

partnering **HEALTHY@WORK**
THE PARTNERSHIP, ITS FINDINGS, AND RECOMMENDATIONS



Report prepared by Dr Michelle Kilpatrick for *partneringHealthy@Work*, September 2016.

partneringHEALTHY@WORK

partneringHealthy@Work (pH@W) was a partnership between the Menzies Institute for Medical Research (Menzies), the University of Tasmania (UTAS), and the Tasmanian State Service (TSS) that was formed to evaluate the TSS's workplace health promotion program Healthy@Work (see below). pH@W was an inaugural recipient of project funding from the Partnership for Better Health Grants, a scheme run by the National Health and Medical Research Council, Australia's peak medical and health funding agency (Improving health and wellbeing in the Tasmanian State Service workforce, 2010-2015, Prof Alison Venn et al).

This report provides an overview of the partnership, its outcomes, and recommendations for future partnerships and workplace health promotion (WHP). Links to pH@W publications and related information can be found in the appendices and throughout the report.

The four main sections of this report outline:

- *partneringHealthy@Work* and Healthy@Work
- Summary of pH@W findings and recommendations
- Key partnership components
- pH@W research

The research had ethical approval (references H0010501, H0012363, H0013315) from the Human Research Ethics committee (Tasmania).



Menzies-based *partnering@Healthy@Work* researchers, PhD students and research team members, 2011.



- The Tasmanian State Service (TSS) is one of the largest employers in the state, employing approximately 30,000 people in a diverse range of occupations and locations.
- In 2008, the TSS allocated AU\$3,300,000 to Healthy@Work, a four-year project that supported the development of comprehensive workplace health promotion programs in each of the 15 TSS agencies.
- In brief, Healthy@Work aimed to use the best available evidence to address aspects of the work setting (cultural, environmental, policy and procedural aspects of the work environment) that can affect employee health and well being, as well as providing access to activities that might promote individual health-related behaviour change.
- Overall goals were to improve the health and well being of all TSS employees and increase the efficiency and productivity of the state service.
- The organisational-level, settings-based approach was designed to develop skills and capacity within agencies to sustain employee health promotion efforts beyond Healthy@Work's initial funding period (2009-2013).
- A range of resources were provided to support agency programs, including workplace health promotion implementation guidelines, web-based resources for professional development, training for agency facilitators, a central support team, and a grants program.

partneringHEALTHY@WORK (pH@W) OBJECTIVES

The partnership was not involved in the design or implementation of Healthy@Work. Rather, it was established to observe the process and outcomes of a natural experiment: what happens when an organisation like the TSS tries to roll out WHP on this scale, using the best evidence available?

The broad objectives of pH@W were to:

- Evaluate the health and economic outcomes of Healthy@Work.
- Strengthen research and evaluation efforts around Healthy@Work, and address important policy objectives.
- Provide higher degree training opportunities in public health research and research translation.
- Improve researchers' understanding of the needs of policy makers and improve policy makers' understanding of research methods and interpretation of research findings.
- Progress the translation of research for evidence-based public health.

HEALTHY@WORK and pH@W TIME LINE

HEALTHY@WORK 2008-2012

The Tasmanian State Service (TSS) committed funding for four years to develop Healthy@Work, a workplace health promotion initiative targeting its entire workforce.



PROCESS EVALUATION 2013-2014

The process evaluation was conducted by pH@W researchers to explore if Healthy@Work was implemented as planned, and whether shifts in culture around health and wellbeing occurred.



pH@W CONCLUDED December 2015

The three PhD students submitted their PhDs and graduated. A final report was produced that summarised the findings and recommendations from the partnership. A knowledge dissemination plan was developed and implemented.

2008

2013

2015

2010

partneringHEALTHY@WORK (pH@W) 2010-2015

A five-year partnership was established between researchers and key TSS staff to help evaluate the health and economic outcomes of Healthy@Work.



2014

PARTNERSHIP EVALUATION 2014

Partnership evaluator commenced. The partnership evaluation was conducted by pH@W researchers to assess the collaboration and knowledge exchange between academics and government partners in the pH@W project.



SUMMARY OF FINDINGS AND RECOMMENDATIONS

Researchers from the pH@W project investigated a range of topics concerning Healthy@Work's implementation, employee engagement, health and wellbeing outcomes, and the economic case for workplace health promotion (WHP).

IMPLEMENTATION OF WHP ACTIVITIES, AND EMPLOYEE PARTICIPATION IN ACTIVITIES

Each agency's WHP program became increasingly comprehensive, and there was an overall increase in the number and type of WHP activities available to employees by 2013. Healthy@Work was successful in attracting participation from women experiencing poorer mental health, which may reflect decreased stigma around mental health. Recommended implementation strategies were associated with participation by employees in more activities. However, some groups of employees perceived fewer or no WHP activities were available to them, and lower levels of participation in some at risk groups was evident. Barriers to employee participation included time constraints, health problems and accessibility of activities.

EMPLOYEE HEALTH AND WELL-BEING

Prolonged sitting at work was found to be associated with higher levels of psychological distress. Participation in activities related to health behaviours was associated with a range of employee-perceived benefits, however no differences in overall employee mental health, health-related behaviours, health or weight status were observed between 2010 and 2013. Healthy@Work was either ineffective in regard to achieving measurable changes in employee health and well-being, or insufficient time had elapsed to detect changes. Analysis of WorkCover data showed there was no change in the rate of stress-related workers compensations claims within the TSS between 2007 and 2012.

ECONOMIC EVALUATION

A measure commonly used to value health (SF-6D) in health economics was tested and found valid to use in a working population. An economic evaluation of Healthy@Work was conducted, presenting overall costs and impacts from health status, total lost productive time and healthcare utilisation in a cost consequence analysis. For Healthy@Work, TSS agencies that developed, implemented and sustained their WHP between 2010 and 2013 spent more money on their programs but had less lost productive time for their employees, representing an estimated saving of \$1,168 per employee per year.

KEY RECOMMENDATIONS

- ✓ Use a comprehensive approach when designing a workplace health promotion program.
- ✓ Integrate employee health promotion with employee health protection.
- ✓ Embed programs and evaluation into core organisational business.
- ✓ Build capacity and support for the program within the organisation by training key staff within different parts of the organisation.
- ✓ Provide centralised program support in large or diverse organisations.
- ✓ Be clear about the values and expectations of a WHP program. Appropriately match resources, time frames and assessment techniques to realising those outcomes.
- ✓ Have modest expectations about improvements to employee health and health behaviours in the short- to medium-term.
- ✓ Partnerships between researchers and policy makers can help identify relevant research questions, strengthen the evaluation of programs, and inform practice and policy.

partneringHEALTHY@WORK INVESTIGATORS AND DATA

INVESTIGATORS

- pH@W was a collaborative research partnership between researchers from a range of disciplines (public health, mental health, biostatistics, health economics, primary health care, organisational psychology, clinical and health psychology, information management and physical activity promotion) and key TSS staff (including the Director of Public Health and the Manager of the Public Sector Management Office).
- A full list of the investigators can be found in the appendices.



DATA USED IN pH@W RESEARCH

pH@W SURVEYS

- pH@W surveyed Tasmanian State Service employees in 2010 and 2013, using similar questionnaires each time (a repeated cross-sectional design).
- The surveys collected a range of information that included: socio demographic and work characteristics; employee health, mental health and health behaviours; health service use; productivity (absenteeism and presenteeism, i.e being at work but not fully productive); the type of WHP activities that were available to employees, and participation in these activities; and barriers and enablers to participation.
- Surveys were mailed to approximately 40% of employees from each agency. In total, two groups of approximately 12,000 employees were randomly selected in 2010 and 2013 to receive that year's survey.
- 3,408 employees responded to the 2010 survey (28% of employees surveyed) and 3,228 to the 2013 survey (27%).

A sample of a questionnaire form. At the top, there is a disclaimer: "Whilst every care is taken in reading and proofing this document, it is customer's responsibility to ensure that all wording and images are reproduced to your expectations." Below this are fields for "Changes required:", "On to print:", and "Date:". The form features the logos for Menzies Research Institute Tasmania and UTAS. There is an "ID Number:" field. The main title is "partnering HEALTHY@WORK QUESTIONNAIRE". Below the title, it says: "This questionnaire asks for some general information about you, as well as some information about your physical and emotional health, your diet and physical activity, and your employment." The "Instructions" section reads: "Instructions: Please read carefully. Please answer all questions to the best of your ability (leave blank if unknown). Your answers will be completely confidential. To answer most of the questions you only need to cross a box. Please cross the box which is closest to your view—there are no right or wrong answers." An example question is provided: "What is the composition of your household?" with options: Couple family with children, Couple family without children, One parent family, Group household, and Lone household.

TSS ADMINISTRATIVE DATA AND ONLINE EMPLOYEE HEALTH SURVEYS

- Each agency was required to complete annual assessments, known as audits, of Healthy@Work implementation.
- The TSS invited its employees to complete anonymous online surveys about their health and health behaviours as part of the TSS employee needs assessment process.
- Data from the TSS online surveys, agency Healthy@Work audits, and relevant TSS administrative data, were made available to pH@W investigators for research purposes.

More information about the data and sampling methods used in pH@W can be found in the publications listed in the appendices.

PHD STUDENTS

- Three PhD students were recruited to the *pH@W* project in 2011, fulfilling the objective to provide higher degree training in public health research and research translation.

