- Summary and farewell

Assessments over CloudDeakin

- Group work – due date 15 April 2018
- Unit test – due date 29 April 2018
- Written review – due date 20 May 201

DETAILED TRAINING PROGRAMME

Day 1: Monday 26 February 2018

A warm welcome was addressed by Rohan Fitzgerald, the CE of Western District Health Service to all the 18 participants come from different parts of Australia. On the very first day of the training programme, 5 lectures were delivered from 9 a.m. in the morning till 4:30 p.m. in the evening amid the tea and lunch breaks. In the evening hours, we were invited to visit colonial Australian Art Exhibition at Hamilton Gallery, where the Southern Grampians Shire Council and Deakin University greeted and welcomed all of us and a brief tour to the art gallery was made.

Lecture series

- **Agricultural health and medicine**

Prof Susan Brumby, Director of National Centre for Farmer Health, Hamilton introduced the training course *Agricultural Health and Medicine* (course code HMF701) and presented overall course structure/goals, importance of agricultural health and medicine, and how it could make difference between rural and urban health provision, etc. She raised some health issues faced by agricultural populations and pointed out how changing agricultural practices may affect health, wellbeing and safety. Thereafter, during the activity period, we introduced ourselves and interacted with participants.



Along with Rohan Fitzgerald, the CE of Western District Health Service and Prof. Susan Brumby, Director of National Centre for Farmer Health, Hamilton during visit of colonial Australian Art Gallery

- **Agriculture today**

Mr Bill Hamill, the CEO of Rural Industries Skill Training talked about the changing scenario in Australian agricultural setting. He analysed the economic impact of agriculture and its role in country's development. He explained nicely about the agricultural workforce and their range of age group (old generation >65, baby boomers

+50, generation X 28-40 years old, and generation Y 6-28 years old) and their interest in agriculture. He also raised concern about the bigger farm size but lesser margins as well as sustainability of farming as a career choice. During the activity period, he discussed on issues facing agriculture in the next decade.

- **Public perceptions and farming populations**

Prof Susan Brumby (Director, NCFH, Hamilton) talked about history of Australian farming, perceptions and stereotypes affecting the work – described farming and some of the challenges globally and predicted workforce crises. She categorised high risk population groups such as men, children, women, elderly, seasonal/migrant workers, etc. She introduced and outlined Sustainable Farm Families (SFF) program. The SFF vision is to improve the health, wellbeing and safety of farm families as farmers are (i) getting older, (ii) working harder and longer, (iii) relying more on family members for extra labour, and (iv) experience high injury rates, illness and premature death. The SFF program encourages farmers to view farm family health as part of the ‘triple bottom line’ of farm reporting. She simply referred to as ‘people, planet and profit’ – all three are dependent on each other for success and sustainability.

- **Farm dangers**

Prof Susan Brumby (Director, NCFH, Hamilton) moved the discussion to agricultural machinery, agricultural environments, animal handling, implements and their dangers, epidemiology of farming fatalities and serious injury, and risks & occupational hazards in agricultural setting. She detailed the components of a safe agricultural workplace, such as 1. Eliminate the hazard through engineering, administration, and substitution; 2. Minimize and control the safety and health risk by (i) engineering through safe guards, (ii) administrative means, (iii) substitution of risky substances or processes for safer ones; 3. Regulation and enforcement; 4. Education and training for safe and healthful behaviour; and (5). Application of personal protection equipment (PPE).



The effect of poor health on farmers, families, farms and communities (Brumby Susan, Policy launch presentation: Rural directions for a better state of health; November 2005; Echua, VIC.)

