

Conjoint Data Analytics for Veteran Suicide Prevention - Delivering Care at Scale for People at Risk

Tamara Green* and **Elizabeth Chang[†]**

UNSW at Australian Defence Force Academy

Sixty years of mental health effort including clinical studies, mental health records, medical or psychological examinations, has led to little improvement in preventing suicide deaths in both military populations and also the general public (Ronald C K (2019).¹ Today's best prediction of suicide risks leading to suicide death using clinical and mental health data reaches only about 46%–69% accuracy (Thompson P., etal 2014). Military suicide remains the second-leading cause of death among military personnel, and in recent years, more service members have died by suicide than by combat-related causes (Thompson P., etal 2014). Our study shows that the veteran's Case Management among Government agencies are still paper based, siloed and poorly managed between the stakeholders within the life-cycle of Case Management, including case managers, carers, nurses, doctors, counsellors, psychiatrists, social workers, veteran support agencies such as DVA (Department of Veteran Affairs), veterans, veterans' families, veterans' friends, former military employers, Defence, Case policy makers, and government audit officers, which has led to a lack of transparency, visibility and inefficiency in Case management.

We propose a framework for conjoint data analytics of multiple data sources from different Stakeholders within the Case Management processes. The framework incorporates the conjoint data analytics and suicide risk prediction during the life cycle of the Case management, aimed at better-informed government designed and dictated Case Management programs among Government agencies on suicide prevention including policies, processes, service deliveries and psychosocial support for the veteran community.

Keywords: veteran service delivery, conjoint data governance, case management, military suicide

1. INTRODUCTION

The Australian Government has responded to the concerns of the increasing veteran suicide by accepting submissions to an inquiry into suicide by veterans and ex-service personnel. Recently, the Australian Government recommended that the Department of Veterans' Affairs (DVA) identify veterans who are receiving in-patient mental health care and to provide an ongoing psychosocial Case manager to manage 'at risk' veterans and DVA have designed and implemented a single, nationally consistent 'Case coordination model'. It is a

top-down approach to guide veterans to DVA Case support services.² This is one of the latest Government and DVA programs and reforms in the context of veteran suicide prevention. The Australian Government acknowledges that death by suicide of any serving member or veteran is heartbreaking for the veteran's family and felt by the entire community. On 5 February 2020, the Prime Minister announced that the Australian Government would establish a new National Commissioner for Defence and Veteran Suicide Prevention (National Commissioner) to inquire into the suicides of serving and former ADF members.³

Our study shows that the recent programs have inherited traditional Case Management systems, where several

*tamara.green@adfa.edu.au

[†]e.chang@adfa.edu.au

weaknesses have been identified, a) the proposed DVA Web-based portals for veterans have little improvement from manual-based operations and it is not used across all stakeholders within the life cycle of Case Management among Government agencies, which need an end-to-end digital transformation; b) clinical-oriented Case Management put most of the resources on health and medical research and neglect the management of social interaction between the stakeholders which add further stress on mental health, and c) lack of a systematic data governance framework to manage multiple stakeholder Case Management processes among Government agencies including digitisation of the Case Management from the view of case managers, carers, nurses, doctors, counsellors, psychiatrists, social workers, Case policy makers, veteran support agencies, veterans, veterans’ families, veterans’ friends, former military employers, Defence, and government audit officers.

In this study, an efficient conjoint data analytics framework for the lifecycle of the Case Management is proposed, and the implementation of such framework among the stakeholders of the CASE Management for veteran suicide prevention for Australian veteran community is presented.⁴

2. KEY CONCEPTS USED IN THIS RESEARCH

In this section, we introduce and define the concepts used in this solution proposal.

Abbreviation	Definition
ANAO	Australian National Audit Office
Case Management	Case Management is a process by which a veteran and / or family needs are identified, and services are coordinated and managed in a systemic way
Data Governance	The overall management of availability, integrity, visibility, transparency, usability, privacy and security of the data as used in the Case Management among Government agencies
Defence	Australian Defence Force
DHS	Department of Human Services
DVA	Department of Veterans’ Affairs
Governance	Governance here is defined in this solution proposal as the development and management of policies and processes; a method or system of management
Human Services	Social services that deliver policies, programs and services that support and enhance the health and wellbeing of all
PTSD	Post-Traumatic Stress Disorder
Social Science Studies	The studies of social relationships, cultural aspects of human behaviour, structures and issues, both in a historical and modern context
Stakeholders	A person or group that has an investment, share, or interest in something, such as a business or industry. In this case, stake-