STUDENT PLACEMENTS WITHIN THE TASMANIAN STATE SERVICE

- In addition to their research undertaken for the *pH@W* project, each student had a placement of approximately 100 hours within either the Department of Health and Human Services (Siyan and Michelle) or the Department of Premier and Cabinet (Lisa).
- The focus of each placement was determined by the host agency, in a process where expressions of interest (EOI) were sought from interested government agencies.
- The EOIs defined research projects that were relevant to the host agency, and would produce new knowledge around workplace health.
- Projects were chosen for each student that aligned with student PhD research areas and prior professional experience.



SIYAN BAXTER

- PhD focus: Siyan's *pH@W* research centred around the economic case for WHP programs in general, and Healthy@Work.
- TSS placement: Siyan wrote the business justification chapter for the Healthy Workplace Resource Tool kit, a resource designed for the Tasmanian arm of the nationally-funded Healthy Workers Initiative and developed a return-on-investment calculator for small-medium enterprises.

MICHELLE KILPATRICK

- PhD focus: Michelle's research for *pH@W* focused on employee health-related behaviours and overweight and obesity, and employee engagement with Healthy@Work.
- TSS placement: Michelle evaluated the effectiveness and utility of the Healthy Workers Tool kit in a pilot trial across 20 organisations.

LISA JARMAN

- PhD focus: Lisa's research within *pH@W* was mental health in the workplace, and WHP activities that promote positive mental health and reduce job stress.
- TSS placement: Lisa investigated stress-related Workers Compensation claims in the TSS.

KEY PARTNERSHIP COMPONENTS

GENERATING RESEARCH FOR POLICY AND PRACTICE

partneringHealthy@Work can be seen as an example of integrated knowledge translation, which the Canadian Institutes of Health Research defines as a process where people that will potentially use knowledge generated from a research project are members of the research team and are engaged with many or all of the stages of the project. This approach helps identify relevant research questions and produce findings that are more likely to be put into practice or inform policy making.

Throughout each stage of *pH@W* there were opportunities for collaboration and exchange of knowledge; researchers provided expertise regarding scientific methods and staff from the TSS brought expertise about their own organisational context as well as public health policy-making.

An evaluation of the partnership in 2014 (18) outlined some important elements of the partnership (listed below) that resulted in a high level of collaboration between the partners, and broad dissemination of the research findings.

PARTNERING TO IDENTIFY RELEVANT RESEARCH QUESTIONS

- A clear partnership structure was set up to promote shared decision making and communication.
- A management committee and an investigator group met regularly, and four topic-specific working groups met as needed. All committees and groups were comprised of researchers and TSS partners.
- Terms of reference were developed for each committees and working group.
- The partners collaborated to prepare the original funding application and develop the broad research questions.
- Joint planning sessions were then used to refine research priorities relevant to policy and decision makers throughout the project.
- The student placements within the TSS addressed areas of policy or practical concerns, and produced work that was of immediate relevance to the agency (see page 5).





KNOWLEDGE EXCHANGE AND DISSEMINATION

The partners worked together to interpret project results, identify the practical implications and tailor the communication of findings. A variety of methods were used to communicate project findings within the TSS, to other researchers and WHP practitioners, and the general public, with the goal to promote and facilitate translation and uptake of the findings.

A detailed knowledge translation plan can be found in Appendix B. A brief outline of the various dissemination strategies used are outlined below.

- In 2012 and 2014, reports that summarised key *pH@W* survey results were tailored for individual TSS agencies, and in 2014 a general report was prepared for all TSS employees.
- Free monthly *pH@W* lunchtime seminars were held throughout the project at the Menzies. The seminars paired researchers with policy makers or WHP practitioners to present research and practical perspective on topics relevant to WHP. The seminars were open to the public, and were attended by TSS staff, Menzies and UTAS researchers, WHP facilitators and other interested parties.
- Three day-long annual symposia were presented by the partners, with invited national speakers. The topics covered were:
 - Mental health in the workplace (2012)
 - Investing in workplace health promotion: What's the return? (2013)
 - Good health, good business (presented in partnership with Population Health, the Department of Health and Human Services, and WorkSafe Tasmania) (2014)
- Peer-reviewed academic publications were co-authored by researchers and TSS partners, and published in international journals (see Appendix C).
- A *pH@W* website provided information about publications, seminars presentations, and access to PDFs of seminar slides.
- Research findings were presented at local, national and international conferences (see Appendix C).

RECOMMENDATIONS FOR PARTNERSHIPS

- Establish clear governance structures.
- Incorporate structures and strategies that promote shared decision making, joint problem solving and communication e.g. joint planning sessions.
- Engage heads of departments and senior managers to support the partnership aims.
- Develop relevant policies to support the partnership e.g. data sharing, authorship, media.
- Embrace flexible research processes.
- Acknowledge and adapt to the different priorities, perspectives, time lines and administrative requirements of the partner organisations. This is particularly relevant in researcher-government partnerships.

pH@W FINDINGS AND OUTCOMES

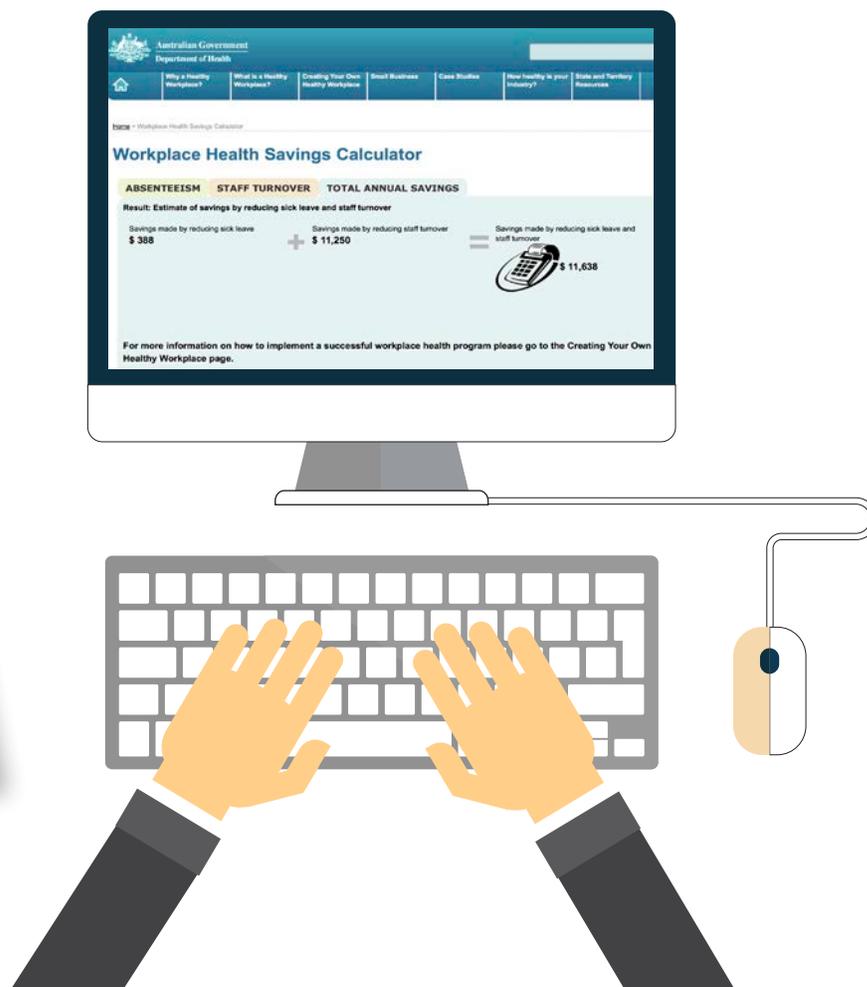
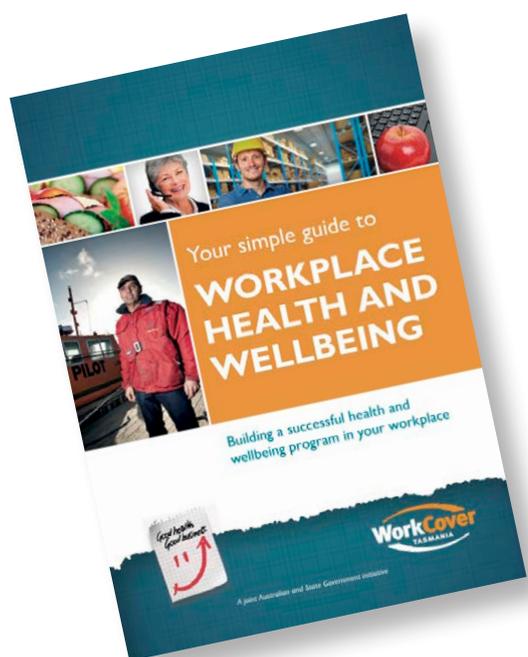
Workplaces have been identified as a promising setting for health promotion interventions to promote health, prevent chronic disease, and improve workforce productivity. pH@W addressed a range of questions around assessment of employee health and well being, and the implementation and effectiveness of Healthy@Work across a large workforce that is distributed widely across the state and has a diverse range of occupations.

The following sections outline the results and key recommendations of these investigations. Publication and manuscript details are listed in Appendix C.

TOOLS AND ASSESSMENT TECHNIQUES

WORKPLACE HEALTH SAVINGS CALCULATOR

- Practical tools are needed to assist decision makers in developing the business case for workplace health promotion programs.
- The objective was to develop a simple evidence-based resource for Australian employers to estimate potential annual savings associated with successful workplace health promotion by measuring absenteeism and staff turnover.
- The Workplace Health Savings Calculator was developed by Baxter and co-authors (3) and included in 'Your Simple Guide to Workplace Health and Wellbeing' written by the Department of Health and Human Services, Tasmanian State Government, for the Healthy Workers initiative (<http://www.healthyworkers.gov.au>).
- An [online version](#) of the Calculator is freely available on the Australian Government's Healthy Workers website.



