**Review**

**The impact of emergency call taking on the mental health and wellbeing of ambulance call-takers: A systematic thematic narrative of qualitative research**

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https://doi.org/10.33151/ajp.17.801

**Abstract**

**Background**

Over the past decade there has been significant focus on the mental health and wellbeing of emergency service workers in Australia, evidenced by the 2018 Senate Inquiry into the role of Commonwealth, state and territory Governments in addressing the high rates of mental health conditions experienced by first responders, emergency service workers and volunteers. Call-takers as an occupational group within this domain are at risk of cumulative and vicarious trauma, yet there is little research on their work-related mental illness. This systematic thematic narrative literature review of qualitative articles reports on the mental health and wellbeing of emergency call-takers.

**Methods**

Both published peer review (2000–2018) and grey literature (2009–2018) that examined the impact of emergency work on call-takers was retrieved. Papers that focussed on call-takers’ psychological and psychosocial health were selected. Databases included Ovid Medline, CINAHL, Ovid EMcare, PsychInfo, Scopus as well as Google Scholar.

**Results**

Fourteen articles met the eligibility criteria; five peer review and nine grey literature studies. Thematic analysis identified issues around surveillance versus lack of supervision; role denial versus advocacy; and failure to acknowledge vicarious trauma. Suggestions for improvement required recognition of the stressful nature of the work, improvements in workplace culture and the provision of support and counselling services.

**Conclusion**

Workplace stressors for call-takers arise from their work in dealing with trauma related communication with the public as well workplace culture, particularly the response of management to issues such as shift work, poorly managed rosters and long hours of work with little time for recovery. Compounding these issues is the invisibility of call-taker work.

**Keywords:**
call-takers; ambulance services; mental health and well-being; organisational culture; qualitative

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Introduction

One of the satisfying aspects on Australian roads is the courtesy offered by drivers to paramedics as they race across the city to retrieve an injured or sick citizen. Probably few motorists give much thought to what occupational group briefed the paramedics on the nature of the patient’s illness or injury, where they were or what to expect when they arrive at the scene. This occupation group are emergency service call-takers. In many ways, they are the true first responders, although they remain hidden from view with their role rarely acknowledged, except when there is a major failure in communication. Few studies (either quantitative or qualitative) have examined the impact the unpredictable nature of emergency calls might have on their psychological, psychosocial and physical health. This article presents a systematic thematic literature review of qualitative papers on call-takers’ work-related mental health and wellbeing (1).

Methods

Aim and research questions

This article draws on a larger study that retrieved qualitative research publications that addressed the psychological wellbeing of paramedics, ambulance drivers and call-takers. The results of the larger study pointed to a dearth of literature on the mental health of emergency call-takers. Alerted to this deficit, this systematic thematic literature review collated the 14 articles and reports on what is known about:

• call-takers psychological wellbeing and psycho-social health
• what issues call-takers identify as impacting on their work-related wellbeing and mental health
• strategies for reducing workplace stress.

Search methods and screening

An initial systematic search undertaken by a trained librarian revealed 39 relevant peer-review qualitative articles that met the review criteria. Of these 39 papers, only five made mention of the mental health and wellbeing of call-takers. The search was performed initially on Ovid Medline and then translated into PsycInfo, Ovid Emcare, CINAHL and Scopus in October 2018. The papers were read and the quality assessed using the Critical Appraisal Skills Program (CASP) (2).

Using the three tiered framework proposed by Carousi et al (3) for accessing grey literature, a further nine papers were retrieved that dealt with work-related stress experienced by call-takers. The relevant MeSH subject headings were employed (for both peer-reviewed and grey literature): paramedic* or ambulance* or “Emergency Medical Technician*” or “Patient Transfer*” or “transport patient*” or “First Responder*” or Out-of-hospital* or Pre-hospital* or “Emergency Medical Services” or “emergency medical dispatch*” or “emergency dispatch centre*” or “community paramedic*” or “intensive care paramedic”, along with terms linked to emotional states: adaptation, psychological/ or emotional adjustment/ or “sense of coherence”/ stress/psychological/ quality of life and qualitative studies. The search was limited to tier one and two, white literature and public documents with an ‘org.ed.gov’ domain, or comprehensive newspaper articles where the author was identified, and searched to the first five screen layers.

The title and abstracts of all publications were screened by at least two authors with a third author arbitrating discrepancies in line with the inclusion and exclusion criteria listed in Tables 1 and 2.