Abbreviation	Definition
	holders are veterans, veterans’ families, veterans’ friends, former military associates, case managers, carers, counsellors, nurses, doctors, as well as policy makers, veteran support agencies, Defence, Department of Veteran Affairs, and ANAO
Suicide	Died by suicide
Terms of Reference	A description of the main objectives and structure of a committee
TTTP	Time Taken to Process
Veteran	Any past member of the Australian Defence Force who has served for at least one day.
VCR	Veteran Centric Reform

3. THE MOTIVATION OF THE STUDY

Our research suggests that the suicide rate of military personnel and veterans is increasing at an exponential rate. Veterans and military families face hardships as they wait for compensation claim outcomes. Especially, when veterans are left waiting for months or years without outcomes or even intermediate responses from agencies regarding the stage of the process, or any feedback on their compensation claims. Our study shows that there are several cases in which ‘cash-strapped’ veterans have defaulted on from their mortgage payment and lost their home while they wait for the response and decision on their application.⁵ This is why the study will not just focus on the clinical studies of mental health research of the veteran community, but also on the handling of the Case Management among Government agencies and implementation of the policies, processes and human interactions regarding veteran psychosocial health, and how these factors impact on the veteran health and suicide prevention.

4. ISSUES AND CHALLENGES IN VETERAN CASE MANAGEMENT SERVICE DELIVERY

Our study shows there are five major key issues, namely:

- (1) Inefficient policies and processes on data governance to Case Management among stakeholders and among Government agencies
- (2) Poor visibility and transparency in veteran Case Management due to siloed web portals and manual-based processes among stakeholders and among Government agencies
- (3) Inaccurate prediction of suicide risks resulting a growth of suicide and mental health casualties leading to very high cost to the veteran community
- (4) Lack of a conjoint data analytics and digital transformation for the lifecycle of Case Management among stakeholders and among Government agencies

The Constant Battle: Suicide by Veterans report identified that, ‘The need to streamline the administrative practices of DVA was the overwhelming concern of most submissions to the inquiry’. It pointed out that the Government should improve its oversight of the progress of individual claims through the processing lifecycle, and its management of medical service provision. The monitoring and reporting of claims is not effective in alerting management to those which are at risk of taking excessive time to process.⁶

In addition, without collecting social service data from among the stakeholders, it is difficult to justify the effectiveness of the policies and processes, and the quality of the implementation of those policies and processes.

One of the important issues is that there is currently no validation of the effectiveness of Case Management policies and processes. The *National Mental Health Commission Review* (March 2017) identified that a Case Management service was necessary for the support of veterans and their families who have complex medical needs, and to manage issues of self-harm and suicide prevention. The DVA and Australian Government have taken an active approach through a pilot of Case Management services, *The Wellbeing and Support Program*, which commenced on 1 July 2018 to provide support to recently transitioned members, and to veterans who may have fallen into crisis.⁷

There is currently no legislation or Terms of Reference on Conjoint data analytics into veteran suicide prevention programs. The Skynews.com.au interview with veteran campaigner Julie-Ann Finney indicated that the ‘Minister of Defence proceeded to review veteran suicide, but they don’t investigate and cover up and criminality where veterans are concerned’.⁸

5. THE NEED FOR A CONJOINT DATA ANALYTICS FRAMEWORK FOR THE LIFECYCLE OF VETERAN CASE MANAGEMENT AMONG STAKEHOLDERS AND AMONG GOVERNANCE AGENCIES

Consultant psychiatrist Dr Jon Lane reported that he felt that the primary issues behind the increasing rates of suicide are due to two primary factors: The inherent administrative difficulties in navigating and completing the DVA / Commonwealth Super processes, and the loss of social connectedness and functionality that occurs after medical discharge from ADF.⁹ Furthermore, Dr Jon Lane, who is also a veteran of the Australian Army after serving a period of 27 years in military service says that, ‘vets are driven to despair by government stonewalling on their health claims, [an] almost punitive process of veterans having to prove their illnesses over an extended period exacerbated their symptoms’.¹⁰

