UNSW Workplace Mental Health Research Program

Third Year Annual Report

Dr Samuel Harvey
Senior Lecturer in Workplace Mental Health
School of Psychiatry
The University of New South Wales

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1. BACKGROUND AND AIMS

In December 2011, the NSW Department of Health’s Mental Health Drug and Alcohol Office (MHDAO) engaged the University of New South Wales (UNSW) to establish a Clinical Academic Research Program in Workplace Mental Health.

The main aim of this program was to develop a research program focused on the mental health needs of NSW front line emergency workers (police officers, ambulance officers and fire fighters).

The program of research began with the appointment of Dr Samuel Harvey on 16th January, 2012. This report outlines the progress and achievements of the workplace mental health research program over its first three years, with a particular focus on the achievements of the last 12 months.

2. PROJECT PLAN

In August 2012, a project plan was agreed between UNSW and the MHDAO, which outlined an initial research strategy to meet the aims described above. In this project plan, three streams of research activity were described:

1. Review literature already available

An early focus on systematic literature reviews was planned to ensure that all information available both locally and internationally could be translated into policy and practice development without delay or replication.

To date we have completed and published systematic reviews on prevention in the workplace, workplace interventions to improve the mental health of employees and clinical interventions to improve return to work rates once mental illness is already diagnosed. In addition to these academic reviews, we have also published a lay review, designed to help employers understand how the research evidence can guide their attempts to develop more mentally healthy workplaces. These reviews have been well received, as demonstrated by considerable media coverage and high rates of academic citations (one of the published reviews on preventing the development of depression at work is currently listed as a “Highly accessed” paper on the BMC Medicine website). As discussed in more detail in a later section, we have also developed world first evidence-based guidance on the diagnosis and treatment of PTSD amongst emergency workers.
2. Collection of new data relating to NSW emergency workers

Collecting new observational data and conducting robust controlled intervention studies amongst NSW emergency workers is a vital part of the research program. As noticed in our previous annual reports, it has required additional external funding and time to plan and undertake this new data collection. However, we have now begun conducting a number of new research projects within the NSW emergency services, including:

- A prevalence study of mental disorders amongst current and retired firefighters in NSW
- A study of the overlap between physical and mental health symptoms amongst emergency workers in NSW
- Analysis of the effectiveness of pre-employment screening and additional wellbeing checks within NSW Police
- A study testing the validity of a new type of online mental health check for police officers
- The commencement of a cohort study which will allow us to follow new firefighter recruits over the first 3 years of emergency service work
- A randomized control trial testing the effectiveness of a new type of manager mental health training within emergency services
- A randomized control trial of mindfulness based resilience training (delivered via iPads) to rescue workers in NSW

Further details about each of these exciting new projects are provided in the sections below.

3. Analysis of data already available

In order to ensure that key objectives of this program were being met from an early stage, it was agreed that the program of research would also analyse data already available from a variety of different sources. Over the last 12 months we have obtained access to and analysed data from:

- Australian Bureau of Statistics
- HUNT/HUSK studies from Norway
- 1958 and 1970 British Birth Cohort studies
- SELCoH community health studies from London
- This Way Up clinical trial data from Sydney
3. **KEY PERSONNEL**

**Dr Samuel Harvey, Senior Lecturer in Workplace Mental Health**

Dr Samuel Harvey was appointed as Senior Lecturer in Workplace Mental Health in the School of Psychiatry, University of New South Wales (UNSW) in January, 2012. He is also a Research Fellow with the Black Dog Institute. Dr Harvey has trained as a psychiatrist, general practitioner and epidemiologist and has a particular interest in the relationship between mental health and work. He is the lead researcher for this program of research.

**Matthew Modini, Research Assistant**

Matthew Modini has been employed as a Research Assistant for the UNSW Workplace Mental Health Team since June 2012. Prior to this position he completed his undergraduate studies in Psychology at Macquarie University. His main role in the team thus far has involved undertaking detailed systematic reviews and meta-analyses.

**Dilan Sellahewa, Research Assistant**

Dilan joined the Workplace Mental Health Team in October 2014. He is currently working on research projects investigating the relative contribution of workplace compared to non-workplace factors to mental health outcomes, and exploring the pathways through which workplace factors may affect mental health.

**Josie Milligan-Saville, Research Assistant**

Josie joined the Workplace Mental Health Team in February 2015 after completing her Honours in Psychology at the University of New South Wales. She is currently involved in analysing the data from two projects with NSW emergency services; a large cross-sectional survey of firefighters and a randomised controlled trial of duty commander (manager) training.
Sadhbh Joyce, PhD Student

Sadhbh (pronounced Sive) Joyce is a registered psychologist with considerable experience in mindfulness-based therapy. Sadhbh is currently undertaking a PhD within the Workplace Mental Health Team. Her work is focused on developing and testing new types of mindfulness-based resilience training for emergency workers. Her PhD is being supervised by Dr Samuel Harvey and Dr Fiona Shand and is funded by an Australian Postgraduate Award.

Ruth Marshall, PhD student

Ruth is a psychologist who has worked in forensic settings for over thirty years and is currently the Principal Psychologist with Juvenile Justice NSW. Although primarily a clinician, Ruth has published in the areas of treatment program evaluation and bullying. Ruth’s PhD aims to identify characteristics and circumstances which may predict the development of post-traumatic stress and other psychological injury amongst emergency workers.

Penelope Sawdy, Administration

Penny has worked in University administration for a number of years. She is now part of the UNSW Workplace Mental Health Research Team where she assists with general administrative support and data entry.
4. ADDITIONAL SOURCES OF FUNDING

Over its first three years, the UNSW Workplace Mental Health Research Program has successfully obtained an additional $3.3 million in direct external grant income. This additional grant income has allowed us to employ a number of new staff and to undertake a variety of new research projects that would not otherwise be possible.

