Mental Health – an ADF Perspective

Symposium on Cognitive Neuro-engineering & Computational Neuro Science

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Is there a tsunami of PTSD?

- Yes according to the media -but what is the Defence view?

ADF Mental Health Reform

- 2002 ADF Mental Health Strategy
- 2009 Dunt Review
- Four year ADF Mental Health Reform program
- 2010 ADF Mental Health Prevalence and Wellbeing Study
- 2011 ADF Mental Health and Wellbeing Strategy
- ADF Mental Health and Wellbeing Action Plan (2012-2015)

MilHOP Studies

- ADF Mental Health Prevalence & Wellbeing Study
- MEAO Studies
  - Census Health Study - current health of ADF members who deployed to the MEAO
  - MEAO Prospective Health Study - health of personnel before and after deployment
  - MEAO Mortality and Cancer Incidence Health Study - data on deaths and cancers for personnel who have participated in the Deployment Health studies

Mental Health Prevalence and Wellbeing Study

Study goals	
Prevalence – Establish ADF baseline prevalence rates of mental health disorders in order to target mental health services and identify high-risk groups	
Detection – Refine methods for detecting mental health disorders in ADF populations	
Occupational issues – Explore the impact of occupational stressors on the mental health and wellbeing of the ADF population.	
Predictive factors Deployment history Trauma exposure Level of social support Bullying Recognition of service Stigma and barriers to care Dietary supplements Caffeine and tobacco use	**Wellbeing Outcomes** Help seeking Resilience Physical health Mild traumatic brain injury Sleep and anger Family relationship Support networks Quality of life

ADF Mental Health Status

- 12 month mental health disorder rates in the ADF were similar to an age, sex and employment matched Australian community sample with one in five ADF members having experienced a disorder
- Over half of the ADF had experienced an anxiety, affective or alcohol disorder at some stage in their lifetime, which is significantly higher than the matched community sample

Disorders & Suicidality

- **Anxiety**
  - Most common mental health disorder in ADF
  - Most prevalent is PTSD - significantly higher than community
  - Anxiety disorders less prevalent for officers than all other ranks
- **Affective**
  - ADF members, especially males, have higher prevalence compared with the community
  - Most prevalent - Depressive Episodes Disorder - significantly higher
- **Alcohol**
  - Significantly lower in ADF compared to general community
  - Mostly in males aged 18-27 years
  - No difference between services for Alcohol Dependence but Army, Navy likely to have Harmful Use Disorder compared to the Air Force
- **Suicidality**
  - Prevalence of suicidal ideation/plan higher in the ADF compared with the community
  - Rates of attempts are the same as the community
  - Actual deaths are 60% lower in the ADF