Data extraction and synthesis

All 14 papers on call-takers were read in order to identify information that addressed the aims of the review. Papers were examined for the data collection methods used, analysis methods and study limitations with the findings extracted and collated in order to produce a thematic analysis (4). The first author did the second level analysis and generated the themes on call-takers presented here.

Results

Peer-reviewed studies were limited to four countries: Australia (5), Ireland (6), the United Kingdom (7,8) and the United States (9). All were research articles with the exception of Golding et al (a systematic literature review) and Klimley et al (a narrative review). Only one study was entirely devoted to call-takers

Table 1. Inclusion and exclusion criteria for peer-reviewed literature

| Inclusion criteria | Exclusion criteria |
|--------------------|--------------------|
| Published in the English language | Not available in the English language |
| Published 1 January 2000–2018 | Published before 2000 |
| Peer-reviewed literature | Non-peer-reviewed literature |
| Reported an empirical study | Editorials, opinion pieces |
| Systematic reviews (provided they reported at least one qualitative study) | Based on a single incident (eg. disaster, terrorism) or focussed on a specific case type/patient cohort (eg. children, end-of-life care, CPR performance, Ebola, forensic) |
| Other identified reviews (eg. narrative, scoping, rapid) | Not specific to paramedic/EMS-based call-taker populations |
| Used qualitative data collection methods (for all or some components of the research) | |
Call-takers reported a range of stress responses to job-related traumas from mild anxiety and depression to severe conditions such as post-traumatic stress disorder (PTSD) (11). Some call-takers also attributed marital separation and relationship difficulties including poor parenting, health problems and financial difficulties to work-related stressors that were not adequately dealt with (11). However, they acknowledged that trauma was a subjective phenomenon and that the organisation could not be expected to always follow up on the event (13).

**Surveillance vs. lack of supervision**

Call-takers noted that much of their work-related stress came from the fact that their entire working day is observed and taped. While they acknowledged this was justifiable, it made for a climate of constant surveillance (5). Despite management maintaining constant vigilance over call-takers through various forms of electronic monitoring, they reported feeling bereft of quality supervision. This extended to a view that managers were unable to handle workplace conflict, failed to provide adequate education for staff, or to acknowledge the stress of the call-taker role. Call-takers reported that they felt under-valued by the organisation and were the butt of angry paramedics (5,7).

**Role denial vs. advocacy**

Call-takers defined their role as requiring problem-solving as well as conflict management. They saw themselves as advocating for better working conditions, resources and recognition as part of protecting themselves and colleagues as well as patients. Call-takers divided stress into that which arose from the nature of work that dealt with human trauma and the stress arising from a poorly managed workplace (11). They reported that they tended to seek help in dealing with stress through informal debriefing with their family or colleagues, rather than using the organisation’s peer support programs (5,8,12,13), but recognised this strategy was not always healthy for their family. Many reported that they attempted to keep work-related trauma to themselves and to not bring it home (8). In many instances they believed that the support programs offered within the organisation for dealing with work-related stress were not for them, but were reserved for on-road staff (13,18), although this was not always the case (16). This was a particularly acute issue for volunteers or those working in rural and remote regions where resources were scarce and difficulties in confidentiality were compounded by low populations. It was also compounded by the fact that call-takers rarely find out what happened to the patient (18).

**Failure to acknowledge vicarious trauma**

Call-takers perceived managers to lack understanding or the capacity to deal with the stress experienced by call-takers (5,6). They were mindful of the stigma associated with mental illness or to admitting the work was stressful and for this reason were reticent to seek help from their organisation when they experienced feelings of anger, guilt and helplessness (6,16). They believed management did not view their role as important, saw it as less valuable than on-road staff, and failed to acknowledge that part of the stress that arose from dealing with human trauma. They felt managers assumed they could get over any tense or traumatic event, despite the fact that in some instances they were required to stay online until a paramedic arrived at the scene (5). Much of their stress was compounded by the fact that they often worked alone at night or on weekends and reported that it was very difficult to take breaks, had to manage shift work across a 24/7 roster, and had to deal with considerable anger from on-road staff (6,8). The pace of work meant that at times calls were missed, putting patients’ lives at risk (17). In short, managers were reported to fail to respond to the call-taker’s distress (5) and to not recognise