The details of these additional grants are outlined below:

- “Men@Work: Utilising new eHealth technologies to improve the mental health of Australian male workers” – Movember Foundation and Beyondblue Australian Mental Health Award ($2.88 million, 2015-2018) to fund a program of research focused on developing and testing new smart phone mental health applications to be used in a variety of workplace settings, including the emergency services (S Harvey, N Glozier, R Calvo, et al, 2015-2018)

- “The development and evaluation of a welfare management program for managers in NSW Fire and Rescue” - Employers Mutual project grant ($76,571) to fund the development and randomised control trial of a new type of combined mental health literacy and sickness absence management training for managers in Fire and Rescue NSW (CI: S Harvey, M Sluis, 2013 - 2015)

- “Resilience at Work (RAW): mindfulness-based online resilience training for emergency workers” – Australian Postgraduate Award and Brain Sciences Collaborative PhD Grant ($86,176) to fund a PhD candidate to undertake research into new ways to enhance resilience and prevent mental health problems amongst emergency workers. (CI: S Joyce, S Harvey, F Shand, 2014 – 2017)


- “Mentally healthy workplaces: A review of the literature and call for evidence of good practice” - Australian National Mental Health Commission grant ($73 240) to fund a detailed review of the academic literature around what constitutes a mentally healthy workplace as well as to identify the practical means by which workplaces can enhance and support the mental health and wellbeing of employees (CI: S Harvey, 2013 - 2014)

- “The development of expert guidelines for the treatment of post-traumatic stress disorder amongst emergency workers” - Employers Mutual project
grant ($56,340) to fund the formation of an expert group to consider previous reviews and guidance in order to produce succinct, focussed guidelines on the treatment of emergency workers with post-traumatic stress disorder (CI: S Harvey, R Bryant, 2014 - 2015)

- “Work and depression/anxiety disorders – A systematic review of reviews” beyondblue project grant ($93,149) to fund a meta-review of the literature surrounding work and common mental disorders (CI: S Harvey, R Bryant, H Christensen, P Mitchell, 2012 - 2014)
5. EVIDENCE OF RESEARCH CONTRIBUTING TO POLICY OR PRACTICE

Since its inception, the UNSW Workplace Mental Health Research Program has had a strong focus on translational research. Research projects have been designed in partnership with the local emergency services to ensure that they are addressing relevant questions and producing results that can be easily translated into altered practice or policy. In addition, Dr Harvey has also provided evidence-based advice on a range of active policy issues.

Examples of how the Workplace Mental Health Team has contributed to changes in policy and practice within NSW emergency services in 2014/15 are provided below:

- Developed and currently trialling three new types of training within NSW emergency services; a new style of resilience training amongst recruits (FitMind), a mindfulness-based resilience training for established workers (RAW Mindfulness) and a new type of manager training (RESPECT)
- Analysing the effectiveness of current pre-employment psychological screening used by NSW Police
- Developed a new brief online mental health wellbeing check to be used by currently serving police officers. The ability for this screening to accurately detect mental health problems will be tested in a new study to begin late in 2015.
- Development of expert guidelines for the diagnosis and treatment of PTSD amongst emergency workers (due for release in 2015)
- Research findings regarding increased levels of mental health problems amongst retired fire fighters contributing to a decision to extend peer support programs to retired emergency workers
- Regular attendance at the Mental Health Management Group within Fire and Rescue NSW
- Membership of the working group planning for the potential mental health implications of the Emergency First Responder project in NSW (involving Ambulance NSW and Fire and Rescue NSW)
- Member of Work Safety and Wellbeing Resilience Advisory Committee for the Ambulance NSW
- Working together with the Black Dog Institute to develop evidence-based mental health training, this is now being utilised by both NSW Police (as part of their Superintendents Training Program) and Fire and Rescue NSW.
- Together with the National Mental Health Commission, developed the Mentally Healthy Workplace Alliance, which is a national partnership between business and the mental health sector committed to using the best available research evidence to create more mentally healthy workplaces.
- Member of Mental Health Promotion Reference Group (Mental Health Association of NSW)
6. OVERVIEW OF CURRENT RESEARCH PROJECTS

The UNSW Workplace Mental Health Team is currently conducting 16 different research projects. A brief description of each of these is provided below. Our team has previously described a model of the 'journey' that an individual emergency worker will undertake in moving from being a ‘healthy worker’ to someone who is ill and may potentially need a period of sickness absence. This model highlights that each stage of this ‘journey’ is different and, in order to prevent workers becoming ill or to help them recover from illness, different types of interventions are likely to be required at each stage. The figure below demonstrates how each of the projects listed below maps on to this model.
Healthy Emergency Worker

• Systematic review of proven intervention among emergency workers
• Testing the effectiveness of pre-employment screening in NSW Police
• Personalised risk profiling for emergency workers (Men@Work)
• Randomised controlled trial of mindfulness-based resilience training (RAW) for rescue workers in NSW
• Systematic review of pre-employment risk factors for PTSD and other mental disorders amongst emergency workers
• Cohort studies examining whether predictors of resilience can be identified amongst emergency workers

Symptomatic Worker

• Analysis of cross-sectional data to determine the prevalence of mental health symptoms in both current and retired firefighters
• Examining the links between physical health symptoms and PTSD in emergency workers
• Randomised control trial of psychoeducation to aid early help seeking (FITMIND)
• Development and testing of new online mental health screening for police officers (e-well check)
• Observational studies examining the mental health benefits of physical activity
• Using birth cohort data to examine the biological and occupational consequences of work stress