- **Agricultural respiratory health**

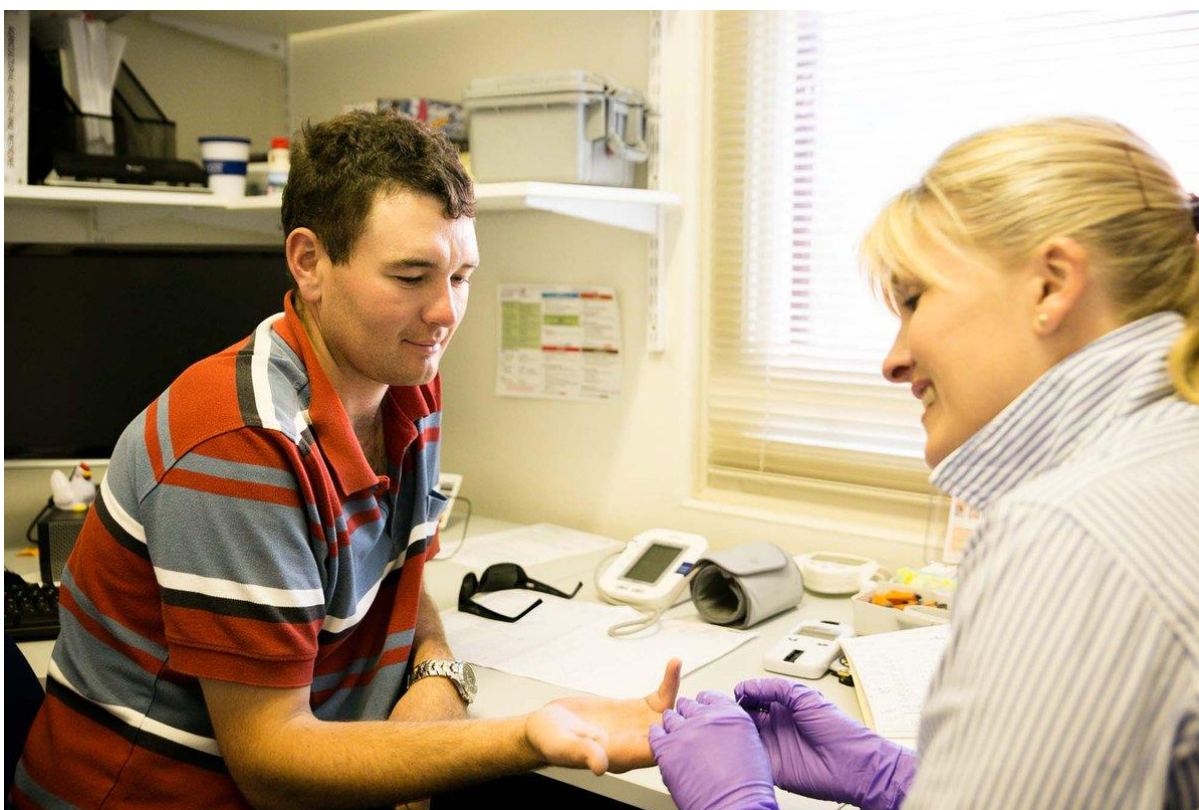
Dr Andrew Bradbeer, Principal Physician at Manse Medical in Hamilton presented a detailed account of agricultural respiratory hazards such as organic dusts, infectious agents, non-organic inhalants, pesticides, asphyxiants (CO₂ & methane), and toxic gases (fumigants, H₂S, ammonia, CO and welding) and their effect on health. He also talked about types of respiratory conditions common to the agricultural workforce such as zoonotic, chemical and environmental, etc. He mentioned 5 respiratory diseases (viz., chronic obstructive, congestive cardiac failure, diabetes complications, angina, and asthma) which could be prevented hospitalisations if managed at early stage. Finally, he briefly described about testing and diagnosis of respiratory illness. In most simple terms, he clarified that *protection* and *better practice* is equivalent to *prevention* of respiratory diseases.

Day 2: Tuesday 27 February

- **Health assessment**

In the morning hours from 8:00 to 9:30 a.m. all of us underwent the health checkup. For this test, we were informed to fast from 10 p.m. till in the next day morning. After the completion of test, breakfast was provided.

Three clinicians undertook the assessments including Tam Phillips, RN AgriSafe™ Clinician who explained the results of our health assessment which included various measurements such as weight, height, % visceral fat, BP, blood glucose and lipid studies, vision and PiKo 6 respiratory testing. The test results were explained and interpreted along with suggested tips for working with farmer groups to ensure successful assessments.



AgriSafe™ Clinician Tam Phillips conducting physical health assessment.

- **Health assessment and occupational history**

AgriSafe clinician Tam Phillips delivered her talk after the completion of physical health assessment. She explained what are the steps involved in taking the occupational history of the farmer while conducting health assessment. She cautioned what to do when any sign of concern is noticed and whom to approach for further follow up.