CAPTURING USEFUL DATA IN STRESS-RELATED WORKERS COMPENSATION CLAIMS

- The Australian workers' compensation system allows claims for mental disorders that are linked to stress related to work.
- Specific information about the individual employee and the organisation is provided in the claims process.
- This information can be analysed to identify what may have contributed to the situation, and to inform occupational health and safety policies and risk reduction strategies.
- Jarman and colleagues (8) examined the costs of stress claims in the TSS and found they were more costly than other types of claims related to physical health.
- There was no change in the rate of stress-related claims between 2007 and 2012, but the authors had difficulty benchmarking these rates against other organisations because frequency based calculations are typically reported. In response to this research, WorkCover Tasmania has adjusted its reporting systems to include rates of claims with denominators matched to those used in other states. As a result the TSS can more accurately assess its claim rates.
- In a related commentary (available on request), Jarman and co-authors found other gaps and weaknesses in the data collection process that make the data less useful than it could be for employers, researchers and policy-makers. This means that it is particularly important to capture more detailed information on psychosocial hazards contributing to stress claims, and how organisations are pro actively managing work environments.

RECOMMENDATIONS FOR CLAIM REGULATORS

- Update claims processes to be consistent with recent research on job stress.
- Collect information about proactive efforts in the workplace to manage or prevent mental health concerns.
- Develop low or no-cost tools for employers to investigate links between, and provide responses to, work-related stressors and stress claims.
- Collect rate-based claim lodgement data (e.g. number of claims/total number of employees) rather than frequency-based data (e.g. number of claims).

RECOMMENDATIONS FOR WHP TOOLS AND ASSESSMENT

- Build a business case by estimating potential savings associated with successful WHP.
- Strengthen current health economic evaluation methods by measuring employee health status, using a tool such as the SF-6D.
- Seek expert guidance to determine appropriate survey techniques for screening employees for anxiety and depression symptoms, and for help interpreting the results.

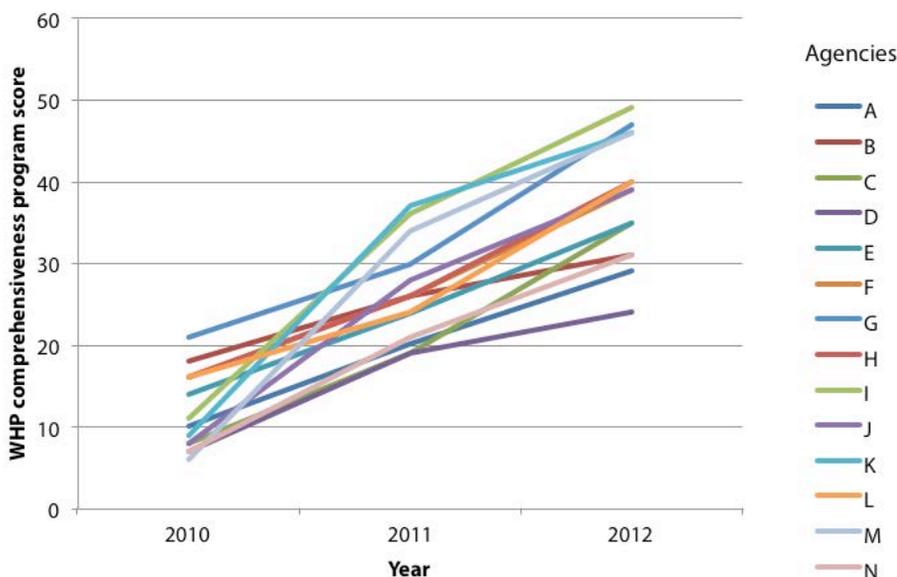
IMPLEMENTATION AND EMPLOYEE PARTICIPATION

Complex comprehensive WHP interventions such as Healthy@Work use organisational- and employee-level strategies to promote a positive health climate at work, and the health and well being of employees. These strategies can include changes to the physical, social, policy and procedural work environment, as well as providing health-promoting activities and supports.

TSS agencies were bound by a ministerial directive (Ministerial Direction 23 (MD23)) to implement their own health and well being program, and all agencies achieved this by 2012. *pH@W* undertook a range of investigations to better understand the steps undertaken to implement Healthy@Work across the TSS, the reach (availability) and uptake (participation) of WHP activities, and barriers and facilitators to participation in these activities. The results assist in interpreting program outcomes, highlight successful strategies and identify areas that require attention in future programs.

PROCESS EVALUATION

- Process evaluations are important to track the development, delivery and reach of an intervention. They examine whether strategies were implemented as planned and if the expected outcomes were produced.
- For the process evaluation of Healthy@Work, Cocker et al (16) interviewed program coordinators from each agency and reviewed documents and reports that had been created and used throughout the development, administration and implementation of Healthy@Work.
- Using data collected from annual audits that were completed by each agency to track the progress of Healthy@Work's implementation, yearly scores were created by the researchers to reflect the comprehensiveness of each agency's program.
- Drawing on research for the evidence-based delivery of work health promotion, agencies were scored according to the degree to which they had achieved six key program components (see below). Agencies were then given a total 'comprehensiveness' score for each year of implementation (with a maximum score of 56).
- A clear pattern emerged of increasingly comprehensive WHP being delivered by all agencies between 2010 and 2012.



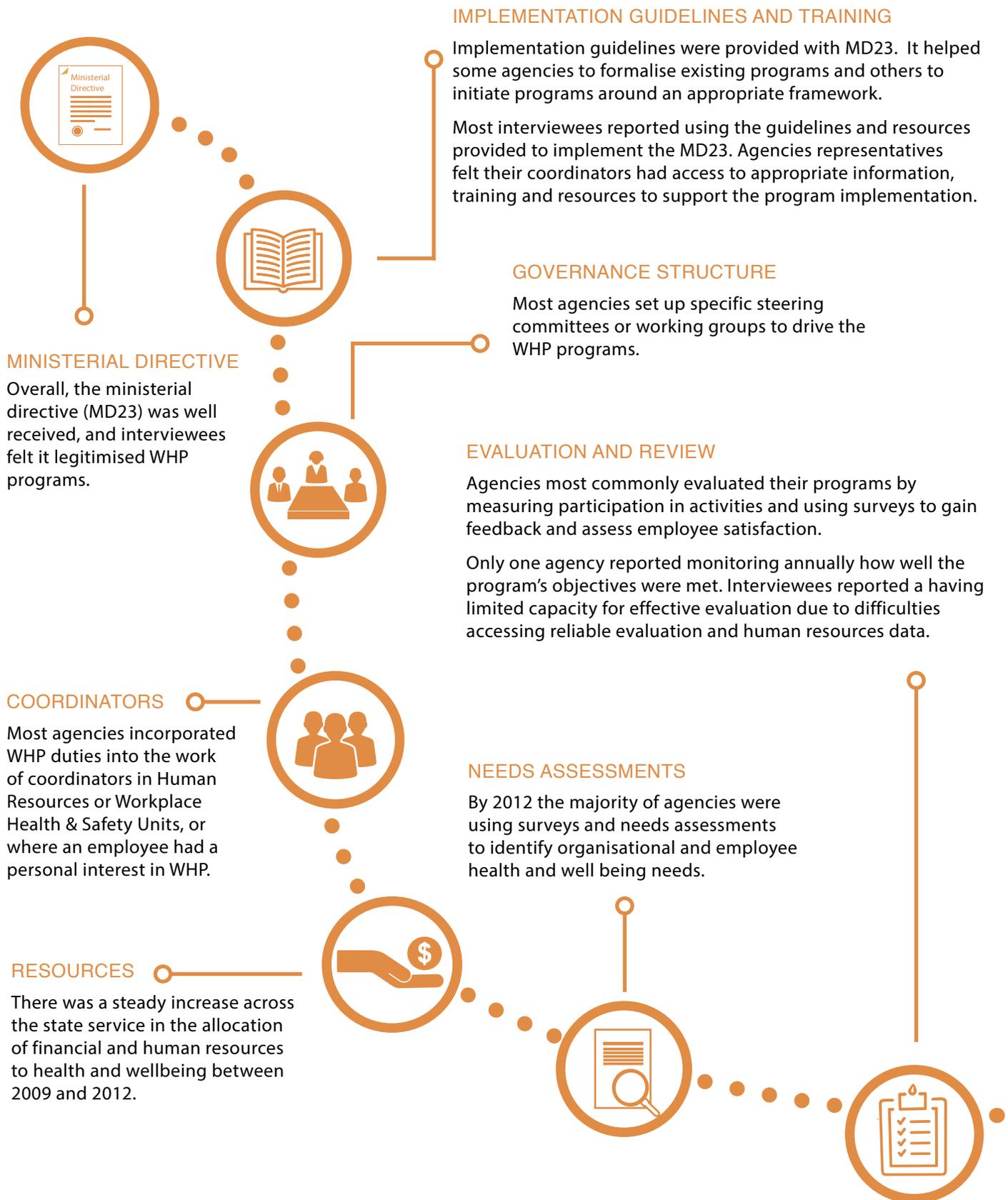
COMPREHENSIVENESS OF AGENCY WHP PROGRAMS

THE PROGRAM SCORE MEASURED SIX KEY WHP COMPONENTS:

- Health education
- Social environment
- Physical environment
- Integration into organisational structure
- Linkage to existing programs
- Work-site health screening

WHAT DID WE LEARN FROM THE PROCESS EVALUATION?