Mental Illness

• Development of guidelines for the diagnosis of PTSD in emergency workers
• Randomised control trial of manager training (RESPECT) designed to increase managers’ confidence when dealing with staff members with a mental health condition
• Re-examining the results of treatment RCTs to investigate the effectiveness of online psychological treatment amongst workers
• Creasing and testing new ‘work focused’ mental health treatments
• Using birth cohort data to examine the impact of job demand and job control on mental wellbeing

Sickness Absence

• Development of expert guidelines on the treatment of PTSD in emergency workers
• Systematic review and meta-analysis examining the effectiveness of supported employment programs for those with severe mental illness
• RCT of additional training and support to GP’s managing sickness absence
• Controlled trial of pargyli sickness absence in Norway
• Development and evaluation of a new questionnaire for non-health predictors of sickness absence (KWIQ)
6.1 PTSD treatment guidelines for emergency workers

There is an increasing realisation that emergency work can come at a cost, with large numbers of emergency workers reporting ongoing psychological consequences from exposure to trauma, most notably post-traumatic stress disorder (PTSD). The most up to date literature estimates that around one in ten emergency workers are currently suffering from PTSD, although rates are likely to be even higher if retired emergency workers are considered.

Over recent decades a substantial body of evidence has accumulated regarding how PTSD should be treated. There are now a number of psychological and pharmacological treatments known to be effective. There have also been a number of proposed treatments that have been found not to be beneficial. However, such is the scope of available literature on PTSD, it has become difficult for both clinicians and organisations to remain up to date with what is best practice.

There have been a number of large, systematic reviews of the available literature on the treatment of PTSD. Within the Australian context, the most important of these is the Australian Guidelines for the Treatment of Acute Stress Disorder and Posttraumatic Stress Disorder, which were published in 2007 and updated in 2013. From the point of view of those managing emergency service personnel with symptoms of PTSD there were two main limitations of the previously available guidance. Firstly, while the Australian Guidelines make some comments about specific groups, such as emergency workers, the bulk of the document deals with the management of PTSD more generally, without consideration of some of the specific issues that may relate to emergency workers. Secondly, like much of the research in this field, most of the currently available guidance is focused on symptomatic improvement. While a reduction in symptoms is often a necessary first step towards functional recovery, in cases of work-related trauma exposure, it is often not enough. Managing the return to work of an emergency worker who has suffered PTSD is particularly complicated due to issues of public safety and the likelihood of further trauma exposure.
With the aid of a grant obtained from Employers’ Mutual Ltd, we convened a panel of nine of Australia’s leading experts in PTSD, with expertise in psychiatry, clinical psychology, general practice, epidemiology and occupational medicine. Together with this group, we sought to combine the best available research evidence with expert opinion to produce succinct, focussed guidelines on the diagnosis and treatment of emergency workers with PTSD. The final guidelines contained 53 separate guidance points under the sub-headings of diagnosis and assessment, treatment planning, treatment settings, psychological interventions, pharmacological treatment and treatment sequencing.

To the best of our knowledge, these are the first PTSD diagnosis and treatment guidelines written specifically for emergency workers anywhere in the world. The guidelines are currently being reviewed by the Royal Australian and New Zealand College of Psychiatrists Clinical Guidelines Committee and are planned for release in June 2015.

6.2 Mental health of current and retired fighters

Fire fighters are faced with potentially traumatic incidents on a regular basis. While a number of studies have examined the occurrence of posttraumatic stress disorder (PTSD), the role of multiple traumas on other mental health sequelae, such as depression and alcohol misuse, amongst emergency workers has been unclear. Additionally, the mental health of retired emergency workers has often been ignored by previous research. Together with researchers from the School of Psychology at The University of New South Wales and The University of Sydney, we have conducted a study examining the prevalence of a broad range of mental health problems amongst both current and retired fire-fighters in New South Wales.

A cross-sectional survey was completed by current (n=488) and retired (n=265) firefighters. Amongst current fire-fighters, rates of PTSD and depression were 8% and 5% respectively. Rates of alcohol use disorders were much higher, with 19% reporting consumption of 21 or more alcoholic drinks per week and 28% regular binge drinking. There were significantly higher levels of mental illness amongst retired fire-fighters, with prevalence estimates of PTSD and depression both 18% and 30% reporting heavy alcohol use. As demonstrated in Figure 1, the rates of all mental health problems continued to rise in a linear manner with each additional trauma exposure.
6.3 New electronic screening of police officers

It is increasingly recognised by employers that early detection of mental illness is important with early intervention being associated with improved outcomes. However, there is yet to be any consensus about how large numbers of workers can be screened in a feasible, economically practical, confidential and valid manner.

We have been working together with the NSW Police Force to develop a new online mental health screening tool, named the e-well check. The eventual aim is to provide this tool for all operational police officers, but in late 2015 and initial pilot will be carried amongst 2000 police officers. Ethics approval has been obtained to undertake a validation study as part of this initial pilot.

6.4 The link between PTSD and physical symptoms in emergency workers

It is known that many mental disorders are associated with increased rates of physical health problems. These relationships are not trivial, with some studies suggesting the increased risk of mortality associated with depression to be comparable with smoking. A number of recent studies have suggested that PTSD may also be associated with increased levels of physical symptoms. The precise mechanisms of the link between PTSD and physical health problems have not yet been identified, however they are believed to be the result of both biological (e.g. HPA axis dysregulation) and psychological (e.g. hyperarousal) changes following
exposure to a traumatic event. This relationship may be particularly important in emergency workers given the physically intense nature of their work.

We are utilising data collected on 816 fire fighters in NSW to examine the compare the rates of somatic symptoms in emergency workers with and without PTSD and to examine if these relationship change as emergency workers get older. Some initial analysis from this project is shown in Figure 2.