According to the Australian Government, Productivity Commission report, *A Better way to Support Veterans*, the current veterans’ compensation and rehabilitation system does not perform well when assessed against the principles that should underpin a future system. This is in part because

of the way the system has been added to over time, but also because of the way the system is set up and the incentives it creates for Defence, DVA and veterans. The Productivity Commission Report details the Rehabilitation & Compensation processes with emphasis on providing evidence-based advice about policies that will improve the lives of current and future generations of veterans and their families, while also improving outcomes for the community as a whole. Despite some recent improvements to the veterans’ claims system, it is still not fit-for-purpose and requires fundamental reform. It could be suggested that the current system fails to focus on the lifetime wellbeing of veterans, is overly complex (legislatively and administratively), difficult to navigate, and is poorly administered (which places unwarranted stress on claimants). Some supports are not wellness- focused, some are not well targeted, and others are archaic, dating back to the 1920s. The institutional and policy split between Defence and DVA also embeds perverse incentives, inefficient administration and poor accountability, and results in policy and implementation gaps¹¹ Clearly there is a need for transparency in veteran care coordination and effective case management. Veterans would directly benefit from a collaborative process of assessment, planning, facilitation, care coordination, evaluation and advocacy until their mental health and situation is stable. Agencies working with veterans would be encouraged to consider how to meet the needs of veterans who have psychosocial needs and mental health issues, including through case coordination, referrals to services to meet an individual’s and family’s comprehensive health needs and access available resources to promote patient safety, quality of care, and cost effective outcomes.”¹²

According to Thompson P., etal (2014), the current most accurate prediction of suicide risks leading to suicide death using public clinical and mental health data is only about 46%–69%. From the Military perspective, suicide is the second-leading cause of death among military personnel and more service members die by suicide than by combat-related causes (Thompson P., etal 2014).¹³

The US has implemented the program of screening for suicide risk in all primary-care settings and has become one of the largest implementations of a standardized screening and evaluation process in a health-care system.¹⁴

The client data are currently held in paper-based systems, siloed and poorly managed, which leads to significant inefficiency in case co-ordination and management. There are also delays in processing veteran primary rehabilitation and compensation claims. The lack of coordination and poor service provision are well known to The Returned Services League (RSL), who noted that the suicide data is complex with deaths that are not definitively suicides. ‘‘Too many individuals are suffering from the poorly managed circumstances at the present time without the necessary care and supervision that’s required from a number of appointed agencies’’.¹⁵ According to Dr Alex Collie of the Insurance Work and Health Group, each DVA office performs different claims management functions. In practice, this results in claims being handed over from one office to another throughout the course of a claim, which may also have an impact on decision making and timeliness of claims processing.¹⁶ This process of reliance of paper-based systems

and change of case worker from various locations results in ineffective Case Management and impacts the time taken to process Veteran primary claims.

The Veterans' Advocacy and Support Services Scoping Study reported that the primary complaints received by the study concerned the length of time taken to process primary claims and the inefficient handling by DVA as being responsible for the significant proportion of the delays.¹⁷ DVA can improve the efficiency of high TTTP claims processing by reducing the amount of 'inactivity' (delays in the actioning of a claim despite the presence of required information) and through the more structured management of medical specialists. The current monitoring and reporting of claims are not effective in alerting management to those claims which are at risk of taking excessive time to process.¹⁸ There were two main reasons for 'inactivity': where claims were effectively 'lost' in the system, and where the delegate did not immediately take action after the requested information was received for the claim. Both issues are indicative of a lack of transparency over workflow within the system.¹⁹ The DVA has important data sharing relationships with Defence and the Department of Human Services, that if this system was operating effectively, it would better enable the DVA to perform its Rehabilitation & Claims management function, and to understand the drivers of poor psychosocial and mental health in compensated veterans.²⁰

6. THE SIGNIFICANCE OF THE RESEARCH

There is a tendency to undermine social aspects when undertaking root cause analysis (RCA) of veteran suicide because they are not clearly defined to a Clinical Risk Management system. The RCA process is a critical feature of any safety management system because it enables answers to be found to the questions posed by high risk, high impact events—notably, what happened, why it occurred, and what can be done to prevent it from happening again.²¹ This study will take into account the impacting factors of the handling and the implementation of policies, processes, human services, workflows, and quality of veteran service delivery. Capturing these set of data and conjointly predicting suicide risks will increase the validity of the risk prediction and that will be directly relevant to the veteran's moral, physical, psychosocial and mental health issues.