The following key elements of the implementation process for Healthy@Work were identified.



EMPLOYEE ENGAGEMENT

Participation varied widely across agencies. Interviewees believed the employees most in need did not participate. Shift-workers, those in remote locations or single officer sites or very small work groups, those with no access to computers, and itinerant workers were perceived to be disadvantaged in terms of accessing WHP activities.

WORKPLACE CULTURE

Most interviewees reported an increase in awareness and discussion of health and well being in their workplace, but did not report a major change in the workplace culture around health and well being.

HEAD OF AGENCY SUPPORT

Interviewees reported that most agencies had head of agency support for Healthy@Work, whereas middle management support was more difficult to engage.

WHP ACTIVITIES

Mental health, physical activity and nutrition were the focus for most agency programs.

PROGRAM PROMOTION

All agencies used existing internal communications, such as intranet, newsletters or email.

HEALTH AND SAFETY

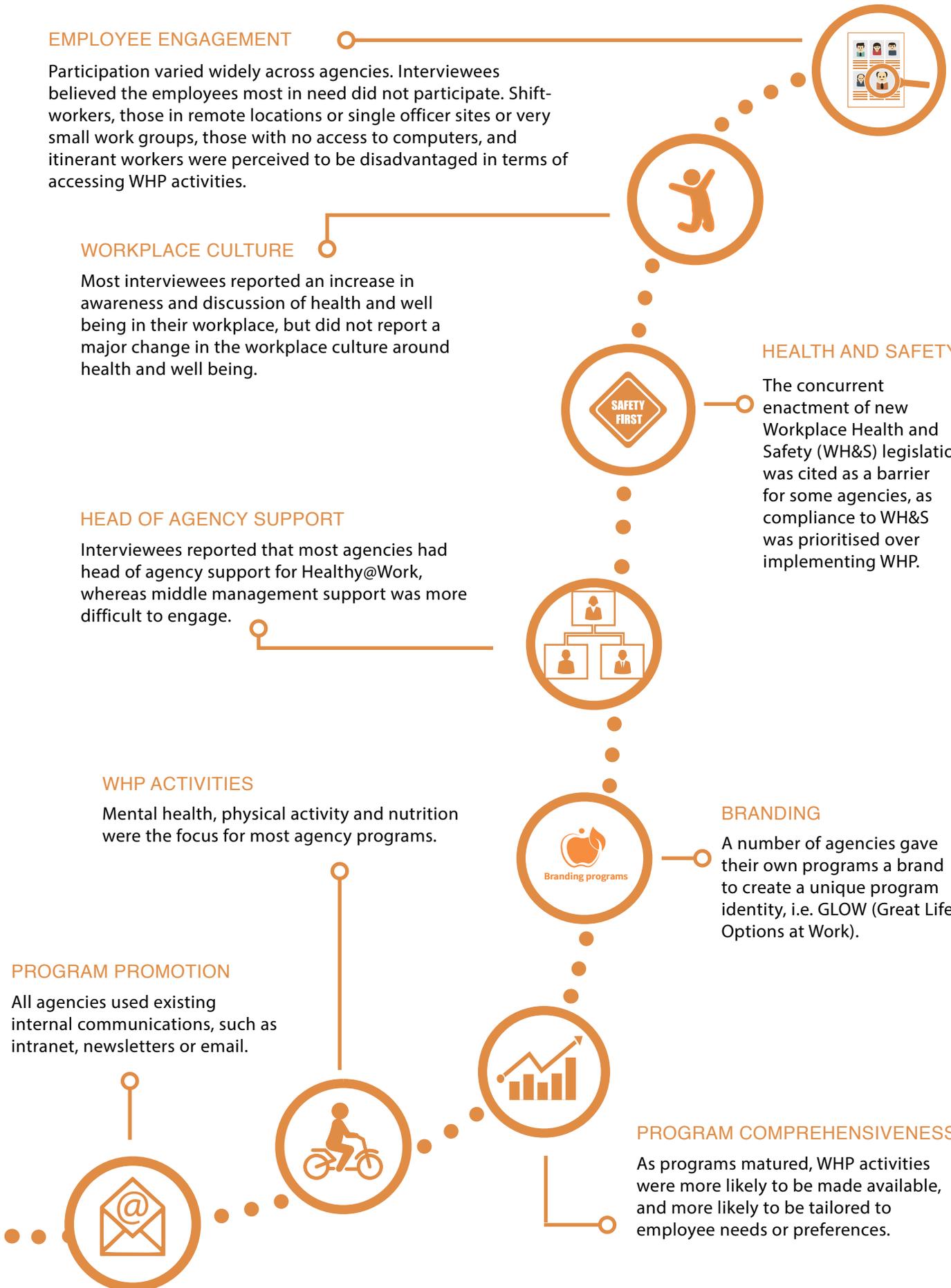
The concurrent enactment of new Workplace Health and Safety (WH&S) legislation was cited as a barrier for some agencies, as compliance to WH&S was prioritised over implementing WHP.

BRANDING

A number of agencies gave their own programs a brand to create a unique program identity, i.e. GLOW (Great Life Options at Work).

PROGRAM COMPREHENSIVENESS

As programs matured, WHP activities were more likely to be made available, and more likely to be tailored to employee needs or preferences.

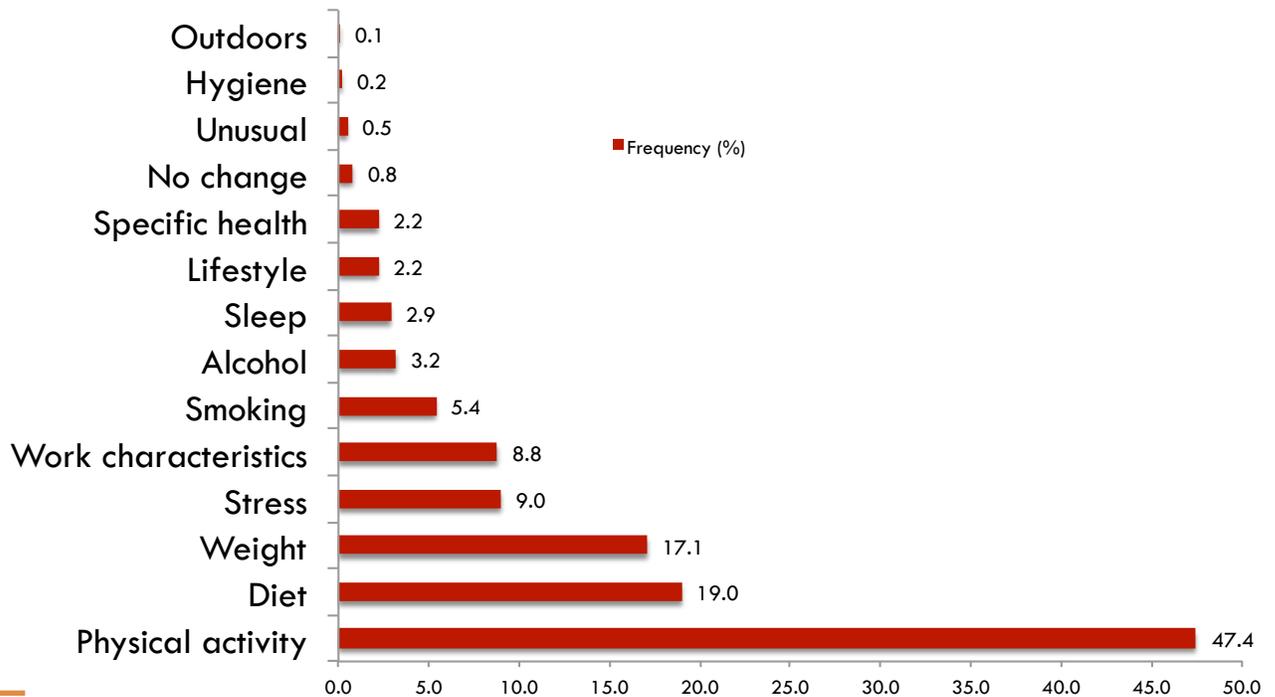


WHAT EMPLOYEES WANT, NEED AND ARE READY TO CHANGE

- Employee health-risk assessments, employee involvement in program design, and tailoring WHP activities to an employee's readiness to change their health behaviours are common design and engagement strategies.
- Employees were asked at the beginning of each pH@W survey "What is the most important thing you could do to improve your health, or prevent ill health?"

POPULAR HEALTH CHANGE PRIORITIES

In the 2010 responses, improving diet, doing more physical activity and losing weight were the most popular employee priorities for maintaining or improving their own health (see below).



APPROPRIATENESS OF HEALTH CHANGE TARGETS

Using data from the 2010 pH@W survey, Kilpatrick and co-authors (11) compared health change target responses against employee health risks and found that employees generally chose health priorities that aligned with their health risks.

READINESS TO CHANGE

Most employees were actively trying to address their health priorities, except for those who wanted to stop smoking.



FACTORS ASSOCIATED WITH AVAILABILITY OF ACTIVITIES, AND PARTICIPATION IN ACTIVITIES

- In a 'real-world' WHP program such as Healthy@Work it is important to understand the reach and uptake of WHP activities, as this can help to explain program and employee health outcomes.
- Kilpatrick and co-authors (10) investigated employee-reported availability of, and participation in, Healthy@Work activities related to smoking, nutrition, alcohol consumption, physical activity and sedentary behaviour.
- They looked across a range of employee groups according to individual (for example males and females, physically active and inactive employees, or different age groups) and work-related characteristics (for example part-time and full-time employees, employees with variable work schedules and workers from different sized agencies).