![Figure 2: Percentage of emergency workers, with and without PTSD, reporting a range of different somatic symptoms](image)

**6.5 Understanding resilience amongst emergency workers**

Traditionally, researchers have tended to focus on individuals who become unwell or develop symptoms of a mental disorder following a traumatic event or stressful situation. However, many emergency workers who are exposed to numerous traumatic or stressful situations do not become unwell are able to continue functioning at a high level. This observation, has led many to focus on the concept of resilience. Debate surrounds the exact definition of resilience, but it is it is perhaps best conceptualised as a dynamic process which creates a positive adaption to adversity.

Our research team is working together with NSW Police and Fire and Rescue NSW to develop a series of studies examining what factors predict whether an emergency worker will be resilient or not. This research will consider factors such as personality traits, coping styles, emotional processing, social support and biological measures.
Data is already being collected on a cohort of new fire fighters and we will begin analysing data from NSW Police’s pre-employment screening later in 2015.

6.5 Are we becoming more mentally ill?
Mental illness has now become the leading cause of sickness absence and incapacity benefits in most developed countries. As demonstrated in Figure 3, mental disorders have now taken over from musculoskeletal problems as the main cause of long-term work incapacity in Australia.

**Figure 3**: The percentage of Disability Support Pensions attributed to various diagnostic groups between 2001 and 2011

There is often an assumption that this reflects modern working life being more “toxic” to mental health and that, as a result, rates of mental illness are increasing. We have used data from the Australian National Health Surveys to test this assumption and found strong evidence against this assumption. Instead we showed that the prevalence of common mental disorders in Australia (depression and anxiety) has remained stable over the last decade. We are currently collaborating with researchers in Norway to look at all published international data addressing this question.
6.6 Preventing mental illness in emergency workers

There is increasing interest in the idea that we can prevent some individuals from developing mental illness. Our team has previously written opinion pieces noting that the workplace should be an ideal location for mental health prevention activities. However, to date, the evidence base for work-based prevention programs has been unclear. We have recently completed two systematic reviews on the prevention of mental illness in the workplace, one focused on the general working population and a second focused specifically on emergency workers. We found good quality evidence that universally delivered workplace mental health interventions can reduce the level of depression symptoms amongst workers. In particular, we found more evidence for the effectiveness of CBT-based programs than other interventions.

We found much less published evidence regarding the effectiveness of mental health prevention programs amongst emergency workers and are hoping that some of our ongoing studies will help to fill this gap.

6.7 The Resilience@Work (RAW) Mindfulness Program

The Resilience@Work (RAW) Mindfulness Program is a new interactive online mental health program aimed at developing psychological resilience of emergency workers so they can better deal with the challenges of their work. The program has been developed by the UNSW Workplace Mental Health team in collaboration with Fire and Rescue NSW.

The RAW Mindfulness program will teach firefighters a set of core skills and strategies derived from the principles theoretically underpinning Acceptance and Commitment Therapy (ACT), Mindfulness based Cognitive Therapy (MBCT), Mindfulness based Stress Reduction (MBSR) and Compassion Focused Therapy (CFT). This program differs markedly from the first generation of online therapy programs, which have typically involved the reproduction of cognitive therapy manuals into an online format. Rather than sifting through wordy paragraphs on a website, the RAW Mind program will involve the worker in a highly interactive process of learning by utilising a combination of video vignettes, interactive exercises, audio and animation. To ensure the training is memorable, it will be delivered via IPADs in a series of six short, attention-grabbing segments, running no longer than 20 minutes. Examples of the types of animation used in the RAW Mindfulness program are shown in Figure 4.

To our knowledge this is the first online mindfulness-based resilience program specifically aimed at protecting and improving mental health outcomes for emergency workers. In order to test the effectiveness of this new intervention we are currently undertaking a clustered randomised controlled trial involving over 300 firefighters in NSW.
6.8 The mental health benefits of exercise

While the physical health benefits of exercise are well established, the mental health consequences of regular physical activity have been less clear. Together with partners in both London and Norway, we have recently completed a series of very large studies examining how physical activity, both leisure time and in the workplace, may protect against the development of common mental disorders such as depression and anxiety. These studies involved over 40,000 adult participants, making them some of the largest research studies to investigate this topic. We found that undertaking regular leisure time physical activity was associated with reduced rates of depression, but not anxiety. The majority of this protective effect occurred at relatively low levels of physical activity, regardless of the type or intensity of activity undertaken. However, the context of physical activity was important, with no association observed between occupationally-related physical activity and common mental disorders. These results have a number of important implications and show that relatively modest changes in population levels of physical activity could have significant public mental health benefits.
6.9 Improving occupational outcomes of those with severe mental illness

Despite the national unemployment rates decreasing over the last decade and a dramatic expansion in employment services for those with disabilities, the proportion of Australian adults with a severe mental illness who are in employment remains unacceptably low. Over the last 12 months we have undertaken a systematic review and meta-analysis of effectiveness of supported employment for people with severe mental illness, specifically individual placement support (IPS). IPS is based on the philosophy that anyone is capable of gaining competitive employment, provided the right job with appropriate support can be identified. We found that IPS is an effective intervention across a variety of settings and economic conditions and is more than twice as likely to lead to competitive employment when compared to traditional vocational rehabilitation. The results of our meta-analysis are shown in Figure 5.

**Figure 5:** Meta-analysis demonstrating the relative risk (RR) of competitive employment for groups receiving IPS compared to standard vocational rehabilitation (RR greater than one indicates greater rates of competitive employment amongst those receiving IPS).