To date, there is no framework for conjoint data analytics for the lifecycle of Case Management among stakeholders and among the government departments that could collect the data from stakeholders' data repositories, provide a real time tracking of the effectiveness of the Case Management, its policies, processes and the implementation of these for Case Management and the effective governance on the human services. The data in such context contains much information about time, location, event, behaviour, identity (people), features, context, the provenance of the data, responsibility, accountability etc. and these data sets have been neglected, loosely located and adhoc- managed, leading to no-one has complete data-set since the Case Management start and it is difficult to track the responsibility and accountability.

There is an urgent need for a conjoint data analytics framework for multi-stakeholder, multiple government agencies and multiple data sources for veteran Case Management for suicide risk prediction, and to enact better governance, policies, process, and service delivery for veteran community. Note that these data sets are distinguished from the clinical data, medical study, mental health research, and psychological intervention. These data set will add value when integrated into veteran suicide prevention programs designed by the government.

The *2010 ADF Mental Health Prevalence and Wellbeing Study* examined the prevalence of most common mental disorders in the ADF and compared them with a sample of the Australian population provided by the Australian Bureau of Statistics that they are only equally likely to attempt suicide.²² Alarming, veterans have thoughts of their own death or thoughts of death which are different from suicidal ideation for military service related exposure.²³

There is "very limited research information focusing specifically on suicide mortality, non-fatal suicidal behaviour or suicidal ideation among individuals who have left the Australian Defence Force".²⁴ To *conduct research to understand the exposure and impact of suicide among the Australian veteran population* will help improve suicide bereavement support.²⁵

In addition, the peculiarities of Service life can be stressful, both on members and their families. These stressors sometimes have compounding effects when combined with all other factors affecting a member's decision to suicide".²⁶

DVA recognised the latest knowledge around suicide by ex-serving members, and they agree a measure to be implemented to care for mental health of veterans and ex-serving members.²⁷ Dr Andrew Khoo, a psychiatrist recommends changes to DVA Compensation Case Management methods. He agrees that it is difficult to find a suitable cost-efficient solution, but the fact remains that the DVA Compensation process complicates, aggravates, and perpetuates the pre-existing psychological distress suffered by veterans and their families.²⁸

The reform of Case Management and compensation claims systems is necessary to mitigate any potential negative impacts on mental health.²⁹

7. FRAMEWORK FOR CONJOINT DATA ANALYTICS FOR LIFECYCLE CASE MANAGEMENT AMONG STAKEHOLDERS AND AMONG GOVERNANCE AGENCIES

The objective of this research is to produce a framework for conjoint data analytics to support Government in managing veteran suicide prevention.

The Conjoint data analytics framework has 3 Key Components, namely:

- (1) Managing the evidence/data required and evidence/data submitted in the life cycle of Case Management (Figure 1 Top Part).

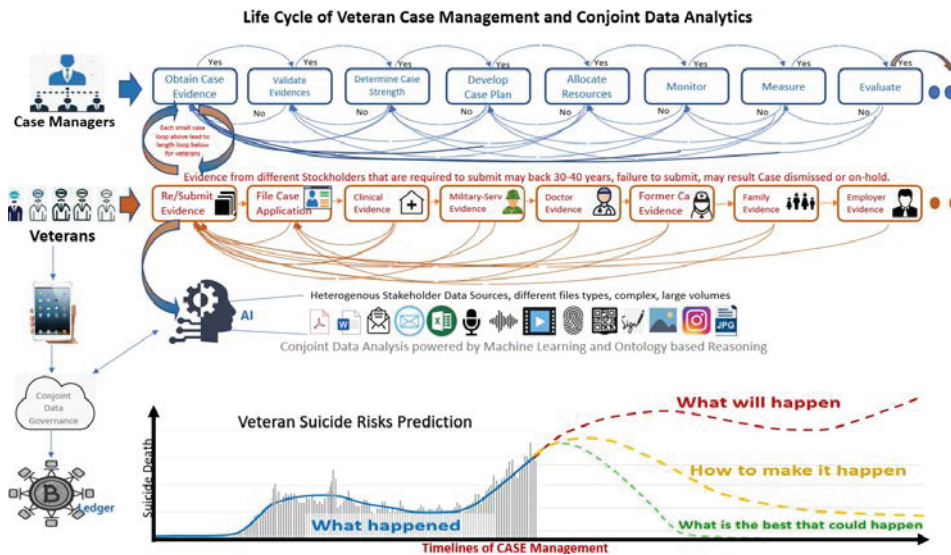


Figure 1 Conjoint data analytics and governance in the life cycle of veteran case management.