FEWER REPORTED ACTIVITY TYPES AVAILABLE

For some groups there were differences in number of activity types that they reported were available to them. Employees from the largest agencies (health and education), older, obese employees or part-time workers reported fewer activities were available to them.



MORE REPORTED ACTIVITIES AVAILABLE

Managers, people sitting at work for more than six hours on a typical day, and physically active people were more likely to report that more types of activities were available to them.



PARTICIPATION IN MULTIPLE ACTIVITY TYPES

Only physically active employees were more likely to have participated in multiple types of activities.



PARTICIPATION IN FEWER OR NO ACTIVITIES

Smokers, employees with cardio-metabolic conditions or respondents with variable work schedules were less likely to participate in multiple types of activities.

BARRIERS AND FACILITATORS TO PARTICIPATION WHP ACTIVITIES

- Involving employees in WHP program design is believed to help empower and engage workers. It is recommended as a way of building on things that might enhance participation, and to help overcome foreseeable barriers to participation.
- Healthy@Work facilitators were advised to use this approach and also foster leadership and management support for the program. Kilpatrick and co-authors (19) investigated how this approach worked in the TSS.
- Employees who felt they were consulted about WHP planning, and that the activities were relevant, interesting, or convenient, or that they had the support of managers and colleagues to participate, were more likely to participate in more types of activities.
- Employees who felt that their organisation placed a high priority on WHP, that they had the support of their managers to participate, and that their co-workers were interested in taking part were more likely to participate in WHP activities targeting health-related behaviours.
- Employees who experienced difficulty accommodating activities around other commitments, or perceived they were too busy at work, or had health problems were significantly less likely to participate.
- Part-time/shift-work patterns, and accessibility of activities were also identified as barriers to participation.
- The results provide support for involving employees in WHP program design and implementation and encouraging managerial and head of organisational support for programs.



RECOMMENDATIONS FOR IMPLEMENTATION

- Conduct employee needs assessments and consult employees to determine preferences for activities.
- Tailor programs to match employee preferences.
- Extend programs beyond central or city-based offices.
- Build managerial and team support for WHP to enhance employee participation in activities.
- Offer flexible or targeted program delivery, or web- or telephone-based support.
- Offer smoking cessation support because of its importance for employee health, but be prepared for variable uptake.
- Offer physical activity programs. They are likely to be well received by a broad range of employees.
- Clarify whether the expenditure associated with a WHP is justifiable if WHP is likely to engage already active or relatively healthy employees.

HEALTH-RELATED AND OTHER OUTCOMES OF WHP

Behaviours such as smoking cigarettes, being physical inactive, sedentary, having a poor diet, and drinking alcohol at risky levels are associated with the development of numerous chronic diseases. Obesity and poor mental health are also burdensome for individuals and society.

Helping employees to improve their health-related behaviours and mental health are common goals for Australian WHP programs. Programs, however, can also generate other outcomes of value to employees and employers.

The following section outlines the research undertaken to explore a variety of health and organisational outcomes of WHP.

JOB STRESS AND SELF-ESTEEM

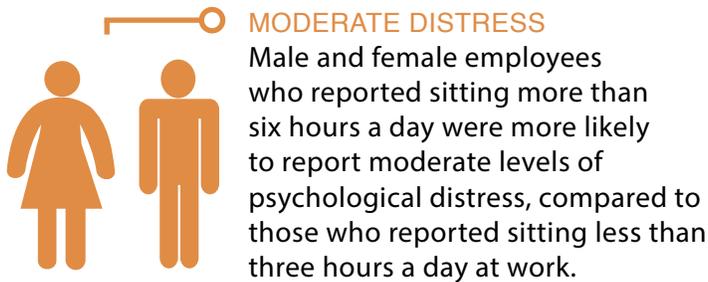
- WHP can help prevent job stress by promoting a positive organisational culture where employees feel supported by their organisation, as well as employees participating in programs that promote healthy lifestyles and well-being.
- Jarman and co-authors (5) investigated whether job stress was lower in TSS employees who had a broad range of Healthy@Work activities available to them, and in those who had participated in more activities.
- They found different results for men and women.
 - For women, availability of WHP may have contributed to perceptions of organisational support, as a type of work reward, thereby enhancing self-esteem.
 - Men did not perceive the availability of WHP as a reward. However, men who participated in WHP also reported lower work effort
- Attention to areas such as self-esteem, job security and promotion prospects through stress management programs or primary stress prevention interventions may have been more suited to addressing increased job stress in men.

PROMOTING MENTAL HEALTH IN THE WORKPLACE

- Approximately two-thirds of people with a common mental health disorder, like anxiety or depression, are employed.
- Little is known about whether employee mental health is affected by comprehensive WHP that targets modifiable health risks including unhealthy lifestyles and stress.
- Jarman and colleagues (17) investigated the association between employee psychological distress and WHP delivered across the TSS over a three-year period.
- Healthy@Work was successful in increasing participation across a range of activity types, including for men and women with poorer mental health.
- Activities that directly targeted mental health were not associated with a decrease in psychological distress in men and women. It is possible that some programs were effective but their results were confined to certain groups of employees, rather than the broader group of employees measured in this study.
- Women's psychological distress decreased over time, but this change was only partially attributable to participation in WHP, and only in lifestyle interventions.
- Overall, psychological distress did not change over time for men.

SITTING AT WORK AND PSYCHOLOGICAL DISTRESS

- Sedentary behaviours, such as sitting or lying down, have been linked to poor physical and mental health, independent of the amount of physical activity people do.
- Sitting at work makes up a large proportion of the total amount of time many employees spend sitting.
- Kilpatrick and co-authors (9) looked at the relationship between the amount of time employees reported sitting at work on a typical day and their levels of psychological distress.



HIGH DISTRESS
Women only were more likely to report high distress in association with prolonged occupational sitting.



- No relationship was found between very high psychological distress and sitting at work.
- The findings were independent of the level of leisure-time physical activity respondents reported doing.
- Because of the study design, it is not possible to determine the direction of the relationship. It is possible that people may sit more, or choose sedentary work, if they are psychologically distressed. Research that tracks people over time is needed to confirm the direction of the relationship.

RECOMMENDATIONS FOR MENTAL HEALTH PROMOTION

- Delivering quality mental health programs through comprehensive WHP can improve employee mental health.
- Consider gender differences when planning and implementing WHP. For example men may be higher wage earners, more likely to be in full-time or management positions and potentially more exposed to perceived or real threats of job loss and work intensification.
- Tailor mental health interventions to different employee groups who may have different stressors or work demands.
- Integrate a range of approaches when designing employee mental health interventions.
- Encompass worker health promotion, protection and job-specific interventions.

SELF-REPORTED BENEFITS OF PARTICIPATION, AND EMPLOYEE COMMITMENT TO THE ORGANISATION

- Important interim markers of WHP program success can include employees being motivated or assisted to improve their health behaviours and mental health, or employees feeling a greater commitment to their organisation and improving their performance at work.

EMPLOYEE COMMITMENT TO THE ORGANISATION

Kilpatrick and co-authors (12) found that higher levels of participation were linked to a higher likelihood of employees agreeing with statements relating to organisational commitment.



For respondents who had participated in two or more WHP activities:

76% agreed they would recommend their organisation as a great place to work,

72% agreed they felt a strong personal attachment to their organisation,

84% agreed they would recommend their organisation as a great place to work.

SELF-REPORTED BENEFITS FROM PARTICIPATION

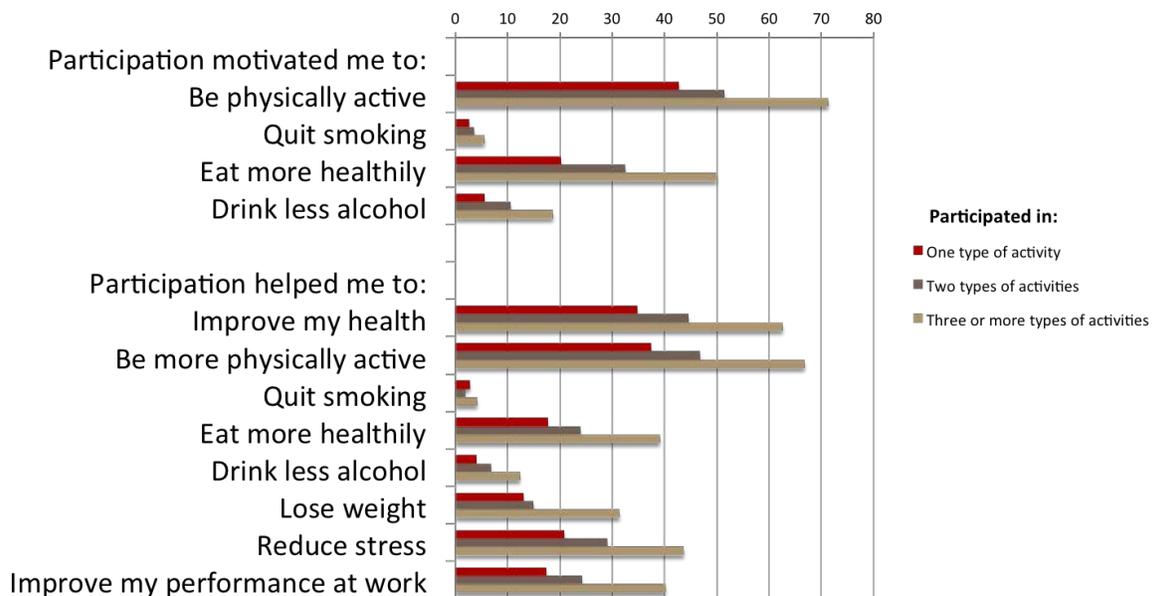
Employees who participated in multiple activity types were more likely to agree that:

Participation had motivated them to address their physical activity, diet, or alcohol intake.