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Country</th>
<th>RR (95% CI)</th>
<th>% Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia and Australia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kilcackey et al.</td>
<td>2008</td>
<td>Australia</td>
<td>6.82 (1.76, 26.51)</td>
<td>1.57</td>
</tr>
<tr>
<td>Oshima et al.</td>
<td>2014</td>
<td>Japan</td>
<td>4.22 (1.03, 17.28)</td>
<td>1.47</td>
</tr>
<tr>
<td>Tsang et al.</td>
<td>2009</td>
<td>Hong Kong</td>
<td>7.37 (2.78, 19.52)</td>
<td>2.62</td>
</tr>
<tr>
<td>Wong et al.</td>
<td>2008</td>
<td>Hong Kong</td>
<td>2.00 (1.05, 3.79)</td>
<td>4.41</td>
</tr>
<tr>
<td>Subtotal (I-squared = 54.4%, p = 0.086)</td>
<td></td>
<td></td>
<td>4.12 (1.91, 8.89)</td>
<td>10.07</td>
</tr>
<tr>
<td>Europe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bejerholm et al.</td>
<td>2014</td>
<td>Sweden</td>
<td>4.26 (1.75, 10.39)</td>
<td>2.97</td>
</tr>
<tr>
<td>Burns et al.</td>
<td>2007</td>
<td>England</td>
<td>3.00 (1.12, 8.05)</td>
<td>2.57</td>
</tr>
<tr>
<td>Germany</td>
<td></td>
<td></td>
<td>1.27 (0.72, 2.26)</td>
<td>4.92</td>
</tr>
<tr>
<td>Italy</td>
<td></td>
<td></td>
<td>2.00 (1.04, 3.84)</td>
<td>4.33</td>
</tr>
<tr>
<td>Switzerland</td>
<td></td>
<td></td>
<td>6.00 (1.49, 24.20)</td>
<td>1.50</td>
</tr>
<tr>
<td>Netherlands</td>
<td></td>
<td></td>
<td>1.29 (0.56, 2.93)</td>
<td>3.28</td>
</tr>
<tr>
<td>Bulgaria</td>
<td></td>
<td></td>
<td>2.00 (1.23, 3.26)</td>
<td>5.63</td>
</tr>
<tr>
<td>Heslin et al.</td>
<td>2011</td>
<td>United Kingdom</td>
<td>1.91 (0.98, 3.74)</td>
<td>4.19</td>
</tr>
<tr>
<td>Hoffmann et al.</td>
<td>2014</td>
<td>Switzerland</td>
<td>1.96 (1.27, 3.01)</td>
<td>6.15</td>
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<tr>
<td>Subtotal (I-squared = 17.3%, p = 0.289)</td>
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<td></td>
<td>2.00 (1.56, 2.55)</td>
<td>35.54</td>
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<td>North America</td>
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<td>Bond et al.</td>
<td>2007</td>
<td>USA</td>
<td>2.23 (1.64, 3.02)</td>
<td>7.37</td>
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<tr>
<td>Drake et al.</td>
<td>1996</td>
<td>USA</td>
<td>1.94 (1.41, 2.66)</td>
<td>7.28</td>
</tr>
<tr>
<td>Drake et al.</td>
<td>1999</td>
<td>USA</td>
<td>6.60 (3.18, 13.69)</td>
<td>3.82</td>
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<td>Drake et al. +</td>
<td>2013</td>
<td>USA</td>
<td>1.59 (1.43, 1.76)</td>
<td>8.94</td>
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<td>Gold et al.</td>
<td>2006</td>
<td>USA</td>
<td>2.23 (1.56, 3.19)</td>
<td>6.87</td>
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<tr>
<td>Latimer et al.</td>
<td>2006</td>
<td>Canada</td>
<td>2.47 (1.45, 4.19)</td>
<td>5.27</td>
</tr>
<tr>
<td>Lehman et al.</td>
<td>2002</td>
<td>USA</td>
<td>4.15 (1.91, 9.03)</td>
<td>3.54</td>
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<tr>
<td>Mueser et al.</td>
<td>2004</td>
<td>USA</td>
<td>3.31 (2.36, 4.65)</td>
<td>7.05</td>
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<tr>
<td>Twamley et al.</td>
<td>2012</td>
<td>USA</td>
<td>1.98 (1.02, 3.85)</td>
<td>4.24</td>
</tr>
<tr>
<td>Subtotal (I-squared = 79.8%, p = 0.000)</td>
<td></td>
<td></td>
<td>2.46 (1.89, 3.20)</td>
<td>54.39</td>
</tr>
<tr>
<td>Overall (I-squared = 66.5%, p = 0.000)</td>
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NOTE: Weights are from random effects analysis
6.10 New mental health training for emergency service managers

The Black Dog Institute and UNSW Workplace Mental Health Team are currently conducting a study investigating the effectiveness of a new mental health training program for managers in Fire and Rescue NSW (FRNSW).

Managers have a key role in the well being of staff. They are often become involved when a staff member is having difficulties and should always have a role once someone is away on sickness absence. However, managers often report feeling unsure what to do when a staff member is ill, particularly if they are suffering from a mental illness. This novel program of manager training combines teaching about mental ill health with practical advice about how to speak to and help those who may be suffering from mental health problems.

In order to evaluate if this new training program works, we have carried out a randomised control trial, with a six month follow up, in which we examine the effectiveness of the program in increasing mental health literacy, reducing stigma regarding mental illness and increasing managers’ confidence and skills in having difficult conversations. We are also investigating the impact of the training on overall levels of sickness absence amongst staff. Examples of images created to be used as part of the training are shown in Figure 6.

Figure 6: Example of images use in animated case studies that form part of the new mental health training developed for managers in FRNSW
6.11 Biological and occupational consequences of work stress

"Work stress" is something that is spoken about a great deal, particularly amongst emergency services, but is often loosely defined and poorly studied. We are conducting a series of research studies following over 9,000 individuals to examine the impact different types of work stress has on mental health and well-being.