- (2) Managing and analysing Stakeholder’s heterogenous data types for veteran and veteran families (Figure 1 Middle Part).
- (3) Conjoint data analytics of veteran’s Case involvement and potential risk of suicide from case opening, to evidences collection, to decisions and case close (Figure 1, bottom part) as measured against the time taken on decision making, time taken in response, volumes of the interaction between the Case Management team, heterogeneous evidence submission, effort of proof of evidence, negotiation case outcomes, and impact on physical and mental health and deliver the care at scale and addressing person-at-risks (Figure 1).

Note that the Cloud Platform data collection are from non-government sources, but from self-organised veterans, veteran family and veteran communities (Figure 1 lower left).

On the top part of the Figure 1, we present 8 core elements of Case Management and how the Case managers handling each Cases. “Yes” represents the Case Management satisfied with the Evidence Assessment, and “No” represents the Case managers do not endorse the Case is valid and need to get back to the Veterans for further evidence. Further detailed elements could be included ie: veteran service, contract management, follow up, reporting etc. The representation of the Case management depicts the iterative complex Case management life cycle, and more often, no ending cases. A strategy to help simplify the processes and reduce mandraulic human effort is critically important to support suicide prevention.

In the middle of the Figure 1, we present Veteran’s processes in submitting the compensation claims. A key part is to submit the relevant documentation and evidence to the Case Managers. Each small Case Management loop led to lengthy process of Veteran have to engage stakeholders and obtaining the evidence. Some evidence may be back 30+ years ago, including those war time activities. Currently data stored in silo-based infrastructure among the Stakeholders among the different government agencies, and there is no mechanism to pull these data automatically, and it requires the Veteran

to obtain these data manually. These processes add further stress to the mental health of the veteran and veteran families. Particularly, when they ask for help, they will contribute their data to the proposed framework, and this led us to design our Conjoint data Management solution for veterans. It will help veterans to collect, manage and analysing their evidences. Privacy and security are of major concerns and we address this issue in the forthcoming sperate paper.

On the lower part of the Figure 1, the heterogenous evidences can be collected while these data are submitted to the Case Managers, and collection of these data from our veteran community can be analysed by the Artificial intelligence component of the framework. By taken into the timeline of the Case management, a likelihood of mental stress and suicide risk grows, ignore these risks will leading further human casualties. The lower left presents the mobile enable cloud and blockchain solution framework.

8. CONJOINT DATA ANALYSIS AND ONTOLOGY BASED REASONING

To obtain valuable insights into the existing data recording processes of the Case Management, we will associate the concepts from a range of sources including stakeholders, Government agencies, communication (unstructured content) and linkage with clinical records (structured data) conjointly. The Cloud Platform (Figure 1, lower left) aimed to collect the data from the Veteran community. The analytics includes identifying the top five areas that experienced a high increase in communications, or complaints, or negative sentiment, discover common symptoms of potential suicide behaviours, through analysing the nature of their complaints. We note that structured data and content (unstructured documents) each have a very different representation. It is important to conduct Conjoint Data Management between heterogeneous data sources among all stakeholders. In particular, we can capture the essentials of unstructured textual information, and this allows for transformation of the contextual information

to values and structures.