- **Veterinary chemicals**

Dr Kathryn Robertson, veterinarian at Livestock Logic talked about common veterinary chemicals (e.g., biological products, antibiotics, hormones, vaccines and adjuvants) and its impact on human health when exposed via inhalation, skin contact, eyes or mucous membranes, and needle stick, etc. She detailed about health hazards, potential dangers of accidental adjuvants and needle stick injuries, and what are the most appropriate injection techniques to safeguard the workforce. She provided material safety data sheets (MSDS) on needle stick injuries – risk and recommended treatments.

- **Australian zoonoses**

Dr Kathryn Robertson continued her talk on common Australian zoonoses such as anthrax, brucellosis, leptospirosis, Q-fever, hydatid disease, scabby mouth, tetanus, ringworm, listeriosis, rabies, etc. She talked in details about mode of transmission, symptoms, diagnosis, prevention and treatment of zoonotic diseases.



Safe vaccination: needle stick injury could be avoided by proper animal handling

- **General practice in farming communities**

Dr Sue Robertson, a General Practitioner in rural and remote Australia, gave a lecture on common conditions encountered in rural general practice. Conditions more common in small rural communities compared with city are (i) more skin diseases and cancers, (ii) more depression, anxiety, (iii) more pregnancy related cases, (iv) more circulatory diseases, and (v) less URTI, less cough cases. Rural Patients were found with overweight, older, alcohol issues, smoking.

She detailed about five domains of general practice, which represents the critical areas of knowledge, skills and attitudes necessary for competent unsupervised general practice. She discussed about the challenges of living and working as a health professional in a rural community, and difficulties faced in evidence based screening and health care.

- **Study Time!**

One hour from 4:30 to 5:30 p.m. was spared for preparation for Assessment 1 (to be held on Day 4).

Day 3: Wednesday 28 February

- **Agricultural tour (Hamilton livestock exchange and Mepungah Pastoral)**

A tour to local saleyards (livestock exchange) and a local mixed-enterprise farm was arranged in the morning hours. Bus started around 8:15 a.m. and returned back to National Centre for Farmer Health, Hamilton around 12:45 p.m.

Mr Chris Dahlenburg – the Manager gave outline of saleyards and took us for a short tour where a sheep auction was underway. He informed us that Hamilton Regional Livestock Exchange is one of Australia's busiest with approximately one million sheep and 50,000 cattle sold annually. Sales are held weekly every Wednesday, while in peak season (end of November and March) lambs are sold on a Wednesday and sheep on a Thursday. The Hamilton Livestock exchange is also leading with the latest technology for livestock identification so animals can be traced over their lifetime.

Then, we travelled to Mepungah Pastoral where Nick and Yvonne explained about safe working of silos, sheep shearing, sheep yards, tractors, and chemical shed and safe pesticide disposal system.



On-going auction of livestock at Hamilton livestock exchange where buyers and sellers are trading



Tracey Hatherell NCFH explaining about working safely with silo and field bins



Health hazards ranging from strains and sprains through to degenerative joint and muscle damage, and broken bones are common in sheep shearers. A safe working environment can minimise chances of injury and illness