### Table 2. Inclusion and exclusion criteria for Google Advanced (grey literature)

| Inclusion criteria                                      | Exclusion criteria                                                                 |
|---------------------------------------------------------|------------------------------------------------------------------------------------|
| • Published in the English language                     | • Not available in the English language                                           |
| • Published 1 January 2009–2020                          | • Published before 2009                                                           |
| • Media reports (specific detail on one or more criteria in scope) | • Media report (lack of detail on criteria in scope, absence of actual strategies, programs or resources) |
| • Peer-reviewed conference papers                       | • Websites/media describing PTSD symptoms without detail of how ambulance services respond |
| • White papers, regulatory papers                       | • PowerPoint presentations, conference posters, wiki articles, general web pages, recruitment advertisements |
| • Unpublished literature reviews                        | • Blogs, chatrooms, forums, emails, tweets                                       |
| • Government reports                                    | • News websites requiring membership or log in details                            |
| • First five screen layers                              |                                                                                   |
their marginal status and engagement in vicarious trauma. They suggested the only time they see their manager is when they have done something wrong.

**What needs to be done**
There was a general view that call-takers, like other emergency service workers, should have direct access to support services and to evidence-based assistance programs (10). Examples of support programs included education and training (18), opportunity to transition into other roles, access to independent medical services and a greater sense of confidentiality (10,13).

Call-takers have to contend with the fact that organisations often fail to include them in support programs so that they come to assume the services are not for them (13). The newspaper articles reported on a range of strategies, from support dogs (15) to “… formal debriefings, taking staff off call-taking duties, providing them with time out and counselling from senior managers, professional counsellors, peer support officers or chaplaincy support is also available to staff 24/7 as needed. All control staff undertake training in triaging and managing triple zero (000) calls, skills which assist them to recognise and provide appropriate support for their peers if they identify an ‘issue’ (17).

**Discussion**
Similar to paramedics, call-takers divided work-related stress into that arising from the nature of the work and that arising from poor management within the workplace. For example, they complained of not being able to recover between jobs, take time off during mandated breaks or to discuss difficult incidents with colleagues. They attributed these issues to the invisible nature of the work and to their lower status within the organisation (17).

**Limitations in research**
All five peer-reviewed papers highlighted the limitations of the studies as a result of the small samples or the specificity of the ambulance service or the fact that only men were interviewed (5,6,8). It was also difficult to separate out findings specific to call-takers in all but the Coxon paper (8). A number of articles noted the limited research into work-related stressors for all emergency service personnel (10-12), as well as into the relationship between mental health anxiety, psychosis, substance misuse, gambling and work trauma (12), or the effectiveness of resilience training, compulsory screening or peer support programs (13). Clearly more quantitative and qualitative research is needed in this area.

**Conclusion**
Ambulance call-takers are at risk of cumulative and vicarious trauma, yet there is little research on their work-related mental illness. Workplace stressors arise from their work in dealing with trauma related communication with the public as well workplace culture, particularly the response of management to issues such as shift work, poorly managed rosters and long hours of work with little time for recovery. Compounding these issues is the invisibility of call-taker work. Suggestions for improvement include recognition of the stressful nature of the work, improvements in workplace culture and the provision of support and counselling services.

**Acknowledgement**
The authors acknowledge the financial contribution of the Ambulance Employees Association of South Australia.

**Competing interests**
The authors have no competing interests. Each author of this paper has completed the ICMJE conflict of interest statement.

**References**
1. Grant M, Booth A. A typology of reviews: an analysis of 14 review types and associated methodologies. Health Info Libr J 2009;26:91-108. doi:10.1111/j.471-842.2009.00848.x
2. Critical Appraisal Skills Program (CASP). 2018. Systematic review checklist. Available at: https://casp-uk.net/
3. Garousi V, Felderer M, Mäntylä MV. Guidelines for including grey literature and conducting multivocal literature reviews in software engineering. Inf Softw Technol 2019;106:101-21.
4. Popay J, Roberts A, Sowden A, et al. Guidance on the conduct of narrative syntheses in systematic reviews: a product from the ESRC. Methods Programme United Kingdom; 2006. Available at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10111783100&rep=rep1&type=pdf [Accessed 7 Jun 2019].
5. Adams K, Shakespeare-Finch J, Armstrong D. An interpretative phenomenological analysis of stress and well-being in emergency medical dispatchers. J Loss Trauma 2015;20:430-48.
6. Gallagher S, McGiloway S. Living in critical times: the impact of critical incidents on frontline ambulance personnel: qualitative perspective. Int J Emerg Ment Health 2007;9:215-23.
7. Golding S, Horsfield C, Davies A, et al. Exploring the psychological health of emergency dispatch centre operatives: a systematic review and narrative synthesis. PeerJ 2017;5:e3735. doi: 10.7717/peerj.3735
8. Coxon A, Cripley M, Schofield P, et al. “You’re never making just one decision”: exploring the lived experiences of ambulance emergency operations centre personnel. Emerg Med J 2016;33:645-51. doi:10.1136/emermed-2015-204841
9. Klimley K, Van Hasselt V, Stripling A. Posttraumatic stress disorder in police, firefighters, and emergency dispatchers. Aggress Violent Behav 2018;43:33-44. doi.org/10.1016/j.avb.2018.08.005
References (continued)