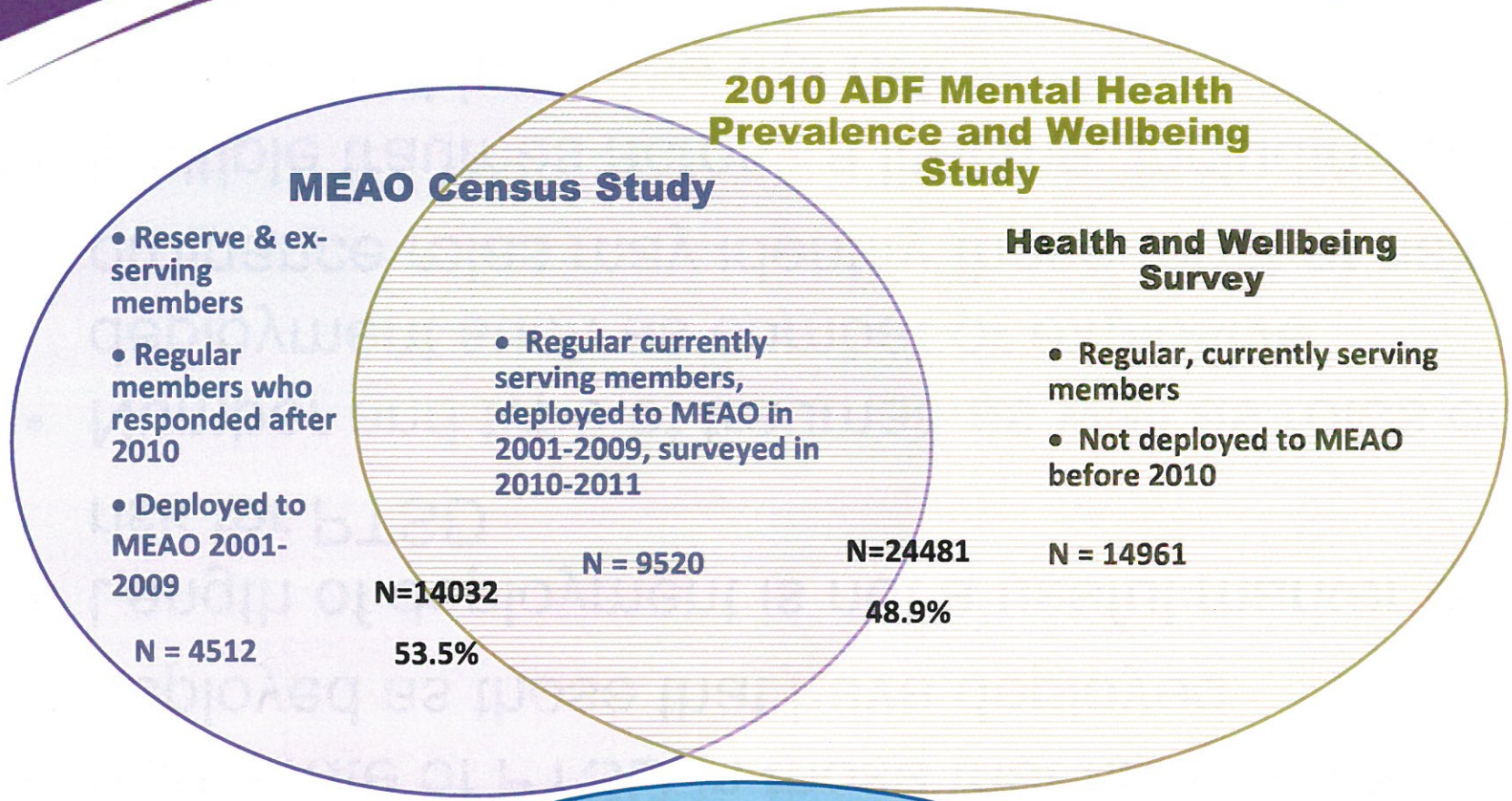
PTSD in the ADF

- 90% ADF members (73% in age and employment matched civilian pop'n) have experienced at least one potentially traumatic event at some time in their life
- Approx 8.3% of ADF members will have experienced PTSD in the last 12 months which is significantly higher than in the Australian community (5.3%)
- ADF males report a greater rate of PTSD compared to the general community (8.1% vs 4.6%)

PTSD in the ADF

- Same rate of PTSD in those that have never deployed as those that have deployed
- Length of deployment is not a useful marker of risk for PTSD
- Number and type of traumas as well as roles on deployment such as combat or explosive ordinance roles may identify those most at risk
- Multiple traumas across a lifetime, including on deployment increase the risk

Military Health Outcomes Program



MEAO Prospective Study

- Selected units deployed June 2010-June 2012
- Measured before & after deployment

N=1325 (pre and post surveys: 43.1%)