The 1958 National Child Development Study is an on-going population-based survey that follows over 9,000 people born in the UK during one week in March 1958. This study collects information on employment, health behaviour, psychosocial factors, and measures for a range of biomarkers and mental health outcomes. Through secondary analyses of this data, we are hoping to elucidate the association between various workplace stressors and mental disorders. The biological samples recently collected from the entire cohort also provide a rare opportunity to examine the role cortisol and inflammatory biomarkers may have in linking work stress with mental health outcomes.

6.12 Creating and testing new types of ‘work-focused’ treatments

A number of our recently completed reviews of the literature have highlighted the problem that standard symptomatic treatments for common mental disorders do not necessarily lead to improved occupational outcomes. This is likely to be part of the explanation as to why return to work rates following an episode of depression or anxiety can be quite low.

Together with the Norwegian Institute of Public Health we have developed and are testing a new type of cognitive behavioural therapy (CBT), which includes a specific focus on work and occupational functioning from the very beginning of treatment. The effectiveness of this new type of CBT is being testing with a randomised controlled trial, which began in 2013 and is due to be completed in 2016.

6.13 Investigating the potential of on line psychological treatments

On line psychological treatments, often termed e-health interventions, may have a number of advantages for emergency workers. Treatment is able to be provided in a totally confidential manner at a time of the worker’s choosing, allowing people to seek help earlier and undertake treatment will less disruption to their regular activities, including work. Together with colleagues from the Clinical Research Unit for Anxiety and Depression (CRUfAD) we re-analysed data from five randomised controlled trials of internet cognitive behaviour therapy (iCBT) for depressive and anxiety disorders to test if iCBT generated reductions in absenteeism amongst employed. After treatment, participants randomised to receive iCBT had significant reductions in absenteeism compared to the waitlist control groups (p<0.05), with those who received iCBT reporting a halving in the number of work days lost.
6.14 Understanding why some emergency workers require long term sick leave

Amongst both emergency workers and in the general population there is considerable individual difference in rates of sickness absence. Put simply, two workers with identical symptoms will often require very different amounts of sickness absence. We suspect that part of the reason for this relates to factors such as perceived vulnerability, individual reactions to symptoms, the work environment and the individual’s attitudes to work and employment. Together with colleagues from King’s College London, we have developed a new scale that aims to test these non-health predictors of sickness absence. It is hoped that by developing a validated way to measure such factors we can then progress to considering how such ideas can be challenged and modified. We are using parts of this new scale in an ongoing cohort study of new recruits to Fire and Rescue NSW in order to test how these factors impact the psychological resilience of emergency workers.

6.15 Creating mentally healthy workplaces

The UNSW Workplace Mental Health Research Team was one of the founding members of the Mentally Healthy Workplace Alliance, established in late 2012 by the National Mental Health Commission. The Alliance is a landmark partnership between business, the mental health sector, government and research organisations that aims to bring together the best evidence and key stakeholders to create mentally healthy workplaces.

The inclusion of UNSW’s Workplace Mental Health Research Team as a founding member of the Alliance was recognition of our research leadership in this area and provided a rare opportunity to work with other key stakeholders to translate the best available research evidence into ‘real world’ solutions.

As part of our work with the Alliance, the UNSW Workplace Mental Health Research Team has written and published a lay summary of the research evidence surrounding the links between work and mental health. This review, which was produced collaboratively with the UNSW Business School was aimed at employers and sought to provide a practical guide of how organisations
can use the available research evidence to provide more mentally healthy workplaces. The review was publically launched at a meeting of the Trans-Tasman Business Circle and has been sighted a number of times in media reports.

6.16 Men@Work Program

Although depression and anxiety disorders tend to be found more commonly amongst women, there is increasing evidence that the true prevalence of these conditions amongst men has been underestimated. More importantly, it has been suggested that when men suffer from depression they often present with atypical symptoms, which may be missed by traditional ways of identifying and diagnosing depression.

In early 2015 we were awarded an Australian Mental Health Award funded by Beyondblue and the Movember Foundation and Beyondblue valued at $2.88 million over 3 years to develop a new program of research titled ‘Men@Work’. This program aims to improve the mental health of Australian men in the workplace and in the general population through the development of new e-health technologies. Working together with academic partners at the University of Sydney and the Black Dog Institute and industry partners from a range of sectors, including the emergency services, we will develop novel ways for men to use smart phone applications to screen themselves for both mental health symptoms and risk factors. Based on this information, workers will then be provided with individual feedback regarding their level of risk and a personalised mental health plan, including brief individually tailored e-health interventions. We will also develop linked, online manager training. We are working closely with a number of emergency services, both within NSW and interstate, to develop and test these new technologies.
7. PUBLICATIONS


8. CURRENT PhD STUDENTS UNDER SUPERVISION

- Sadhbh Joyce: “Enhancing psychological resilience and well-being in emergency workers: The development and evaluation of an online mindfulness based cognitive therapy program”. (2014 – current)


- Beate Brinchmann: “Can rates of welfare dependency in young individuals be reduced by strong investment in Individual Placement and Support (IPS)?” (2012 – current)
9. MEDIA AND PRESS COVERAGE

We have attempted to publicise our research program and our research results at every opportunity. We have used the media relations team at UNSW and the Black Dog Institute to aid us in the preparation and dissemination of media releases. As a result, our work and research has received wide coverage. Examples of media reports of our work over the last 12 months are provided below:

- “Crippling workload: mental illness in the Australian workplace”, *ABC Radio National Background Briefing*, 22\textsuperscript{nd} February, 2015
- “Resilience in the workplace”, *ABC Health & Wellbeing*, 22 January 2015
- “Exercise and start talking: tips to help improve FIFO workers’ mental health”, *Australian Mining*, 10 October 2014
- “Australian men to receive better mental health support at work”, *Australian Muslim Times*, 10 October 2014
- “Men, money, moustaches… and mental health”, *HealthCanal*, 9 October 2014
- “How do you deal with memories you don’t want”, *SBS Insight*, 16 September 2014
- “Your workplace and its impact on your mental health”, *ABC Health & Wellbeing*, 7 July 2014
- “Mind set”, *National Safety Magazine*, June 2014
- “Depressed? Get help at work!”, *Asian Scientist*, 30 May 2014
- “Workplace prevention programs reduce employee depression”, *The Conversation*, 20 May 2014
- “Go to work to improve your mental health”, *UNSW News*, 19 May 2014
- “Go to work to improve your mental health”, *Medical Xpress*, 19 May 2014
- “Avoiding the workplace funk”, *Health eNews*, 15 May 2014
- “Workplace mental health programmes ‘can reduce levels of depression’”, *Health Insurance*, 12 May 2014
• “Workplace mental health programmes reduce depression, study shows”, 
  *British Medical Journal*, 12 May 2014

• “Preventing mental disorders – from the workplace to pregnancy, how can new policies and interventions influence mental health?”, *BioMed Central*, 12 May 2014

• “Employers need to tackle the causes of mental health problems at work”, *BioMed Central*, 9 May 2014

• “Work-based mental health programmes shown to prevent depression”, *OnMedica*, 9 May 2014

• “Are you making your employees sick?”, *HC Online*, 7 May 2014

• Television interview on *Channel 10 “The Project”*, 2 May 2014

• “Your boss IS making you sick! Employees who feel stressed and micro-managed by their bosses are more likely to take more days off work, study reveals”, *Daily Mail*, 2 May 2014

• “Is your boss making you sick? Powerless workers clock off”, *Sydney Morning Herald*, 1 May 2014

• Radio interview on *Hope 103.2*, 2 May 2014

• Radio interview on *702 ABC Sydney Mornings*, 2 May 2014

• “Is your boss making you sick?”, *Newcastle Herald*, 1 May 2014

• “Is your boss making you sick?”, *The Age*, 1 May 2014
10. OVERVIEW OF CONFERENCE PRESENTATIONS

The Workplace Mental Health Research Team has made the following presentations during 2014/15:

- Australian Workplace Health Promotion Network meeting (2014) in Sydney, Australia; “What does research tell us about how to create more mentally healthy workplaces?”

- NSW Health Promotion Network meeting (2014) in Sydney, Australia; “How to create a mentally healthy and resilient workforce”

- Mental Health Services Summer Forum (2014) in Sydney, Australia; “Promoting mental health and wellbeing in a mental health workforce”

- 15th Annual National Workers’ Compensation Summit (2014) in Sydney, Australia; “The role of the workplace in creating a mentally healthy environment”

- Mental Health in the Australian Workplace Conference (2014) in Melbourne, Australia; “Workplace mental health – myth busting and the role of e-health”

- Annual Workplace Psychological Injury Management Conference (2014) in Sydney, Australia; “Up to date research for strategies to prevent & deal with workplace psychological injury”

- NSW Fire and Rescue Peer Support Workshop (2014) in Sydney, Australia; “Post-traumatic stress disorder”

- Public Sector Rehabilitation Coordinator’s Network Seminar (2014) in Sydney, Australia; “Psychological Injury in the workplace”

- Royal Australian and New Zealand College of Psychiatrists Annual Congress (2014) in Perth, Australia; “Are Australians becoming more mentally ill? Results from National Health Surveys between 2001 and 2011”

- Sustainable Work: Health, Wellbeing and Productivity (2014) in Sydney, Australia; “Reflections of sustainable work discussions”
• South Eastern Sydney Local Health District Education Day (2014) in Sydney, Australia; “Psychological Injury in the Workplace”

• Australasian Society for Traumatic Stress Studies Conference (2014) in Melbourne, Australia; “Prevalence of emotional reactions and substance abuse in career Fire and Rescue workers”

• Society for Mental Health Research Conference (2014) in Adelaide, Australia; “Can work make us ill? Work and non-work risk factors for common mental disorder.”

• St George Hospital Mental Health Academic Meeting (2015) in Sydney, Australia; “What is IPS and can it help our patients find employment?”

• Mental Health in the Australian Workplace Conference (2015) in Melbourne, Australia; “Using research evidence to make workplaces more mentally healthy”

• Royal Australian and New Zealand College of Psychiatrists Annual Congress (2015) in Brisbane, Australia; “Expert guidelines on the diagnosis and treatment of PTSD in emergency service workers”

REPRESENTATION ON BOARDS, COMMITTEES AND/OR PROFESSIONAL SOCIETIES

• Member of Advisory Group for Comcare’s Centre of Excellence in Mental Health and Wellbeing

• Member of Fire and Rescue NSW Mental Health Management Committee

• Member of Work Safety and Wellbeing Resilience Advisory Committee for Ambulance Service of NSW

• Membership of the working group planning for the potential mental health implications of the Emergency First Responder project in NSW (involving Ambulance NSW and Fire and Rescue NSW)

• Founding member of Mentally Health Workplace Alliance, which is run by the National Mental Health Commission

• Member of Mental Health Promotion Reference Group (Mental Health Association of NSW)
11. PLANS FOR FUTURE WORK

A further three years of funding for the UNSW Workplace Mental Health Research Program has been agreed with NSW Health. We are very grateful for this ongoing support of our work. As part of the negotiations regarding this extension of funding, the following Key Performance Indicators (KPIs) for the next three years were agreed:

1. Produce high quality and internationally recognised research focused on workplace mental health
2. Development of research informed training, prevention, early intervention and treatment strategies and pathways to promote mental health and well being in NSW frontline workers
3. Development of a dissemination plan of research findings and how these have been utilised in relevant health policies, programs and services in NSW in relation to preventing and managing PTSD, depression and anxiety for frontline workers

In December, 2014 we submitted a Project Plan to NSW Health in which we outlined in detail how we propose to meet these KPI in coming years. This Project Plan outlined the research questions which we intended to focus on:

- Is it possible to predict which emergency workers are going to become mentally unwell after exposure to stress or trauma?
- Is prevention in the workplace possible? Can individual emergency worker’s resilience be enhanced with simple interventions?
- What is the impact of cumulative exposure to multiple traumatic events? How do mental disorders like PTSD present differently amongst emergency workers?
- What are the biological, behavioural and cognitive pathways that link different work situations to adverse mental health outcomes?
- Can e-health interventions (online or smart phone applications) be effective at preventing or treating mental health problems in the workplace?
- Can modifying standard treatment for those with established mental health problems improve occupational outcomes?
12. COLLABORATIVE LINKS

Collaborative links with the following organisations have been established over the first three years of the research program:

**NSW emergency services:**
NSW Fire and Rescue (Deputy Commissioner, Health and Safety Branch, Wellbeing Coordinator, Peer Support Team)
NSW Police (Deputy Commissioner, Mental Health Intervention Team, Chief Psychologist, Health and Wellbeing Team, Executive Development and Research)
NSW Ambulance (Chief Executive, Workforce Unit, Employee Mental Health & Resilience Program Coordinator)

**Policy makers:**
Ministry for Mental Health
Ministry for Police and Emergency Services
Mental Health and Drug and Alcohol Office
Mental Health Senior Officers Group

**Other relevant organisations:**
NSW Mental Health Commission
National Mental Health Commission
Australasian Fire and Emergency Service Authorities Council (AFAC)
Australasian Faculty of Occupational and Environmental Medicine
SANE
Beyond Blue
Safe Work Australia
Comcare
Employers Mutual
TAL Insurance
NSW Workplace Health Promotion Network
Mental Health Association of NSW
Local and International researchers:
Prof Arnstein Mykletun, Norwegian Institute of Public Health
Prof Sir Simon Wessely, Institute of Psychiatry, London
Prof Matthew Hotopf, Institute of Psychiatry, London
Prof Nick Glozier, University of Sydney
Prof Rafael Calvo, University of Sydney
Dr Max Henderson, Institute of Psychiatry, London
Prof Simon Overland, University of Bergen, Norway
Dr Ira Madan, King’s College London
Prof Stephen Stansfeld, Queen Mary University of London
Australian School of Business, UNSW
Prof Luis Salvador-Carulla, University of Sydney
Prof Tony LaMontagne, Deakin University

13. PROMOTION OF AWARENESS AND UNDERSTANDING OF TRAUMA

To promote awareness and understanding of mental health in the workplace and amongst emergency workers, we have developed a website providing lay updates on our research program together with links to relevant guidance for employers and workers. This website is hosted on UNSW’s central server at www.wmh.unsw.edu.au.

In addition to our website, we have also sought to promote a better awareness and understanding of trauma and mental health in the workplace via an active campaign of education and engagement. As noted above, we have spoken and numerous emergency worker and public forums and have promoted our research findings widely in the lay press. We have also produced a lay summary of the research evidence aimed at assisting employers to create more mentally healthy workplaces.
14. REFERENCE GROUP

We are very grateful for the assistance of the UNSW Workplace Mental Health Research Reference Group, who have met each year since 2012 and have provided a great deal of helpful guidance. The Reference Group membership is:

- Prof Philip Mitchell, School of Psychiatry, University of New South Wales
- Prof Richard Bryant, School of Psychology, University of New South Wales
- Prof Helen Christensen, Black Dog Institute
- Peter Carter, Director of Mental Health and Drug & Alcohol Programs, Mental Health and Drug & Alcohol Office, NSW Ministry of Health
- Dr Murray Wright, Chief Psychiatrist, NSW Health
- Prof Sandy McFarlane, Centre for Traumatic Stress Studies, University of Adelaide
- Prof Malcolm Sim, Monash Centre for Occupational & Environmental Health (MonCOEH), Monash University
- Deputy Commissioner Jim Smith, Fire and Rescue NSW
- Mark Dobson, Wellbeing Coordinator, Health and Safety, Fire and Rescue NSW
- Mike Willis, Deputy Commissioner and Chief Operating Officer, Ambulance Service of NSW
- Kylee Wade, Executive Director, People and Culture, Ambulance Service of NSW
- Louise Ashelford, Director, Healthy Workplace Strategies, Ambulance Service of NSW
- Dr Jennifer Placanica, Chief Psychologist, NSW Police Force
- Sharon Buckley, Manager for Health and Wellbeing, NSW Police Force
## 15. ANNUAL FINANCIAL AUDITED REPORT

### STATEMENT OF INCOME AND EXPENDITURE

**FOR THE PERIOD**

1 January 2014 to 28 February 2015

**TITLE:** PSICEN Wplce MHi Resch Program - NSW DEPARTMENT OF HEALTH / CONTRACT RESEARCH - H10/85796.CLINICAL

**PROJECT MANAGER:** Harvey, Samuel

**PROJECT NO:** RM09708

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**Unpaid invoices (including GST):** 0.00

**CONFIRMED TO UNSW LEDGER**

Marie Saparamadu, CPA, ACMA, CGMA
Senior Manager, Decision Support & Research
UNSW Australia

*Where GST has been received in addition to the grant funds above, the GST has been forwarded to the Australian Taxation Office.*