Participation had helped them to reduce their stress, lose weight, improve their general health, improve their performance at work, eat more healthily, drink less alcohol (see chart below).

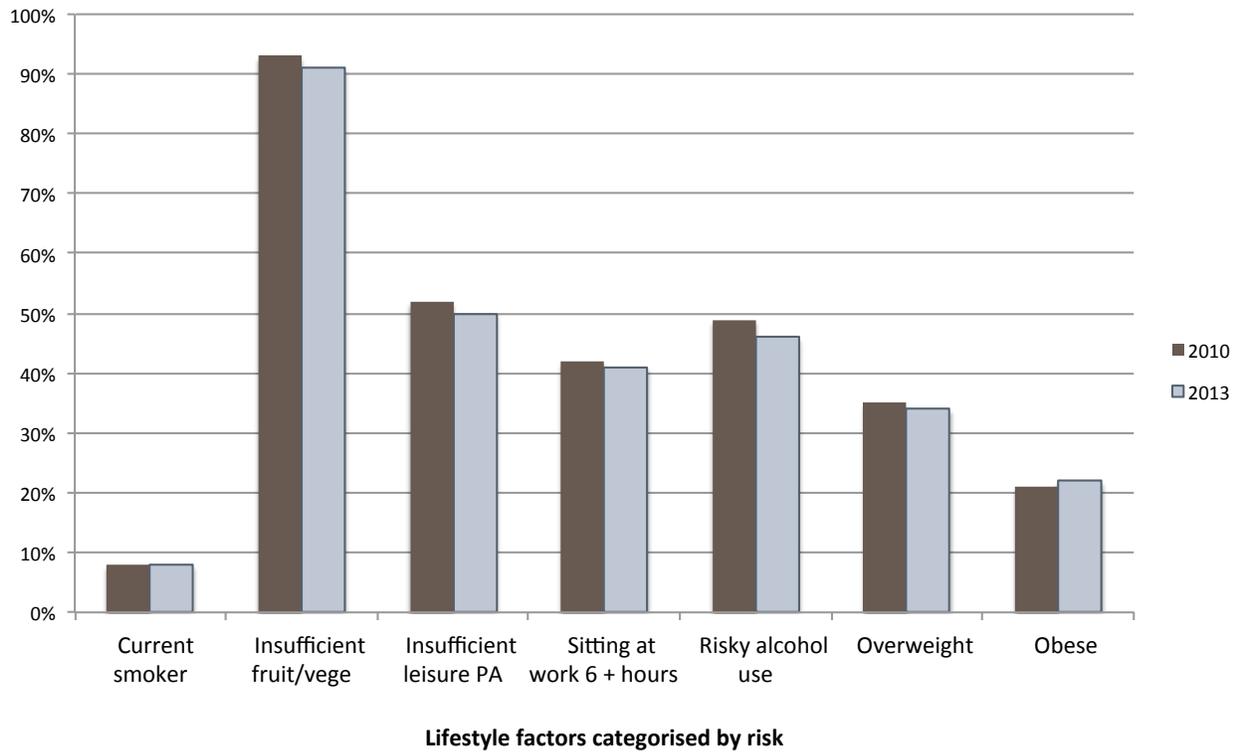


Percentage of respondents who agreed with the statement by level of participation



HEALTH-RELATED BEHAVIOURS, OVERWEIGHT AND OBESITY

- Kilpatrick and co-authors (12) investigated whether there were differences in TSS employee health-related behaviours and body mass index (BMI) observed between 2010 and 2013.
- No significant differences were observed in health-related behaviours and BMI, whether they were categorised according to established risk-factor cut-offs or examined as continuous measures.



COHORT FINDINGS

- Purely by chance, approximately 14% of TSS employees (3,844 people) received a pH@W survey in 2010 and again in 2013. Of these employees, 580 responded to both surveys and were defined as “the cohort”.
- Having data from respondents at two time points enabled Chappell and co-authors (15) to examine changes in the reported availability of WHP activities, and participation in these activities, by individual employees. They also investigated changes in the health and health behaviours of the cohort.
- The pH@W cohort study found that there was an increase in the availability of and participation in WHP activities between 2010 and 2013.
- Respondents who were not participating in WHP activities in 2010 were more likely to have participated at a low level by 2013 if a wider range of activity types was available.
- Respondents who were already participating in 2010 were more likely to have participated at a moderate to high level by 2013 if a wider range of activity types was available.
- By increasing the range of activity types available to employees, Healthy@Work was successful in encouraging non-participants in 2010 to participate in 2013, and in encouraging those already participating in 2010 to either continue to participate or to participate more often in 2013.
- However, the study found little evidence of improvement in health-related factors for this group of employees over the three year period between surveys.
- These findings corroborate the cross-sectional findings reported on page 20, giving greater confidence in this report’s findings.



RECOMMENDATIONS FOR HEALTH-RELATED AND OTHER WHP OUTCOMES

- Be clear about the outcomes the organisation would like as a result of offering a WHP program (such as outcomes related to employee health and well-being and participation in WHP activities, changes to organisational culture that support health, or increases in employee commitment to their organisation and productivity).
- Intervene to reduce and break up the time employees spend sitting at work if they sit for prolonged periods as part of their work.
- Determine whether the desired outcomes are measurable, and if they need to be measured to justify WHP implementation.
- Have modest and realistic expectations about improvement to employee health behaviours.
- Decide if employee behaviour and health-risk change is necessary to justify spending money on the program.
- Measure interim outcomes of WHP, such as employees being motivated to change health behaviours or feeling assisted by their organisation to do so.

ECONOMIC EVALUATIONS OF WHP

Some organisations can invest in WHP because they see it as “the right thing to do” as a good corporate citizen, or they see it as a great way to engage their employees within the workplace. Other organisations, however, need to document a clear business case that outlines the program expenditure against the expected business gains, such as fewer employee absences from work due to ill health.

Economic evaluations of WHP are a way of identifying, measuring, and valuing the costs and benefits of WHP. They help to answer the question “Did our WHP program provide value for money?” The ideal evaluation method, however, is unclear.

The following section summarises work undertaken within pH@W to investigate the application of economic evaluations in workplace health.

RETURN ON INVESTMENT IN WHP

- Baxter and co-authors (1) systematically reviewed the international evidence for WHP, and looked specifically at the methods currently used in WHP economic evaluations.
- They categorised the studies according to the quality of the economic evaluation methods used, scoring the studies against the 36-item British Medical Journal Economic Evaluation Working Party checklist.
- Their main finding was that, overall, WHP programs generated a modest positive return-on-investment (ROI) for all studies except randomised control trials.



RETURN ON INVESTMENT

The average ROI was \$1.38. This means, on average, that every dollar spent on WHP by an organisation yielded a return of \$1.38, in terms of boosted productivity, or reduced health costs. However, there was variability. Some studies showed higher ROIs, while some showed negative ROIs.

QUALITY OF STUDIES

They also discovered, when they looked at the studies grouped as low, moderate or high quality economic evaluations, that high quality economic evaluations showed evidence of smaller financial returns.

As economic evaluation methodological quality improved, the reported return on investment for these WHP programs decreased, and studies using a randomised control trial study design reported negative ROI.



USE QUALITY METHODS

The authors highlighted the importance of using the highest quality methods to evaluate the economic side of WHP programs, so that decision makers and employers have access to the best possible evidence with which to make accurate and sustainable business justifications for WHP.

ECONOMIC EVALUATION OF HEALTHY@WORK

- Baxter and co-authors (14) conducted an economic evaluation of Healthy@Work following established health economic guidelines.
- They used a type of economic evaluation called cost-consequence analysis, where all of the direct costs (such as WHP program costs associated with implementation, staffing, training, and infrastructure) and indirect costs (such as employee absenteeism) are calculated and reported alongside a catalogue of the different outcomes. With this method, no attempt is made to combine the costs and outcomes into comparable measures or dollar figures. It is up to the decision makers to compare the listed costs and consequences to judge the worth of an intervention.
- Baxter's analysis set the overall costs for Healthy@Work against health and service use outcomes (which included total employee lost productive time due to poor mental or physical health, health utility (see page 9) and healthcare service use.
- They found no differences in any of the outcomes listed above when they looked at the TSS overall.
- They also investigated organisational capacity, which they defined as the degree to which each agency developed, implemented and sustained a WHP program between 2010 and 2013.
- When they explored costs and outcomes according to TSS agencies grouped as low, middle or high capacity agencies, they found that the high performing agencies invested more on their WHP programs per employee but saw greater returns.



SAVINGS DUE TO PRODUCTIVITY GAINS

High capacity agencies had less total lost productive time compared to low capacity agencies. Baxter calculated that this represented an average saving to the TSS of \$1,168 per year for each employee in a high performing agency, compared to low performing agencies.