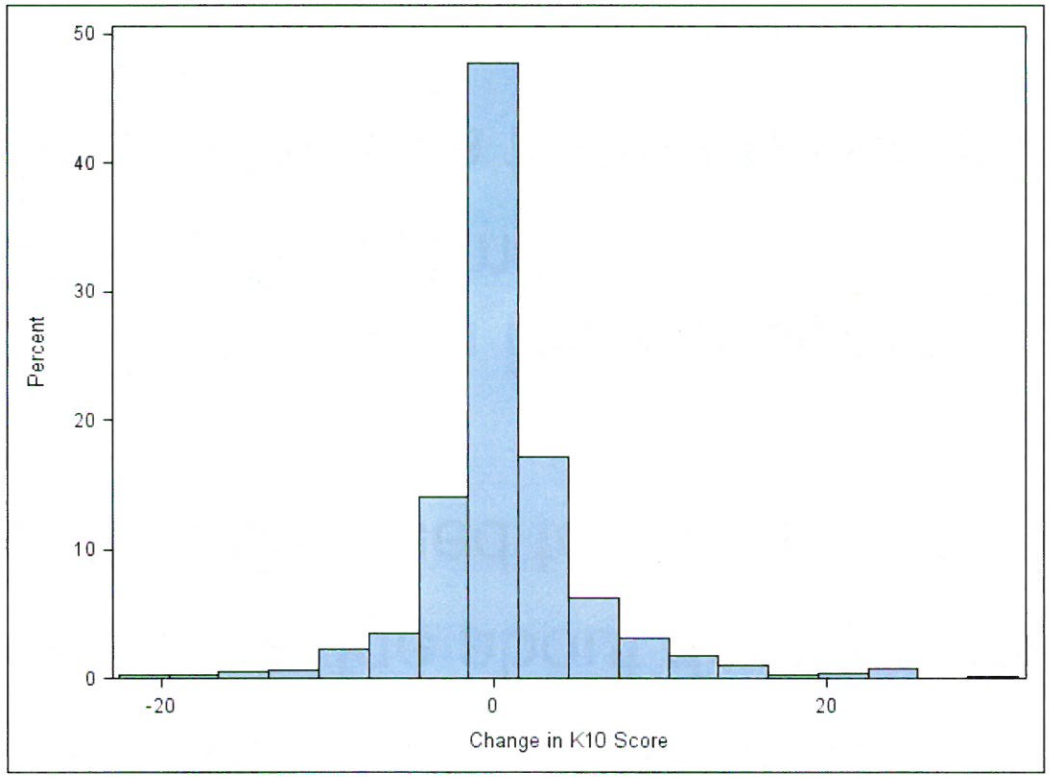
MEAO Mortality and Cancer Incidence Health Study

What did it tell us?

- Reinforced knowledge about deployment & MH
- Long tail of PTSD - need to monitor beyond transition
- No dramatic increase in MH concerns anticipated – no "tsunami"
- Rich database - informs further research & policy decisions
- Online at
  - http://www.defence.gov.au/health/home/i-MilHOP_Message.htm#documents

Example of mental health findings – Prospective Study

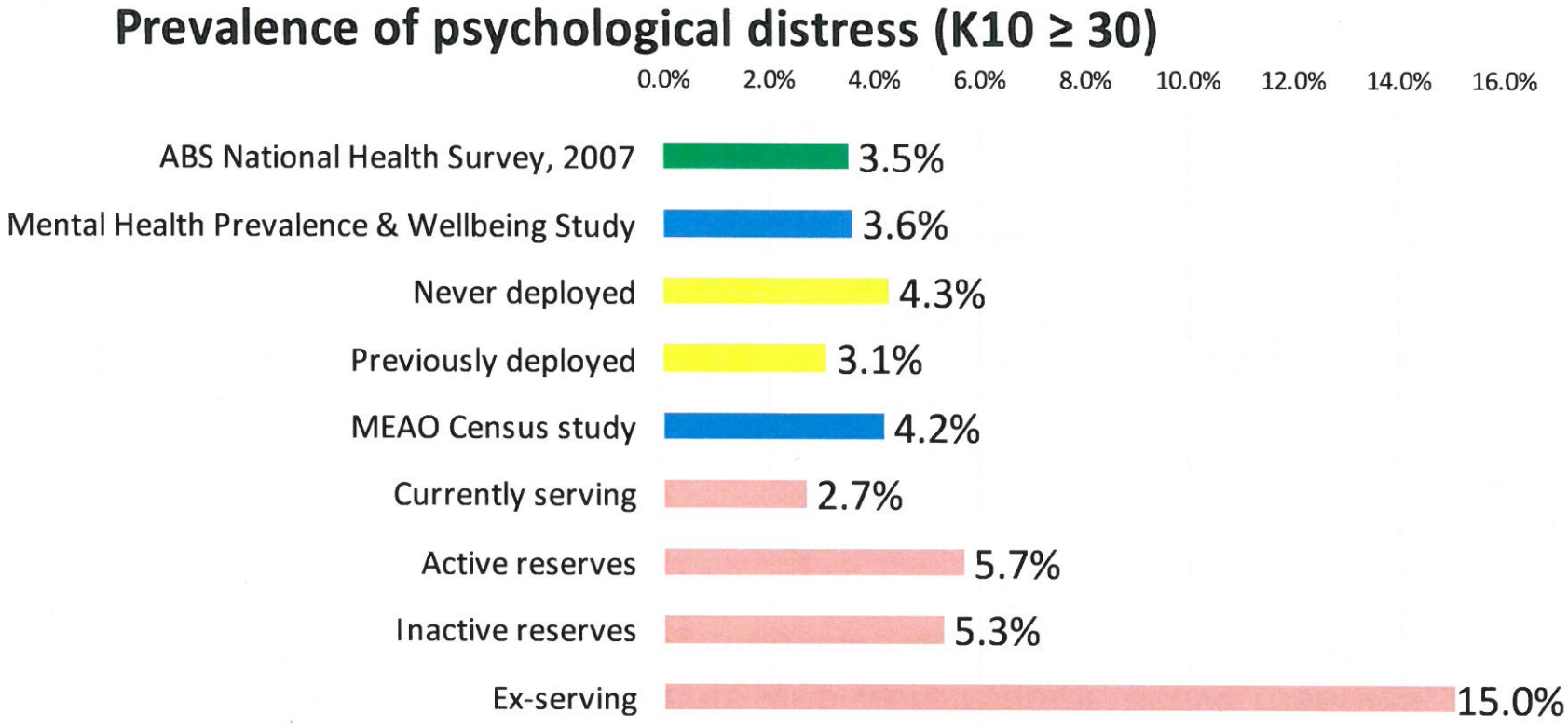
Distribution of change in mean K10 scores pre- and post-deployment