10. Royal Australian and New Zealand College of Psychiatrists. Submission to the Senate Education and Employment References Committee Inquiry into the role of Commonwealth, state and territory Governments in addressing the high rates of mental health conditions experienced by first responders, emergency service workers and volunteers. Australian Government; 2018. Submission 15. Available at: www.aph.gov.au/Parliamentary_Business/Committees/Senate/Education_and_Employment/Mentalhealth/Submissions

11. Queensland Government. Submission to the Senate Education and Employment References Committee Inquiry into the role of Commonwealth, state and territory Governments in addressing the high rates of mental health conditions experienced by first responders, emergency service workers and volunteers. Australian Government; 2018. Submission 74. Available at: www.aph.gov.au/Parliamentary_Business/Committees/Senate/Education_and_Employment/Mentalhealth/Submissions

12. Edith Cowan University. Submission to the Senate Education and Employment References Committee Inquiry into the role of Commonwealth, state and territory Governments in addressing the high rates of mental health conditions experienced by first responders, emergency service workers and volunteers. Australian Government; 2018. Submission 95. Available at: www.aph.gov.au/Parliamentary_Business/Committees/Senate/Education_and_Employment/Mentalhealth/Submissions

13. St John Ambulance Western Australia Ltd. Submission to the Senate Education and Employment References Committee Inquiry into the role of Commonwealth, state and territory Governments in addressing the high rates of mental health conditions experienced by first responders, emergency service workers and volunteers. Australian Government; 2018. Submission 101. Available at: www.aph.gov.au/Parliamentary_Business/Committees/Senate/Education_and_Employment/Mentalhealth/Submissions

14. Murders, overdoses and delivering babies: at the end of the line with Australia’s triple zero call takers [Internet]. ABC News; 2018. Available at: www.abc.net.au/news/2018-07-07/at-work-with-triple-zero-call-takers/9939400

15. Kontominas B, Kennedy J. NSW Ambulance triple-0 staff help reduce work stress with visits from therapy dogs [Internet]. ABC News; 2018. Available at: www.abc.net.au/news/2018-07-22/nsw-ambulance-therapy-dogs-help-reduce-staff-stress/10022782

16. NSW Ambulance call taker calls for more staff to ease pressure [Internet]. The Herald; 2016. Available at: www.theherald.com.au/story/4234572/operators-emergency/

17. We’re overlooked and often abused but emergency call takers save lives [Internet]. The Guardian; 2015. Available at: www.theguardian.com/healthcare-network/views-from-the-nhs-frontline/2015/jun/29/emergency-call-takers-save-lives-overlooked-abused2015 [Accessed 8 March 2019].