RECOMMENDATIONS FOR WHP ECONOMIC EVALUATIONS

- Commit to a common economic language in economic research by using terminology and conventions that already exist in health economics.
- Identify, measure and value the costs and benefits of the intervention, alongside comparison measures of competing approaches, such as offering a different intervention, or none at all.
- Report economic evaluations using the Consolidated Health Economic Evaluation Reporting Standards (CHEERS) guidelines.
- Broaden the evaluation of outcomes by measuring beyond healthy lifestyles and health risks and towards employee wellbeing and quality of life. For example, use the SF-6D to measure health utility (see page 9).

APPENDIX A: DEFINITION OF HEALTH-RISK FACTORS

Weight status: Employees reported their height and weight. This was used to calculate body mass index as weight in kilograms divided by height in metres squared (kg/m²). The health risk category of overweight was defined from a body mass index of 25.0 to 29.9 and obese as a body mass index of 30 or more.

Smoking: Smoking history over the lifetime was collected. Responses were categorised as current daily smoker versus not.

Physical activity: This was measured using the long version of the International Physical Activity Questionnaire (IPAQ-Long). Insufficient leisure activity was as defined as less than 150 minutes of moderate-vigorous leisure physical activity in the past week. The amount of time usually spent sitting at work was also recorded, with prolonged sitting defined as sitting for at least six hours in the working day.

Alcohol: Employees completed the AUDIT-C measure of alcohol use, where they reported how often they have a drink containing alcohol, the number of standard drinks containing alcohol they have on a typical day when they are drinking, and how often they have five or more drinks on one occasion. Risky drinking was defined according to Royal Australian College of General Practitioners (RACGP) guidelines.

Diet: Low fruit intake was defined as eating one serve or less of fruit per day. Low vegetable intake was defined as eating four serves or less of vegetables per day. For further information about Australia's current dietary guidelines visit the National Health and Medical Research Council website (www.nhmrc.gov.au/guidelines/publications/n55).

Psychological distress: The ten-item Kessler Psychological Distress scale (K10) was used and gives a score ranging from 10-50. Higher scores indicate greater psychological distress. The risk category of high psychological distress was defined as a K10 total score of 22 or more and includes people in the high and very high categories.



APPENDIX B: KNOWLEDGE TRANSLATION

GOALS

- To inform future research
- To increase knowledge/ awareness
- To inform WHP policy
- Inform/change practice

HOW WERE THEY ADDRESSED?

- The partnership was designed to inform future research by identifying and addressing gaps in knowledge.
- Peer-reviewed publications, TSS agency and employee reports, the final pH@W report, the annual symposia and monthly lunchtime seminar series, and participation by researchers in webinars were used to increase awareness and knowledge around the following topics:
 - Researcher and knowledge user/policy-maker partnerships
 - Tools and assessment techniques for work health and WHP
 - WHP implementation and employee participation
 - Health-related and organisational outcomes of WHP
 - Economic evaluations of WHP.
- There was opportunity to inform policy within the TSS' own Healthy@Work program. In addition, the findings and partnership informed the TSS delivery of the nationally-funded Healthy Workers scheme, which supported private and public sector organisations in the implementation of WHP.
- All research undertaken was designed to inform or change WHP practices. The Workplace Health Savings Calculator, and the suggested revisions to data capture on Workers Compensation stress-related claims are two practical examples.

AUDIENCES

- TSS (primary knowledge user but also policy makers/ legislators)
- Organisations and researchers entering into, or running a collaborative partnership
- Researchers
- Private sector, and organisations implementing WHP
- WHP practitioners/service providers
- TSS employees, and survey respondents

HOW WERE THEY REACHED?

- Agency reports, management and investigator meetings, final pH@W report, annual symposia and seminars.
- The partnership evaluation paper and conference presentation.
- The final pH@W report.
- Peer-review publications, and presentations at national and international conferences.
- Symposia and lunchtime seminar series, webinars.
- Symposia and lunchtime seminar series, publications, webinars.
- Employee summary of findings (2014).

DIFFUSION

- Conference presentations
- Peer-reviewed publications
- Web-based activities

DISSEMINATION

- Plain language summary
- Events
- Interactive small group meetings/workshops
- Summaries to stakeholders (agencies and TSS employees)
- Tailor messages to promote use

APPLICATION

- Adapt knowledge for use

HOW ADDRESSED?

- Oral and poster presentations at local, national and international conferences.
- The PhD students published papers from their theses.
- The *pH@W* website has links to PDF copies of symposia and lunchtime seminar presentations, and the *pH@W* final report.

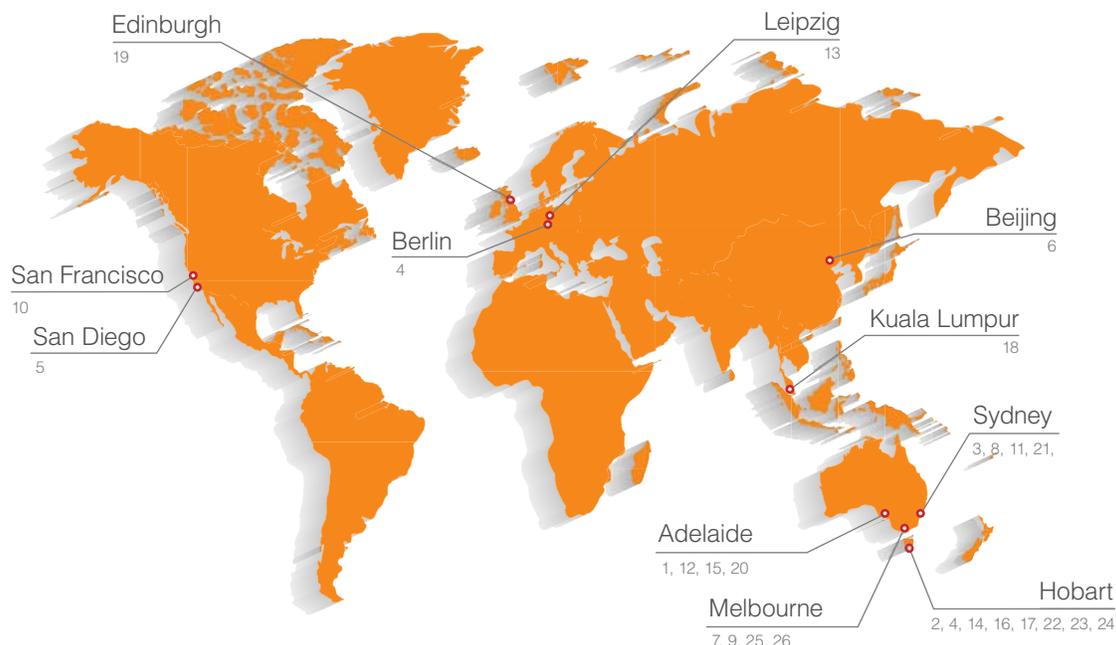
HOW WAS IT ACHIEVED?

- The final *pH@W* report, which was made available on the website and distributed to stakeholders and interested parties.
- Three annual WHP-themed symposia were staged by the partnership in Hobart, Tasmania, with invited local and national speakers.
- A regular monthly lunchtime researcher/practitioner seminar series, run from 2010 to 2014.
- Reports summarising the findings from each *pH@W* survey were prepared for agencies (in 2011 and 2014) and TSS employees (in 2014) by the researchers in collaboration with TSS partners.
- The agency reports were tailored to each agency to maximise the relevance.
- The final *pH@W* report was written as a lay summary for wider distribution and uptake of the findings and recommendations.
- The presentations in the monthly seminars series and the annual symposia.

HOW WAS IT ACHIEVED?

- The development of the Workplace Health Savings Calculator.
- WorkCover Tasmania changed the way data was collected by expanding their systems to collect more relevant data.
- The TSS revised the way that stress-related worker compensation claims were calculated, finding that the frequency of claims was in line with the national average, rather than higher, as previously believed.
- The TSS prioritises workers compensation efforts which are now included in agency strategic planning.

APPENDIX C: CONFERENCES, INVESTIGATORS AND PUBLICATIONS



CONFERENCES AND INVITED PRESENTATIONS

1. Baxter S*, Sanderson K, and Palmer A. A quality-based systematic review of the economic evidence for workplace health promotion. **Population Health Congress**. Oral presentation. Adelaide, September, 2012.
2. Baxter S*, Sanderson K, and Palmer A. Investing in workplace health promotion: What's the return? **partneringHealthy@Work Symposium**. Oral presentation. Hobart, March, 2013.
3. Baxter S*, Sanderson K, and Palmer A. Economic evaluations of workplace health promotion: a quality-based systematic review. **9th World Congress on Health Economics**. Oral presentation. Sydney, July 2013.
4. Baxter S**, Sanderson K, and Palmer A. Construct validity of SF-6D health state utility values in an employed population. **International Society for Quality of life Research Conference**. Oral presentation. Berlin, October 2014.
5. Baxter S*, Sanderson K, and Palmer A. Methodology and the Latest Reporting Standards for Economic Evaluations in Workplace Health Promotion: Evidence from the Baxter Review. **Art and Science of Health Promotion Conference**. Oral presentation. San Diego, April 2015.
6. Baxter S*, Sanderson K, and Palmer A*. Construct validity of SF-6D health state utility values in an employed population. **Asia Pacific Conference of International Society of Pharmacoeconomics and Outcomes Research**. Poster presentation. Beijing, September 2014.
7. Baxter S*. Methodological quality: a determinant of profitability in workplace health. **Centre for Health Economics, Monash University**. Invited talk. Melbourne, October 2013.
8. Baxter S. Construct validity of SF-6D health state utility values in an employed population. **International Society of Pharmacoeconomics and Outcomes Research Australia Chapter Encore Presentations**. Invited talk. Sydney, April 2015.
9. Baxter S**. SF-6D health utility in employee populations: a valid health economic measure in workplace health promotion. **Centre of Research Excellence in Patient Safety, Monash University**. Invited talk. Melbourne, June 2015.
10. Baxter S**. Do wellness programs work? **Pacific Business Group on Health**. Invited talk. San Francisco, November 2015.
11. Doherty T*, Kilpatrick M, and Connor A. Workplace health promotion – for love or money? **Australian Health Promotion Association conference**. Oral presentation. Sydney, June 2013.
12. Jarman L*, Martin A, Venn A, Otahal P, Taylor R, Teale, B, and Sanderson K. Prevalence and correlates of psychological distress in a large and diverse public sector workforce: baseline results from Partnering Healthy@Work. **Population Health Congress**. Oral presentation. Adelaide, September, 2012.
13. Jarman L*, Martin A, Venn A, Otahal P, Taylor R, Teale, B, and Sanderson K. Prevalence and correlates of psychological distress in a large and diverse public sector workforce: baseline results from Partnering Healthy@Work. **International Federation of Psychiatric Epidemiology Congress**. Oral

