

## **Inquiry into Transition from the Australian Defence Force (ADF) submission**

**To:** Committee Secretary, Joint Standing Committee on Foreign Affairs, Defence and Trade for Veterans' Affairs.

**Title:** Submission: 'Project Overwatch' – a research project to explore and develop a smart device to help veterans monitor and manage stress, anxiety and PTSD.

**Date:** 10 July 2018

**Submitted by:** Chris Rhyss Edwards, CEO Soldier.ly

### **Key issues**

- This project directly addresses one of the key terms of reference within The Defence Sub-Committee of the Joint Standing Committee on Foreign Affairs, Defence and Trade inquiry into transition from the Australian Defence Force (ADF) - *exploring new models of mental health care for supporting veterans during their transition period*.
- The *Mental Health Prevalence Report* revealed members leaving full-time service represent a group at particular risk for mental disorder; veterans would benefit from proactive strategies that aim to lessen the burden of mental illness whilst also assisting their transition process.
- As outlined in the report, transitioned ADF members face a range of lifetime mental disorders ranging from anxiety to suicidal ideation, and suicide. 46.1% self-reported anxiety disorders, 24.9% were estimated to have met criteria for posttraumatic stress disorder (PTSD) in their lifetime, and just over 20% experienced suicidal ideation, made suicide plans or attempts.
- Project Overwatch aims to explore the efficacy of utilising smart devices (e.g. apps and smartwatches) to enable veterans to monitor and manage anxiety, stress and PTSD.
- Soldier.ly seeks funding to conduct a 2-3 year longitudinal study to research and develop a smart device in conjunction with the University of Adelaide's Defence Science & Technology Group Biometrics Research Centre and IOT product development and research firm Procept.
- Overwatch is a world-first study aimed at reducing the suffering of veterans - and the suicide rate within the veteran community - through the use of smart technologies.
- Within an 18-24 month timeframe, the project aims to deliver a world-first device that monitors and responds to behavioural biometric data to alert veterans when anxiety symptoms occur so that veterans can easily monitor and manage their own mental health.
- Overwatch will provide the ADF and Dept. of Veterans Affairs with unique insight into the impact of service related trauma, as well as data to inform veteran mental health strategies.
- The Overwatch device would deliver medical grade data for analysis and would adhere to the following international standards: IEC 62304 – Medical device software – software life cycle processes, and IEC 60601 – Safety and effectiveness of medical electrical equipment.
- Privacy and data security are integral components of this project; as such the Overwatch team are committed to ensuring project data is encrypted, anonymised and securely stored.
- It is proposed that Overwatch devices are provided to veterans for free via a subsidised investment model that is promoted via media, RSL, ESO's & Dept. of Veterans Affairs.
- **Project Overwatch will have a direct impact on improving the lives of veterans.**

<b>Action sought</b>	<b>Timeframe</b>
a) <b>agree</b> to the research objectives for Project Overwatch; b) <b>agree</b> to personnel to comprise steering committee; and c) <b>agree</b> to the level of funding to complete the project.	By October 2018

## An Evidence Based Approach to Project Overwatch

Mental disorders can have a significant, negative impact on sufferers' lives, as well as on their friends and family, healthcare systems and other parts of society.<sup>1</sup> Transitioned ADF members face a range of mental disorders ranging from anxiety to suicidal ideation, and suicide. 46.1% self-reported anxiety disorders, 24.9% were estimated to have met criteria for posttraumatic stress disorder (PTSD) in their lifetime, and just over 20% experienced suicidal ideation, made suicide plans or attempts.<sup>2</sup>

***People who experience regular stress or anxiety over long periods of time may experience negative related health outcomes and develop heart disease, high blood pressure & diabetes. In more serious cases, people may develop depression and panic disorders, and worse, experience suicidal ideation &/or suicide.***

It is common for veterans seeking treatment for stress related anxiety disorders to use medication or engage in CBT 'talk' therapies, or a combination of both. For veterans with limited access to treatment due to financial, social stigma or geographic barriers, self-medication with alcohol or drugs is a common strategy, as noted in the *Mental Health Prevalence Report* which reveals that Alcohol disorders are one of the most common classes of lifetime disorder.<sup>2</sup>

This 'self-medication' model can lead to serious substance abuse issues that can make stress and anxiety worse. Yet, in recent years, mental health apps are becoming viewed as a promising modality to extend the reach of mental healthcare beyond the clinic. They do so by providing a means of assessment, tracking, and treatment through a smartphone<sup>3</sup> &/or smart biometric device.