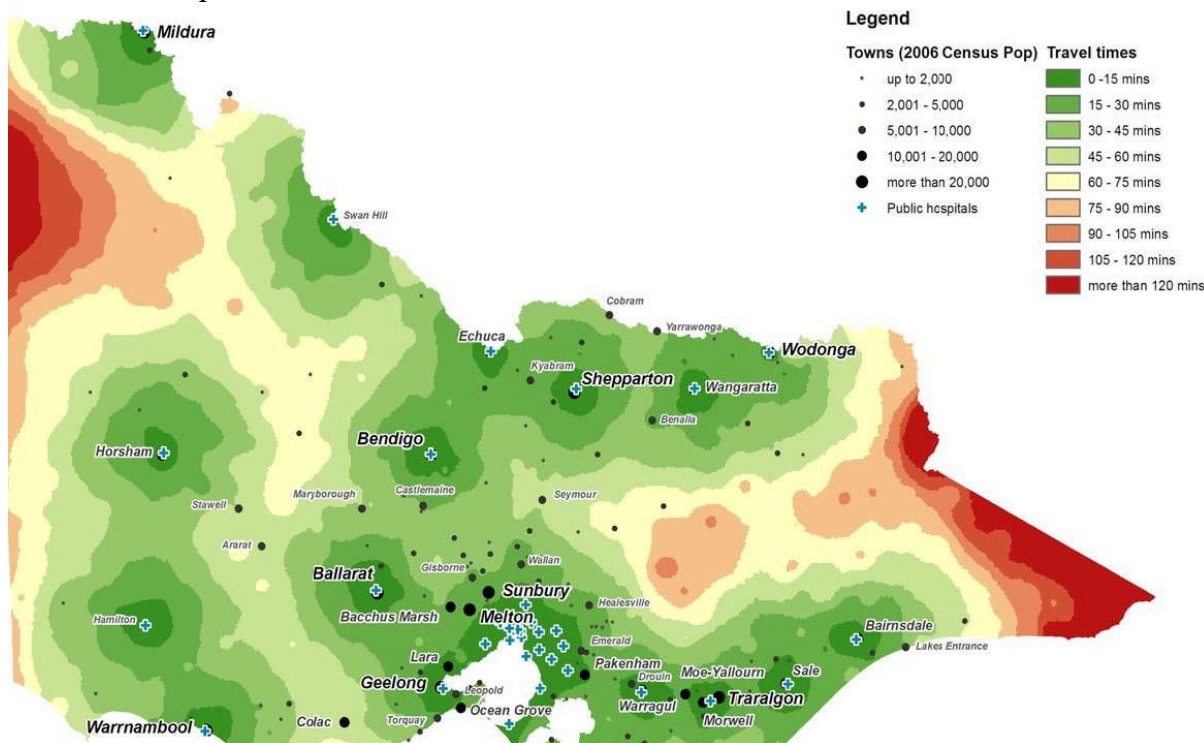
Safe storage of pesticides in a secured location and their disposal should be managed properly to reduce hazards

- **Agricultural surgery, skin cancer and farm trauma**

Mr Stephen Clifforth – general surgeon, shared more than 27 years of practical experience on treating agricultural injuries through a pictorial lecture. He discussed different types of traumatic agriculture injuries encountered in rural and remote settings and methods of preventing farm injury and recovery of trauma. He also highlighted several notable cases of skin cancers (which are common in farming populations) and their surgical treatment.

- **Rural emergency medicine**

Associate Professor Tim Baker – an Emergency Physician and Director of Centre for Rural Emergency Medicine, talked about (i) importance of emergency responses in rural and remote settings, (ii) importance of education of health emergencies, remote trauma responses and first aid training, (iii) response times and extrication difficulties encountered by emergency rescue services such as ambulance/emergency services/air ambulance/patient transfer in rural Australia.



Travel times to nearest public hospital with emergency department in Victoria



- **Agricultural cancers**

Conjoint Clinical Associate Professor Ian Collins, Medical Oncologist delivered his presentation on common types of cancers encountered in agricultural populations, their epidemiology, diagnosis and treatment. He talked about the social and financial impact of cancer-treatment challenges in remote and farming locations. He also discussed how cancer detection and treatment could be improved for rural/remote and farming populations.

- **Agricultural chemicals**

Dr Jacqueline Cotton, Researcher and Lecturer in Rural Health, presented her talk on types of agricultural chemicals such as organochlorines, organophosphates and carbamates, their mode of action and exposure risk associated with them, e.g. reproduction, cancer, neurological development, etc. She discussed about risk management during storage and safe use of pesticides. During the activity period, we learnt how to follow Label interpretation.

Day 4: Thursday 1 March

- **Mental health**

Tristan Brumby-Rendell, Senior Psychologist, presented the very complex topic in a simplified manner. He discussed the epidemiology, biology and causes of anxiety, stress, psychosis and depression. Then, he described the biological factors and environmental determinants that increase the risk and impact of mental illness in rural farming environments compared with urban counterparts. In the end, he outlined link between mental and physical health, and basics of mental health services and interventions in rural/remote communities.

In the activity period, we carried out DASS-21 (Depression, Anxiety, Stress Scale) questionnaire highlighting the quantitative measures of distress or depression and anxiety.