18. American Addiction Centres. Crisis mode: 911 Operators suffer in silence [Internet]. Tennessee: American Addiction Centres; 2014 [updated 25 July 2014]. Available at: https://americanaddictioncenters.org/blog/crisis-mode-911-operators-suffer-silence [Accessed 7 March 2019].
| Author, year, country | Aim and methodology | Sampling and participant/ study characteristics | Data collection methods | Data analysis methods | Limitations |
|-----------------------|--------------------|-----------------------------------------------|------------------------|----------------------|-------------|
| Adams et al, 2015 (5) Australia | Explore the lived experience of EMDs to understand how best to promote mental health and wellbeing Interpretive phenomenology | 35 volunteers responded to work email invitation, then random selection of those approached for interview. This was followed by strategic targeting to ensure a mix of age, gender, region, experience level N=16, 6M/10F, 24-57 years of age, 2-15 years’ experience | Semi-structured in-depth interviews via phone or Skype | Interpretive phenomenological analysis | May not be generalisable to all EMD roles due to individual and group variability, cultural influences and operational and organisational procedures CASP review |
| Coxon et al, 2016 (8) United Kingdom | Explore the lived experience of EM dispatch staff to understand how best to identify the key stressors and their impact on staff | Purposive sampling from an emergency office with 36 staff N=9, 5M/4F, 26-60 years of age, 2-14 years’ experience | Semi-structured, in-depth face-to-face interviews | Interpretive study using Braun and Clark’s 6-step method | May not be generalisable to all EMD roles due to individual and group variability, cultural influences and operational and organisational procedures. Researchers had little experience or knowledge of the area CASP review |
| Gallagher and McGillowa, 2007 (6) Ireland | Evaluate the impact of critical incidents on frontline staff by allowing them to tell their own stories | Conducted in health board with population of 1.6 million and large service with radius of 622 square miles N=27, 27M/0F, 31-60 years of age, slight majority with more than 16 years’ experience | Interviews based on a literature review and findings from stage one of research | Thematic analysis, but methodological approach not noted. Analysis done by both authors, sharing in reading a random sample of transcripts | All male sample CASP review |
| Golding et al, 2017 (7) United Kingdom | Investigate and synthesis available evidence relating to the psychological health of EDC operatives, and identify key stressors that they experience | 2358 articles retrieved, 16 accepted Included qualitative and quantitative studies Inclusion criteria: participants were emergency (ambulance, fire, police) call-handlers and dispatchers (EDC operatives) working in EDCs; any intervention, where applicable comparator is either another intervention, or no intervention, where applicable; any psychological health outcome measures in relation to working within an EDC; any study design | CASP review |
| Author, year, country | Aim and methodology | Sampling and participant/study characteristics | Data collection methods | Data analysis methods | Limitations |
|-----------------------|---------------------|------------------------------------------------|------------------------|----------------------|-------------|
| Klimley et al, 2018 (9) United States | Examine research regarding PTSD in police officers, firefighters and emergency dispatchers with particular attention to the prevalence, comorbid diagnoses, risk and protective factors, and resources available to each group | Eligibility criteria: sample included first responder group; study used a validated PTSD measure; participants had no indications of history of head trauma or serious psychiatric conditions 524 articles were identified and 218 included | Google Scholar and PsycInfo searched 1960-2018 with keywords (and combinations of these) used in computerised databases: “PTSD”, and “police officers”, “firefighters”, “dispatchers”, “prevalence”, “comorbidities”, “risk factors”, “protective factors”, and “resources” | Narrative review of themes including prevalence, comorbid diagnoses, risk and protective factors, and resources available to each group | It may be difficult to recruit participants for research studies relating to PTSD and therefore ascertain its prevalence due to first responder culture and perceptions of potential occupational repercussions, skepticism and fears around confidentiality CASP review |
| Submission | Causes of critical stress, chronic stress and PTSD | What is missing / What is the problem? |
|------------|--------------------------------------------------|--------------------------------------|
| Royal Australian and New Zealand College of Psychiatrists, 2018 (10) | Australian paramedics have reported experiencing high levels of fatigue, depression, anxiety, stress and poor sleep quality. The mental health of non-operational and operational first responders and emergency service workers (including dispatchers) can be influenced by a number of factors: • exposure to trauma/critical incidents (either a single event or repeated exposure including vicarious trauma) • working conditions and occupational stressors (long hours, physical exertion, interpersonal conflict, and budgetary constraints) Rural and regional ambulance workers face unique issues, including treating personally known patients, working alone and long response times. | Volunteers may not be seen as permanent team members and therefore may not be identified as being at risk of developing mental illness, or be supported by standard safeguards. Volunteers and first responders in rural areas may have limited access to mental health services, particularly psychiatrists, due to geographical barriers and stigma. There is a need to streamline and improve the management of mental health conditions by insurance and compensation agencies. Problems that have been identified include: • organisational conflicts of interest • frequent changes of staff • agitating, confrontational or aggressive environments • occasional aggression, bullying and stigmatisation from independent medical examiners. First responders need to have access to medical practitioners who are aware of the contributing factors, circumstances and presentations for individuals in this profession. Emergency services personnel often have poor social support while on sick leave, restricted duties or medically retired. Recommendations: • increase awareness and mental health literacy to encourage early help-seeking behaviour • implement ongoing support, reviews and wellbeing checks • ensure programs and services are evidence-based • provide support for workers to transition into other roles or out of the emergency services workforce. |
| Queensland Government, 2018 (11) | Submission 74_Att03_Queensland Government Research into the links between first wellbeing responder and mental health conditions is in its beginning stages. Government has invested resources over many years in people, systems, policies, and education to support and manage psychological. Conditions may range from acute stress reactions, mild anxiety and mild depression to more severe conditions, such as adjustment disorder, severe clinical depression or PTSD. Previous experiences of trauma, psychological meaning attributed to the event, sense of personal control, personal values and concomitant stressors. Internal organisational factors that can contribute to mental health include: • poor supervision and leadership • bullying and harassment • lengthy disciplinary investigations • work demands • poorly managed work relationship • organisational justice • inability to obtain preferred changes to work arrangements (flexibility) • poor support (peers and supervisors) • poorly managed change. Non-work caused psychological injuries requiring injury case management occur at ~4 to 1 work-caused psychological injury. The leading causes of non-work-related psychological injury requiring case management includes marital separation or other relationship issues, past or current trauma, abuse, grief and loss, health, financial strain and parenting. | Stigma continues to be a significant barrier to providing timely and confidential support services, and limits accurate data collection. Independent medical examination is requested to determine the risk of harm that an individual may experience within their work capacity. |
| Submission | Causes of critical stress, chronic stress and PTSD | What is missing / What is the problem? |
|------------|-------------------------------------------------|--------------------------------------|
| Edith Cowan University, 2018 (12) | Approaches to improve mental health services to paramedics, volunteers and their families should include individual, peer, organisational, community and government policy According to the paramedicine professional competency standards, paramedics are responsible for developing and maintaining their own personal health and wellbeing strategies Recognition of the mental health impact on volunteers/call-takers and others intimately involved or who have a frontline service role is important Further research (and funding) is required on the total mental health impact on first responders beyond PTSD (eg. anxiety, psychosis, substance misuse, gambling) Greater dialogue is needed between universities and industry stakeholders on how to address the mental health needs of first responders Paramedics becoming registered health providers under AHPRA presents issues around mandatory reporting and confidentiality. Clear guidelines will be required around appropriate use of information Help-seeking is inhibited by suspicion of reporting systems and internal processes, prompting fear of losing shifts/livelihood. Therefore, mental health support is often sought outside of the organisation Training and peer support are required for paramedics who attend coronial inquires (pre- and post-appearance) There is a lack recovery time between major traumatic incidents and appropriate wellbeing support for paramedics after returning to work from time off due to stress (eg. not being appropriately re-introduced to shift work, not monitored) Support for paramedics and first responders post-retirement should be the same for mental and physical health issues Paramedics who leave the service due to mental health issues suffer a loss of identity, potentially exacerbating the existing problem. Mandated continuing professional development should address self-identity and transition out of the workforce Pathways are needed for retiring paramedics (eg. transition to teaching roles). Experienced, retired and/or off-road paramedics could be appointed to mentoring, support and counselling roles Plans are required for staff retention to ensure corporate knowledge is maintained and to avoid high staff turnover and burnout issues Governments need to ensure that the justice system applies penalties for violence against paramedics Recommendation for the establishment of an online, single entry point resource with links to specific information for each area (paramedics, call-takers) Recommendation for the implementation of mental health first aid, including investing in training staff to become accredited trainers to then offer in-house training and support Recommendation to establish suicide prevention and intervention programs based on current evidence and best practice |
Table 4. Description of studies about call-takers – Senate Inquiry submissions (continued)