We note that structured data and content (unstructured documents) each have a very different representation. It is important for Conjoint Data Mining between heterogeneous data sources among all stakeholders, particularly, we can capture the essentials of unstructured textual information, and it allows for transform the contextual information to values and structures. The Conjoint data analytics use the information held in a structured database with entities, i.e. $E = \{e_1, \dots, e_n\}$ which we represent in the form as: $E_x = (ex_1, \dots, ex_n)$, and an unstructured content repository $U = \{u_1, \dots, u_m\}$. The corresponding unstructured repository is $U_x = \{ux_1, \dots, ux_n\}$; We use extended XML represent all corresponding transaction as $EX = \{ \dots \}$ where the tuple consists of a concatenation of the XML representations of the two categories of information (E_x and U_x). We used this approach for data records to obtain inter-transactional association rules. As all data is conjointly represented in an XML content, the powerful XML mining algorithms will be used to tackle mining of collections of these augmented XML document contents. Our recent work has demonstrated the feasibility of conjoint mining of structured databases and XML repositories. To extract association rules, we identify all the frequent sub trees from the content collected. This is known as the frequent sub tree mining (FSM) as defined as: Given a tree database Tdb a minimum support threshold (σ) find all subtrees that occur at least σ times in Tdb. Being able to mine all different subtree types using different support definitions is particularly important when we work on an XML representation of textual information, since these concepts can be repeated within many fragments of text and there exist different relationships among the concepts in the text, given the flexibility in its representation and expressiveness. Our work in the FSM field is characterized by a Tree Model Guided (TMG) candidate generation approach. This non-redundant systematic enumeration model uses the underlying tree structure of the data to generate only valid candidates which conform to the underlying tree structure of the data. Using the TMG framework with the above representation structures we have presented FSM algorithms for mining of following subtrees (under any support definitions): ordered induced and embedded, ordered, and unordered distance-constrained embedded, unordered induced and embedded.

Case Management information is distributed across a large number of stakeholder information resources and is heterogeneous in its content, format and structure. Techniques on effective information reasoning is made through the targeted searches to look for the specific string of letters within the text rather than its meaning. Use of highly expressive knowledge models such as ontologies enables the machines to learn the text as meaningful expressions. This increases the semantics and forms the basis of a more efficient approach to finding the potential risks during the case management process. An ontology can be used for creating metadata by semantic annotation of text through three steps: tokenization (splitting the sentences into tokens), matching the tokens against the ontology terms and matching the tokens against the ontology relationships until the best fit is found. New web tools created can be annotated automatically during their creation process. This semantic annotation allows machines

to access web content, understand it, retrieve, and process the data automatically rather than simply displaying it. In our research work, we will use ontologies such as Veteran Suicide Ontology, Case Management Ontology and Suicide Risk Ontology etc. The ontologies can be used to annotate target information in content sources and enable intelligent retrieval of specific information, analysis, and linking with the existing pool of knowledge. Conjoint mining of the structured and unstructured stakeholder textual information in the Case Management system will help with the discovery of existing suicide management knowledge taken into consideration of the situations which coincide with ambiguity or inconsistency. This will help researchers to identify what requires further support to the veteran at risk and help delivery the quality care at scale.

9. CONCLUSION

This is a social science-based research addressing veteran's personnel data with related to the Case management, processes, and policies, rather than clinical or medical research or collecting data from the government agencies. Data sampling will occur from the Governance Case Management agencies and these data are available from the national audit office. Privacy and security of the personnel data are critical and is dealt with a separate paper. We believe this word collecting, managing and analysing heterogenous data from the data collected in Veteran community will make unique contribution to suicide prevention.

REFERENCES

1. Ronald C. Kessler, Samantha L. Bernecker, Robert M. Bossarte, et al (2019) "The Role of Big Data Analytics in Predicting Suicide" Personalized Psychiatry, ISBN : 978-3-030-03552-5.
2. The Department of Veteran Affairs, Submission 156, Foreign Affairs, Defence and Trade References Committee, *Constant Battle: Suicide by Veterans*, 2016, p.18.
3. National Commissioner for Defence & Veteran Suicide Prevention, <https://www.ag.gov.au/about-us/national-commissioner-defence-and-veteran-suicide-prevention> (accessed 7 February 2020).
4. Dillon T. S., Chen Y. P. P., Chang E., Mohania M. (2014) *Conjoint Mining of Data and Content with Applications in Business, Bio-medicine, Transport Logistics and Electrical Power Systems*. Keynote Paper AIAI 2014 In: Iliadis L., Maglogiannis I., Papadopoulos H. (eds) Artificial Intelligence Applications and Innovations. AIAI 2014. IFIP Advances in Information and Communication Technology, vol 436. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-44654-6_1
5. The examiner, *More talk and no action for our homeless veterans* 9 July 2020, <https://www.examiner.com.au/story/6824721/more-talk-and-no-action-for-our-homeless-veterans/?cs=95>
6. ANAO Report No.52 2017–18 *Efficiency of Veterans Service Delivery* by the Department of Veterans' Affairs.
7. Australian Government, Department of Veteran Affairs, Case Management Services, [220](https://www.dva.gov.au/health-