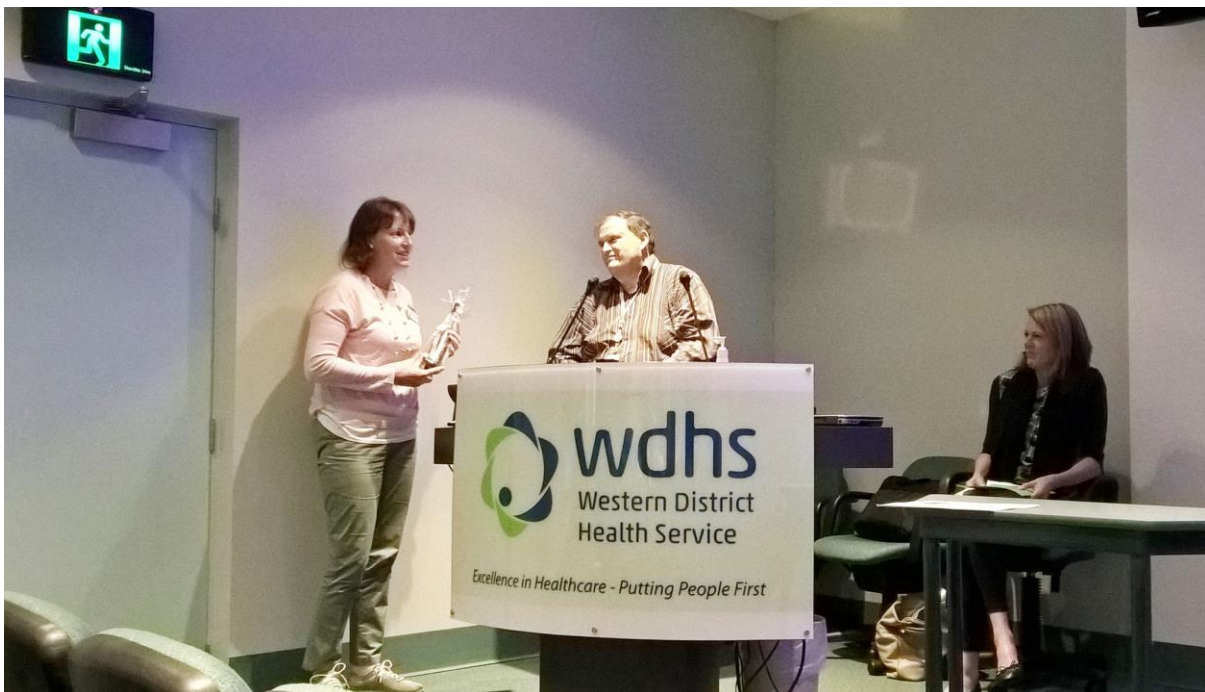
Tristan Brumby-Rendell, the Senior Psychologist during the DASS-21 activity

- **Suicide and mental illness management**

Tristan Brumby-Rendell continued his talk on another very important issue, i.e. suicide. He enlisted factors which compel someone to take extreme steps and danger signs to look for. Such as a sense of hopelessness/indecisiveness, loss of interest or purpose, statements and threats and avoidance of social or public events (social withdrawal), physical disability, sleep problems, financial loss, extreme events and animal diseases, etc. The protective factors that reduce the risk are family, religion, bonds, pets, etc. He detailed about the prevention strategies (health promoting behaviours) for the above condition as (i) guide of problem solving, (ii) address main symptoms: sleep, appetite, energy, worry, thoughts, (iii) exercise and goal directed activity, (iv) stress reduction and relaxation, (v) professional intervention: medication, risk, therapy, and (vi) support with optimism and understanding.

- **Addiction in agricultural and rural settings**

Prof Rodger Brough, consultant with Turning Point Drug and Alcohol Centre's Drug and Alcohol Clinical Advisory Service (DACAS), gave a lecture on substance abuse in rural and farming communities and diseases associated with it. He highlighted the link between substance abuse and mental health, physical complications and co-morbidities. Finally, he presented prescriptions and drug abuse, treatments and interventions.



One of participants presenting a gift as a token of appreciation to Dr. Rodger Brough for the nice talk

- **Assessment 1: at 2:30 to 3:30 p.m.**

Multiple Choice Quiz based on Day 1 and Day 2 lecture materials; allotted time 45 min. Content: 25 multiple choice questions; Grading and weighting (20% total mark for unit)

- **Personal protection**

Tam Phillips, Caroline Sheridan and David Sullivan

All of three introduced Personal Protective Equipment (PPE) in a fascinating way for the prevention strategies for agricultural injury/illness particularly respiratory. Respiratory Hazards include dust, bacteria, moulds, fungi, viruses, pollens, welding fumes, solvents,

animals dander and agrichemicals, etc. They presented various examples of the protection required for various situations and showed that PPE should be practical, comfortable, convenient in use and affordable. Tests done to determine if a respirator can achieve an adequate face seal as every face is different and no one mask can fit every face. Generally, we hear in the 20 – 20,000Hz range (cycles per second). Noise levels greater than 85dB averaged over an 8 hour period, places persons at risk of hearing loss. During the activity period, they demonstrated how to manage noise and prevent noise induced hearing loss.