15% of consumers\* in the United States currently use wearable technology, including smartwatches and fitness bands.<sup>4</sup> Physiological sensor analytics is becoming an important tool to monitor health as the availability of sensor-enabled portable, wearable, and implantable devices becomes ubiquitous in the growing Internet of Things (IoT).<sup>5</sup> Consumer wearables can provide veterans with personalized health data, which could assist with self-diagnosis and behaviour change interventions.<sup>6</sup>

In recent months, Soldier.ly has conducted user research to understand the role that common consumer wearables featuring biometric sensors could play in enabling veterans to manage their own mental health by tracking behavioural biometric data. A key finding of this research is that delivering eHealth solutions via wearable devices is often preferable for veterans for a number of reasons spanning anonymity, low cost, ease of use and real-time 'insight immediacy'.

Accordingly, the aim of Project Overwatch is to explore and understand the various ways in which smartphones and wearable devices can and are being used to deliver mental health benefits, as well as understand the key success factors for ensuring compliance by veterans. Ultimately, the project aim is to scope, develop and deliver a smartwatch application and wearable device that monitors and responds to key biometric data in order to alert a veteran when stress &/or anxiety symptoms occur so that they can discreetly and easily monitor and manage their own mental health.

## Reference list:

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Ameringen, M.V.A., Turna, J., Khalesi, Z., Pullina, K., Patterson, B.,. (2016). There is an app for that! The Current State of mobile applications (apps) for DSM-5 obsessive compulsive disorder, PTSD, anxiety and mood disorders. Published in Wiley Periodicals, Inc.

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\*U.S. market penetration data used in lieu of Australian data due to irregular data quality

## The case for wearable devices as veteran eHealth solutions

Key issues
<ul style="list-style-type: none"> <li>• The recent emergence of mHealth apps and smart devices has the potential to bridge many of the access gaps veterans face when seeking support for mental health issues.</li> <li>• The increasing popularity of wearable devices (Table 1), especially smartwatches, provides a unique opportunity to cost-effectively provide veterans with 'smart' tools that empower them to monitor / manage their own mental health, irrespective of their location.</li> <li>• Whilst the <i>Mental Health Prevalence Report</i> revealed a low usage of smart apps, it revealed that the rate of usage doubled in those with a probable current mental disorder.</li> <li>• This is encouraging, as fostering compliance (e.g. regular app usage) becomes a simple matter of raising awareness of the benefits of using smart devices to manage mental health issues (anonymity, self-administered, low cost etc.) within the veteran community.</li> <li>• Biofeedback data has been used by individuals and in therapeutic sessions for many years; the current generation of wearable devices and mHealth apps in market aim to use biometric data to encourage 'mindfulness' for reducing stress, anxiety and depression.</li> <li>• Overwatch has been shaped around key learnings from several similar global projects and will be a world-first study that reduces the suffering of veterans, and in turn reduces the suicide rate within the veteran community, through the use of wearable technology.</li> </ul>

## Key Project Personnel

	Name	Position	Status
Chair	Prof Jane Burns	University of NSW	Confirmed
Deputy Chair	Mr Chris Edwards	CEO, Soldier.ly	Confirmed
Member	Dr Robin Nicholson	Associate Director, Research. Defence Innovation Partnership	Proposed
Member	Ms Kelliagh Jackson	Managing Director, RSL Clubs & Associations	Confirmed
Member	Mr Aaron Maher	Managing Director, Procept	Confirmed
Member	Mr Ben Moir	Managing Director, Snepo Labs	Confirmed
Member	Dr Ian Gardner	Principal Medical Adviser Chair, Veteran Mental Health Clinical Reference Group	Proposed
Member	Mr Geoffrey Evans	Younger Veterans Advisor, RSL LifeCare	Proposed

## Closing comments

As a proud ADF veteran, I'm deeply disturbed that we lose a veteran to suicide every week, and that we've lost my veterans through suicide than in fighting in Afghanistan. We have to do more to support and serve the people that risked life and limb serving our country, and it is my hope that Project Overwatch could play some part in helping our veterans help themselves.

Regards,



**Chris Rhyss Edwards**  
**CEO – Soldier.ly**