</div>
<div data-bbox=)

- and-treatment/work-and-social-life-programs/wellbeing-and-support (Accessed 3 June 2020).
8. Skynews.com.au, 29 June 2020, Julie Ann Finney interview.
 9. Dr. Jon Lane, Foreign Affairs, Defence and Trade References Committee, *Constant Battle: Suicide by Veterans* (2016), Submission 72.
 10. The Daily Telegraph, 9 February 2017, Suicide inquiry finds veterans get little support, <https://www.dailytelegraph.com.au/news/nsw/suicide-inquiry-finds-veterans-get-little-support/news-story/376ff4dd95a49de1d8df3ee877ac273a> (Accessed 7 September 2020).
 11. Australian Government, Productivity Commission. *A Better way to Support veterans*. Productivity Commission Inquiry Report, Overview & Recommendation. No 93, 27 June 2019, p.5.
 12. Dealtry, N. (2019), Is Case Management the same as case coordination?, <https://www.elationhealth.com/care-gaps-blog/management-coordination>, (Accessed on 1 September 2020).
 13. Thompson P. Poulin C., Bryan C. J. (2014) Predicting military and veteran suicide risk: Cultural aspects, Workshop on Computational Linguistics and Clinical Psychology: From Linguistic Signal to Clinical Reality, pages 1–6, Baltimore, Maryland USA, June 27, 2014.
 14. Novotney, A. (2020, January). *Stopping suicide in the military*. Monitor on Psychology, 51(1). <http://www.apa.org/monitor/2020/01/ce-corner-suicide>
 15. Doolan, K. (2011). National President Report, RSL National Annual Report, RSL Nation Congress 2011.
 16. Prof. Alex Collie, 5 March 2019, *The Mental Health Impacts of compensation Claim Assessment Process*, Monash University, p.38.
 17. Australian Government, Veterans' Advocacy and Support Services Scoping Study, *A modern professional sustainable service for Australian Veterans and their families*, Report (December 2018), p.50.
 18. Efficiency of Veteran' Service Delivery by the Department of Veterans' Affairs, ANAO, June 2018, p 43.
 19. *ibid*.
 20. Prof. Alex Collie, 5 March 2019, *The Mental Health Impacts of compensation Claim Assessment Process*, Monash University, p.38.
 21. Victorian Government, Department of Health. (2011) Root cause analysis (RCA) and Risk reduction action plans (RRAP), <http://www.health.vic.gov.au/clinrisk/index.htm> (Accessed 6 September 2020).
 22. The Department of Veteran Affairs, Submission 156, Foreign Affairs, Defence and Trade References Committee, *Constant Battle: Suicide by Veterans*, 2016, p.3.
 23. *Client Win: Cause No. 19-5683, Calkins v. Wilkie (PTSD Rating for veteran's suicidal ideation)* <https://attigcurransteel.com/cases/ptsd-rating-veterans-suicidal-ideation-70-percent/> (Accessed 7 September 2020).
 24. Murray, Susan., Submission 176, Suicide Prevention Australia Foreign Affairs, Defence and Trade References Committee, *Constant Battle: Suicide by Veterans*, 2016, p.4.
 25. Cerel, J., van de Venne, J.G., Moore, M.M., Maple, M.J., Flaherty, C. & Brown, M.M. (2015). *Veteran exposure to suicide: Prevalence and correlates*. *Journal of Affective Disorders* 179, 82–87. DOI: 10.1016/j.jad.2015.03.017, p.5.
 26. Inspector-General of The Australian Defence Force Foreign Affairs, Defence and Trade References Committee, *Constant Battle: Suicide by Veterans* (2016), Submission 168.
 27. The Department of Veteran Affairs, Submission 156, Foreign Affairs, Defence and Trade References Committee, *Constant Battle: Suicide by Veterans*, 2016, p.5.
 28. Dr Khoo, A., Submission 155, Foreign Affairs, Defence and Trade References Committee, *Constant Battle: Suicide by Veterans* (2016).
 29. Prof. Alex Collie, 5 March 2019, *The Mental Health Impacts of compensation Claim Assessment Process*, Monash University.