One of participants undergoing demonstration of Personal Protective Equipment (PPE) Fit Test

- **Dinner at local restaurant, Blue Malt, Hamilton at 8:00 p.m.**



Day 5: Friday 2 March

- **Musculoskeletal injuries and ageing**

Ms Tania Aitken, the Chief Physiotherapist, presented on common agricultural practices and their impact on musculoskeletal health. She explained the musculoskeletal structures that can be injured and cause pain and dysfunction due to causative actions like sustained postures, bending/twisting under overload, repetitive use, direct trauma, prolonged poor joint posture, sudden unguarded movement, pars defect or fracture, and disc inflammation or prolapsed, etc. Generally, musculoskeletal injuries have a past; to manage them effectively one needs to understand the whole picture: past, present and future in context. She suggested some common agricultural ailments of the upper and lower body including the big 3 no-no's for the back: bending, twisting and holding breath.

- **Agricultural ergonomics and manual handling**

Sarah Baker, Chief Occupational Therapist, detailed the principles of ergonomics and manual handling in agricultural settings. She explained that manual handling covers a wide range of activities including lifting, pushing, pulling, holding, throwing and carrying. It also includes repetitive tasks such as packing, typing, assembling, cleaning and sorting, using hand-tools, and operating machinery and equipment. She talked about the risk factors related to manual handling injuries and guided on how these could be minimized using the hierarchy of risk control and the resources available to assist in minimizing and managing farm and manual handling injuries.