| Submission                     | Causes of critical stress, chronic stress and PTSD                                                                 | What is missing / What is the problem?                                                                                                                                 |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| St John Ambulance, 2018 (13)  | Factors that may influence the wellbeing of ambulance personnel:                                                            | Trauma is a subjective experience and difficult to identify based on the objective nature of event descriptions in dispatch systems. Events that individuals experience as traumatic may not necessarily be those that automatically trigger the organisation’s follow-up support process. No research currently exists to support the use of trauma tracking among emergency medical personnel. |
|                               | • training on resilience and the potential impact of trauma  
• community expectations  
• levels of clinical experience  
• technology  
• shift work  
• connectedness with peers and supervisors  
• personality clashes  
• events occurring in people’s personal lives  
• access to psychological support | No research has been conducted to date to explore the effectiveness of compulsory mental health screening in emergency medical personnel beyond the initial screening of new recruits for paid employment. The expert advisory group recommends not performing mandatory screening for psychological disorders, but instead, providing tools to conduct self-assessment. Potential problems regarding compulsory screening for volunteers include having to determine the cut-off point for suitability for the role, the potential for false positives/negatives, confidentiality and the possibility of applicants ‘faking good’ when answering questions. |
|                               |                                                                                                                          | Wellbeing education modules may benefit from the addition of an assessment component to assess the participants’ understanding of mental health. |
|                               |                                                                                                                          | There is currently no evidence to support the effectiveness of resilience training interventions for paramedics, however, there have been promising results among police recruits. |
|                               |                                                                                                                          | Investigating the influence of particular variables (eg. personality, social support, coping strategies, a history of mental illness) on an individual’s experience of a traumatic event may put the onus of wellness on the individual, ignoring the capacity of organisations to influence the mental health outcomes of employees and volunteers. |
|                               |                                                                                                                          | Workplace belongingness is a predictor of wellbeing that can be modified at an organisational level though changes in workplace behaviour/culture. |
|                               |                                                                                                                          | Problems identified by ambulance personnel in accessing employee assistance programs include confidentiality and a need to provide managers with training in the identification of staff who may need support. |
|                               |                                                                                                                          | Communications staff may feel that support services are not designed for them and that they are left out of wellbeing initiatives. |
|                               |                                                                                                                          | A lack of downtime between jobs means little recovery time, while downtime following a critical incident is perceived as beneficial by emergency medical personnel, and is associated with lower levels of depression symptoms. |
|                               |                                                                                                                          | Little research has been conducted to explore the effectiveness of peer support programs in emergency medical personnel. |
|                               |                                                                                                                          | The provision of peer support programs can be difficult due to the isolation of some stations, community, staff and volunteers. |
Table 5. Description of studies about call-takers – Google Advanced Studies