- presentation. Leipzig, June 2013.
14. Jarman L*, Venn A, Martin A, Otahal P, Ogle F, and Sanderson K. Bullying and workers compensation in the Tasmanian State Service. **Australian and New Zealand Academy of Management Conference**. Oral presentation. Hobart, December 2013.
 15. Jarman L*, Venn A, Martin A, Otahal P, Ogle F, and Sanderson K. Trends, costs and correlates of stress-related workers' compensation claims in a public sector workforce. **International Congress of Organisational Health, and Work Organisation and Psychosocial Factors**. Oral presentation. Adelaide, September 2014.
 16. Jarman L*, Martin A, Venn A, Otahal P, Blizzard L, Teale B, and Sanderson K. Trends, costs and causes of stress claims in a public sector organisation. **WorkSafe Tasmania Conference**. Oral presentation. Hobart, October 2014.
 17. Jarman L, Martin A, Venn A, Otahal P, Sanderson K. Are differences in job stress observed when organisations implement workplace health promotion? **Population Health Congress**. Oral presentation. Hobart, September 2015.
 18. Kilpatrick, M*#, Sanderson K, Blizzard L, Venn A. Healthy@Work takes time: Workplace health promotion availability and engagement, and changes to employee lifestyle risk factors (2010-2013). **International Congress on Obesity**. Oral presentation. Kuala Lumpur, March 2014.
 19. Kilpatrick M*, Sanderson K, Blizzard L, and Venn A. Program reach and participation in a workplace health promotion program: associations with employee characteristics and physical activity levels. **International Society of Behavioural Nutrition and Physical Activity**. Oral presentation. Edinburgh, June 2015.
 20. Kilpatrick M*, Sanderson K, Blizzard L, and Venn A. Occupational sitting and psychological distress in public sector employees. **Population Health Congress**. Oral presentation. Adelaide, September 2012.
 21. Kilpatrick M*, Sanderson K, Blizzard L, Venn A. Discrepancies between what employees want, need, and are ready to change: workplace health promotion challenges. **Australian Health Promotion Association conference**. Oral presentation. Sydney, June 2013.
 22. Kilpatrick, M*. Healthy@Work outcomes. **Good Health, Good Business conference**. Oral presentation. Hobart, August 2014.
 23. Kilpatrick M*, Sanderson K, Blizzard L, and Venn A. Benefits of workplace health promotion in a large, diverse Australian public-sector setting. **Population Health Congress**. Oral presentation. Hobart, September 2015.
 24. Sanderson K*. Making the business case for workplace health and wellbeing: return-on-investment calculators and their relevance to the Australian context. **WorkSafe Tasmania Forum**. Invited presentation. Hobart, 2010.
 25. Sanderson K*, Martin A, Blizzard L, Palmer A, Ogle F, Taylor R, Venn A. Integrating research-policy exchanges within a doctoral program: findings from the partnering Healthy@Work project. **Higher Degrees by Research Supervision Conference**. Oral presentation. Melbourne, September 2013
 26. Sanderson K*, Teale B, Taylor R, Blizzard L, Venn A, for the pH@W Investigators. Comprehensive cardiovascular disease prevention in the workplace: baseline findings from Partnering Healthy@Work (pH@W). **Heart Foundation National Conference**. Oral presentation. Melbourne, March 2011.

*The presenting researcher. #The presenting researcher was awarded a competitive travel grant, or received external funding to attend the conference, or was a funded invited speaker. Attendance at all other conferences was made possible through the UTAS/Menzies conference support fund, and NHMRC partnership funding designated for professional development.

PARTNERINGHEALTHY@WORK INVESTIGATORS

University

1. Prof Alison Venn - Epidemiology
2. Assoc Prof Kristy Sanderson - Mental Health
3. Assoc Prof Leigh Blizzard - Biostatistics
4. Prof Andrew Palmer - Health Economics
5. Prof Mark R Nelson - Primary Health Care
6. Assoc Prof Paul Turner - Information Management
7. Assoc Prof Angela Martin - Organisational psychology
8. Prof Jenn Scott - Clinical and health psychology
9. Dr Dean Cooley - Human movement and physical activity promotion
10. PhD students: Lisa Jarman, Michelle Kilpatrick, Siyan Baxter
11. Post-doctoral research: Dr Fiona Cocker, Dr Kim Jose
12. Administration: Doreen Bate, Helen Galea

Tasmanian Government

1. Dr Roscoe Taylor - Director of Public Health, Department of Health and Human Services (DHHS)
2. Mr Frank Ogle - Manager of the Public Sector Management Office, Department of Premier and Cabinet (DPAC)
3. Mr Brook Teale - DPAC
4. Ms Carole Owen - DHHS
5. Ms Judy Seal - DHHS
6. Ms Sue Frendin - DHHS
7. Dr Theresa Doherty - DHHS
8. Ms Sharon Campbell - DHHS

PUBLICATIONS AND REPORTS

1. Baxter S, Sanderson K, Venn AJ, Blizzard CL, Palmer AJ. The relationship between return on investment and quality of study methodology in workplace health promotion programs. *American Journal of Health Promotion*, 2014;28:347-363.
2. Baxter S, Sanderson K, Venn AJ, Otahal P, Palmer AJ. Construct validity of SF-6D health state utility values in an employed population. *Quality of Life Research*, 2015;24: 851-870.
3. Baxter S, Campbell S, Sanderson K, Cazaly C, Venn AJ, Owen C, Palmer AJ. Development of the Workplace Health Savings Calculator; a practical tool to measure economic impact from reduced absenteeism and staff turnover in workplace health promotion. *BMC Research Notes*, 2015;8:457.
4. Jarman L, Martin A, Venn A, Otahal P, Taylor R, Teale B, and Sanderson K. Prevalence and correlates of psychological distress in a large and diverse public sector workforce: baseline results from Partnering Healthy@Work. *BMC Public Health*, 2014;14:125.
5. Jarman L, Martin A, Venn A, Otahal P, Blizzard L, Teale B, and Sanderson K. Workplace health promotion and mental health? Three-year findings from Partnering Healthy@Work. *PLOS One*, 2016;11:e0156791.
6. Jarman L, Venn A, Martin A., Otahal P, and Sanderson K. Does workplace health promotion contribute to job stress reduction? *BMC Public Health*, 2015;15:1293.
7. Jarman L, Martin A, Venn A, and Sanderson K. Mental health in the workplace: partnerships in practice. In Touch newsletter publication of the Australian Public Health Association Inc, September/ October 2012.
8. Jarman L, Venn A, Martin A, Otahal P, Ogle F, and Sanderson K. Stress-related workers compensation claims in the Tasmanian State Service 2007-2011: Report 1, November 2012.
9. Jarman L, Venn A, Martin A, Otahal P, Ogle F, and Sanderson K. Trends, costs and correlates of stress-related workers' compensation claims in a public sector workforce. *Journal of Health, Safety and Environment*, 2014;30: 243-258.
10. Jose K, Venn A, Jarman L, Seal J, Teale B, Scott J, and Sanderson K. Partnering Healthy@Work: an Australian university – government partnership facilitating policy relevant research. *Health Promotion International*, 2016.
11. Kilpatrick M, Sanderson K, Blizzard L, Teale B, Venn A. Cross-sectional associations between sitting at work and psychological distress: Reducing sitting time may benefit mental health. *Mental Health and Physical Activity*. 2013;6:103-109.
12. Kilpatrick M, Sanderson K, Blizzard L, Teale B, and Venn A. Factors associated with availability of, and employee participation in, comprehensive workplace health promotion (WHP) in a large and diverse Australian public-sector setting: a cross-sectional survey. *Journal of Occupational & Environmental Medicine*, 2015;57:1197-1206.
13. Kilpatrick M, Sanderson K, Blizzard L, Nelson M, Frendin S, Teale B, and Venn A. Workplace Health Promotion: What Public-Sector Employees Want, Need, and Are Ready to Change. *Journal of Occupational & Environmental Medicine*, 2014;56:645-651.
14. Kilpatrick M, Sanderson K, Blizzard L, Teale B, Nelson M, Chappell K and Venn A. Investigating employee-reported benefits of participation in a comprehensive Australian workplace health promotion program. *Journal of Occupational and Environmental Medicine*, 2016;58:505-513.
15. Kilpatrick M, Connor A, and Doherty T. Healthy Workplace Resource Toolkit Pilot Evaluation Report February 2013.

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