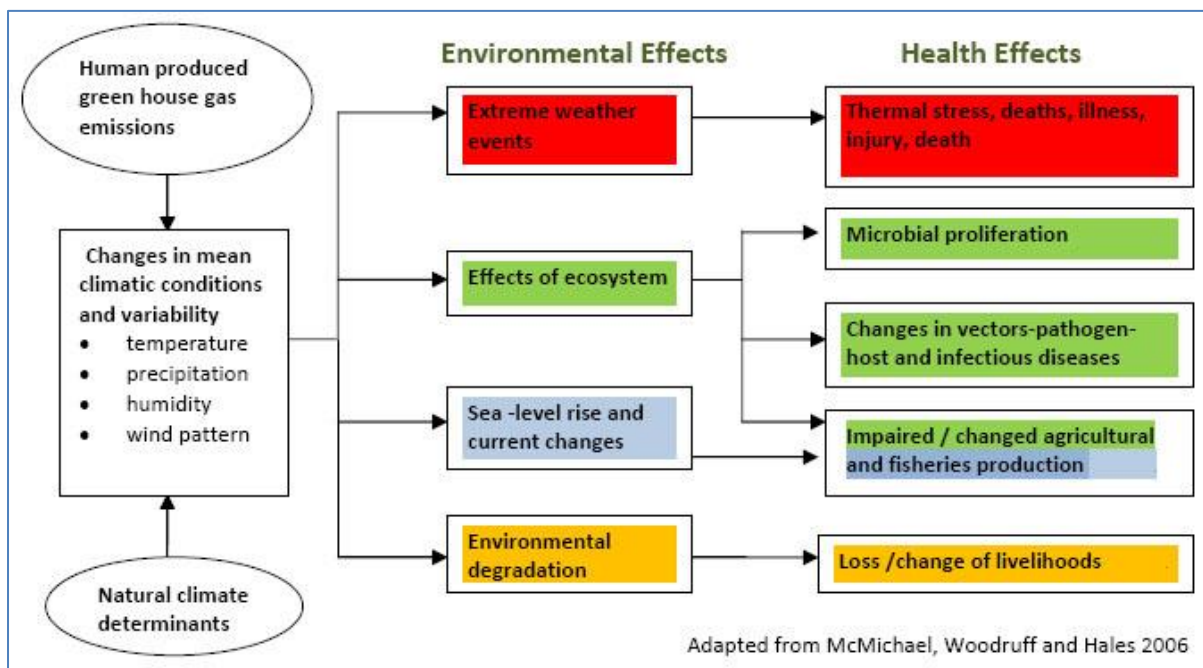


Tania Aitken demonstrating the use of cupping therapy to one of the participants

- **Agricultural health co-morbidities**

Prof Susan Brumby, Director of National Centre for Farmer Health, presented her talk on most important health issues faced by agricultural communities such as diabetes, cardiovascular disease, neurological diseases, alcohol misuse, uCKD and their risk factors associated with them. She also discussed social, physical and behavioural health effects of co-morbidities, climate, health and wellbeing and psychosocial aspects of farming. In the

end, Professor Brumby recognized the interventions that individuals, health services, communities and organizations could make to reduce these risk factors and asked us to consider these as leaders in agricultural health and medicine. We were then given a task to solve the issues related with ailing farming community and deteriorating environmental conditions. Our group discussed and outlined strategic goals to achieve and bring back a healthy farming community and green environment.



Overall effects of climate change

- AgriSafe™**
 Tam Phillips, RN AgriSafe™ Clinician, presented a detailed talk on the role of AgriSafe™ in improving the health, safety and wellbeing of the agricultural workforce. She also mentioned its history in Australia, eligibility criteria/requirement to become an AgriSafe™ provider and steps of an AgriSafe™ assessment.

<ul style="list-style-type: none"> •Blood glucose •AusDrisk 	<ul style="list-style-type: none"> •Full Cholesterol •TC, HDL, LDL, TRIG, TC/HDL ratio 	<ul style="list-style-type: none"> •Blood pressure •Pulse •O2 saturations
<ul style="list-style-type: none"> •Height •Weight •Body mass index •Body fat% 	<ul style="list-style-type: none"> •Cholinesterase testing •Pesticide exposure & agrichemical use assessment 	<ul style="list-style-type: none"> •Respiratory assessment PiKo – 6 •Fit testing of P2 Dust Mask
<ul style="list-style-type: none"> •Urinalysis 	<ul style="list-style-type: none"> •Otoscopy •Hearing test 	<ul style="list-style-type: none"> •Skin assessment
<ul style="list-style-type: none"> •Cancer risk and screening status 	<ul style="list-style-type: none"> •Kessler 10 Wellbeing 	<ul style="list-style-type: none"> •Musculoskeletal & balance assessment
<ul style="list-style-type: none"> • Vision review 	<ul style="list-style-type: none"> •Farm safety •Q fever status? 	<ul style="list-style-type: none"> •PPE recommendation

AgriSafe™ program screening and assessments

- **Summary and farewell**

Dr Jacquie Cotton talked about the DeakinSync/CloudDeakin website from where students can access all information related with the current enrollment details such as courses, assessments and results, inbox, library access, communities, help, etc. She told how to access CloudDeakin over the net and communicate among assigned groups and submit the assignment at Group Locker or give online examination, etc. She also introduced the on-going Graduate Certificate of Agricultural Health and Medicine, which bears 4 credit points (2 core units: HMF701 and HMF702 + 2 electives). Finally, Prof Susan Brumby gave farewell, thanked us for attending, wished us good luck and safe travels.

Assessing the achievement of the unit learning outcomes

Assessment task 1: Multiple-choice test **20%**

One multi-choice test (25 questions) to be completed during the 5 day intensive. Test 1 will be based on lecture material covered during days 1-2.

Assessment task 2: Group development of materials and online participation **25%**

Students work in groups to create a fact-sheet or video on a given Agricultural Health and Medicine related topic or community issue. Fact-sheets or videos are to be developed and useful for agricultural workers and their families, health professionals and researchers. Further information to be provided on CloudDeakin following the 5-day intensive. Students are required to communicate as a group via CloudDeakin and provide peer feedback at the conclusion of the task.

One assignment per group to be submitted via CloudDeakin:

Due Sunday 15 April 2018

Assessment task 3: Cloud (online) multiple-choice test **20%**

Multi-choice test (25 questions each) completed through CloudDeakin. Test will be available online for 7 days for completion. Test 2 will be based on lecture material covered during days 3-5 of the 5-day intensive.