Pre-deployment mean=13.2, post deployment mean=13.9,

difference=0.7 (95% confidence interval 0.5, 1.0), p<0.0001

Example of mental health findings – Census Study



Census Study : Prevalence of symptoms of PTSD by time since most recent deployment for respondents who were regular, active reserves, inactive reserves and ex-serving members at the start of the study

	PTSD symptoms (PCL-C≥50) - years after deployment							
	0-1 year		2-3 years		4-5 years		6-10 years	
	N[a] in group	PTSD %[b]	N[a] in group	PTSD %[b]	N[a] in group	PTSD %[b]	N[a] in group	PTSD %[b]
Regulars	2879	**1.7**	3413	**3.2**	1900	**3.0**	1776	**3.0**
Active reserves	57	**1.5**	264	**6.2**	377	**5.8**	679	**7.7**
Inactive Reserves	3	0.0	76	10.0	247	5.3	614	6.7
Ex-serving	1	**0.0**	24	**29.4**	129	**25.4**	457	**13.8**

[a] Unweighted totals

[b] Weighted for non-response; includes locations inside and outside Iraq and Afghanistan

Data missing for PCL-C or time since most recent deployment for N=1136

Statistically significant results shown in **bold**

Current MH Support

- Selection
- BattleSMART – resilience training
- Deployed psychology support teams
- Deployed medical staff
- RtAPS (Return to Australia psychological screening)
- POPS (Post operational psychological screening)
- Regular medical review
- New screening framework under consideration
- Mental health literacy education for peers and commanders

Common military presentations with PTSD

- **Straightforward manner** describing the usual symptoms and a willingness to engage in treatment
- **Dramatic manner** with rapid decompensation that may include alcohol abuse, uncharacteristic anger, aggression or violence, and sometimes deliberate self harm, disciplinary problems or unexpected resignation post deployment
- **Gradual presentation** may include increasing work problems, impaired work performance, changes in personality, social isolation and presentation with non specific somatic complaints in particular insomnia

Coetzee et al 2010

PTSD -Diagnosis

- Person exposed to a traumatic event
- The traumatic event is persistently re-experienced
- Persistence of avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma)
- Duration of the disturbance (more than one month)
- The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning

Our patients comments

- we came off the chopper, a half hour later we had rounds coming in... it was the first time for a contact for me as well, so it was pretty scary
- when the first RPG went off we actually shit ourselves
- the mine was probably only millimetres from my boot. that shook me about...
- we only got about 5kms out... and struck an IED... it split the vehicle in half...it was pretty horrendous.... multiple fractures, extruding bones
- there was nothing I could do to influence the situation
- I have had to deal with feelings of anger and of guilt

Our patients comments

- Your heart just goes through the floor.. It's like you just start shaking...your heart rate goes up, you get a real cold sweat in your palms. You see everything slow down and you see it all happening, the sounds are amazing
- I could not sleep, my wife would find me crying and I could not talk about it with her, I could not tell her what was wrong

Our patients comments

- I experienced anger, anxiety, guilt and avoidance
- I can't talk to anyone about this... It is all bottled up .. I don't believe anything is wrong
- I am angry – very little is needed to push me over the edge
- I sat around for 3 weeks not doing much. I could not talk to my wife but eventually she told me to get help for the sake of our marriage

Diagnosis

- PCL-C (Post-traumatic Stress Disorder Checklist- Civilian) a brief and validated screening tool
- Due to problem of symptom under reporting in military populations we use lower thresholds for determining referral for further assessment
  - civilian cut off 50
  - Military 30
- Look for co-morbid alcohol abuse, interpersonal conflict with family, emotional numbing, increasing interpersonal insensitivity

Management

- Referral to a mental health specialist (psychiatrist and clinical psychologist)
- Treatment IAW Australian Guidelines for the treatment of adults with acute stress disorder and post traumatic stress disorder
  - Trauma focussed cognitive behavioural therapy or eye movement desensitisation and reprocessing (EMDR)
  - Drug treatments second line therapy

Pyschotherapy

- Trauma focussed CBT or EMDR share key elements
  - Confront memories of their traumatic experiences in a controlled and safe environment (marginal exposure)
  - Confront situations, people or places they have avoided since the traumatic event (in vivo exposure); and
  - Identify, challenge and modify any biased and distorted thoughts and memories of their traumatic experience as well as any subsequent beliefs about themselves and the world that are getting in the way of their recovery
  - Gradually and repeatedly recall and think about traumatic memories until they no longer create high levels of distress
  - Typically **8-12** x 90 minute individual sessions – often delivered with adjunctive psychotherapy and skills development

Pharmacotherapy

- Patient is unwilling or not in a position to engage in psychotherapy
- Serious co-morbid condition or associated symptoms e.g. severe depression where medication is indicated
- Patient's circumstances are not sufficiently stable to commence psychotherapy e.g. high risk of suicide or harm to others

Virtual Reality treatments

- Exposure therapy using gaming techniques to 'cue' reminders, rather than memory/imagination
- Predominately visual but can provide auditory, olfactory, tactile and kinaesthetic cues
- Useful for younger, tech savvy members and those with limited capacity for visualisation

PTSD Apps

- DVA mobile applications
  - PTSD Australia Coach
    - General information about PTSD, self assessment and professional care and tools to manage the stresses of daily life with PTSD
    - Designed for current serving ADF members, veterans and families

PTSD Outcomes

- Those who meet the critera for PTSD after 6 months, without treatment, are likely to have a chronic course and may have symptoms for decades (Kessler et al 1995, Solomon 1989)
- With effective treatment
  - One third will make a good recovery
  - One third will do moderately well
  - One third will be unlikely to benefit

Why do ADF members delay treatment?

Stop me from being deployed	36.9%
People would treat me differently	27.6%
Harm my career or career prospects	26.9%
Would be seen as weak	25.3%
Difficulty getting time off work	14.7%
Not knowing where to get help	6.3%

How can cognitive neuro-engineers and computational neuroscientist help?

- not sure I can offer any words of wisdom!

References:

- *Mental Health in the ADF 2010 ADF Mental Health Prevalence and Wellbeing Report:* A.C. McFarlane, S.E. Hodson, M. Van Hooff & C. davies (2011)
- *The Middle East Area of Operations (MEAO) Health Study: Prospective Study and Census Study:* CMVH Dec 2012
- Dents in the Soul DVD: Department of Defence 2012
- Coetzee et al 2010
- Kessler et al 1995 Solomon 1999

Acknowledgements

- Dr Duncan Wallace (ADF Centre for Mental Health)