| Source, date, country | Source type, focus | Programs/resources to support mental health and wellbeing of paramedics/ambulance officers and call-takers | Informal and indirect provisions for post-critical stress incidence (eg. time on-road, leave, change in duties) or enforced retirement, and influence on superannuation/financial stability | Innovations proposed to manage stress, psychosocial or physical consequences of workplace stress (eg. policy, legislation, industrial agreements) |
|----------------------|-------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| American Addiction Centres, 2014 (18) United States | Website for private healthcare providers | | | The National Emergency Number Association recommends that 911 call centres create an 8-hour course for employees on recognising and handling the effects of stress |
| Fisher and Triscari, 2018 (14) Australia | Online news story Call-takers’ stories | Call-takers have employee support services, team leaders are trained in mental health, and the opportunity to have time off | | |
| The Guardian, 2015 (17) Australia | Online news story Call-takers’ stories | ‘Nights, days, weekends, bank holidays, public holidays … call-takers work 24 hours a day, 7 days a week and there is often little chance to stop and breathe. Sometimes, there aren’t enough to meet demand, resulting in dropped calls where lives can be put at risk’ Call-takers’ needs are largely invisible | | |
| ABC News, 2018 (15) Australia | Online news story Call-takers’ supports | Since April, therapy dogs like Honey Bear have been visiting NSW Ambulance staff weekly as part of a pilot program aimed at reducing stress and lifting morale | | |
| The Herald, 2016 (16) Australia | Online news story Call-takers’ stories | ‘If control centre supervisors are aware that a staff member has undergone a stressful or traumatic call, steps are immediately taken to offer assistance and this interaction is recorded in the staff support activation and significant events support register with appropriate action taken to support the staff member as required “A range of other measures, including formal debriefings, taking staff off call-taking duties, providing them with time out and counselling from senior managers, professional counsellors, peer support officers, or chaplaincy support is also available to staff 24/7 as needed. All control staff undertake training in triaging and managing Triple Zero (000) calls, skills which assist them to recognise and provide appropriate support for their peers if they identify an issue.” | One call-taker stated: ‘Under his industrial award, he was entitled to one meal break during his 10-hour shift. There was also a ‘gentlemen’s agreement’ to give call-takers a 10-minute break per hour, but only if possible’ Call-taker took two traumatic calls within half an hour but wasn’t spoken to about it until 5 hours later. ‘It was during that conversation, Matt disclosed the trouble he was having, and was given the resignation form and told to hand it in if he wanted to leave’ ‘If there is a high number of calls coming in, then workers are simply instructed to stay at their phones and plough on’ |