Test completed online. Opens Monday 23 April 2017 12.01am -

closes Sunday: 29 April 2018 11.59pm

Assessment task 4: Written review exercise **35%**

Students are required to choose and critique one of a selection of journal articles provided by the unit chair via CloudDeakin. Students to complete a 1200 -1500 word structured review. Online submission: **Due: Sunday 20 May 2018**



Group photograph: Prof Susan Brumby (Director of National Centre for Farmer Health, Hamilton), Dr Jacqueline Cotton (Researcher & Lecturer in Rural Health) and Tam Phillips (RN AgriSafe™ Clinician), and participants of the Unit Course HMF701 at NCFH, Hamilton



**NATIONAL CENTRE FOR
FARMER
HEALTH**



Thank you and travel safe!

03 5551 8533
ncfh@wdhs.net

www.farmerhealth.org.au

 @FarmerHealth
 Find us on Facebook

in partnership with




The last ppt slide on presentation screen

PRESS COVERAGE

10 HAMILTON SPECTATOR Saturday March 10 2018

www.spec.com.au

Finding common ground at NCFH

TARA FRY

THE National Centre for Farmer Health (NCFH) opened its Agriculture Health and Medicine course with a reception at the Hamilton Art Gallery last week, with all students, staff and special guests in attendance.

The postgraduate course is one of the only agriculture and medicine courses in Australia, and is among very few internationally.

Run in partnership with Deakin University, students travelled from all around Australia for the five-day intensive course, which they will continue to study throughout the semester.

NCFH director Susan Brumby said the intensive looked at the context of farmer health such as emergency trauma, farm dangers, zoonotic disease, veterinary and agricultural chemical exposures, mental and emotional wellbeing and much more.

"Professionals recognise that different skills are needed to engage with farming and agricultural communities," Ms Brumby said.

"Understanding their context and some of the unique health, wellbeing and safety issues for farming populations is what the course focuses on.

"It also attracts students from across a variety of sectors and disciplines. So students can leave with a great network of contacts."

Indian student Abid Hussain travelled to Hamilton in the hope of taking new ideas back to his hometown to improve the health of farmers and their crops.

"I live in a community, that strive hard to raise a suitable, profitable crop but its failure is one of the most uninvited common events, which leads to distress in their lives," he said.

"They are the marginal farmers who are uneducated, unskilled and non-professional in their crop cultivation.

"This distress could have been averted thus bringing happiness in their lives, family, and community as a whole," he said.

He was excited to take his new skills back to the community to improve their way of life.

"I hope this course will give me a platform from where I could start working on alleviating the distressed condition of the farmers," Mr Abid said.

Fellow student Gaye Fisher, came from Western Australia to take part in the five-day intensive.

After spending 18 years nursing in small rural areas, she was excited to expand her



ENJOYING the social aspect of the National Centre for Farmer Health Agriculture and Medicine course opening night are (from left) students Peter O'Meara, Southern Grampians Shire Mayor, Mary-Ann Brown and NCFH director Susan Brumby. Photo: BILLY EASSON.

180226bj007

knowledge of the impact agriculture has on people's health.

"Because I work in a predominantly farming region, I was keen to expand my knowledge and understanding of agriculture's impact on an individual's and the rural community's health," Ms Fisher said.

"This is the only course of its kind to focus solely on farmer health, and rural community wellbeing."

Ms Fisher hoped to take the extra step in her treatment of farmers after completion of the course.

"All I seem to do now is patch the farmer up and send them on their way, and I find that

frustrating," she said.

"I want to positively impact on the poor health outcomes for agricultural people, educating and enabling them to make a significant difference to their own lives.

"Farmers spend thousands of dollars and countless hours making sure machinery is in top working order, livestock is in prime condition, and the enterprise is running efficiently, but neglect their most vital and important asset, themselves."

Hoping to blend both her passions together, Queensland student Holly Brodie said the course appealed to her as she saw the benefits for her working and home life.

"I'm hoping to be able to blend both my passions together and take the knowledge and skills back to my local community, family and workplace," Ms Brodie said.

"To make individuals and groups more aware of how unhealthy lifestyles, through diet, lack of exercise, alcohol misuse and OH&S risks, can be dangerous and counter-productive to themselves, their businesses and the agricultural industry."

The NCFH five-day intensive program is run in partnership with Western District Health Service, Deakin University and the Southern Grampians Shire Council.