

**That was close: 'Near misses', 'dangerous occurrences' and 'hazardous exposures' in the Australian Army**

Orr, Rob Marc; Pope, Rodney R; Rigby, Timothy; Schram, Ben

*Licence:*  
CC BY-NC-ND

[Link to output in Bond University research repository.](#)

*Recommended citation(APA):*

Orr, R. M., Pope, R. R., Rigby, T., & Schram, B. (2017). *That was close: 'Near misses', 'dangerous occurrences' and 'hazardous exposures' in the Australian Army*. Australasian Military Medicine Association (AMMA) Conference 2017, Brisbane, Queensland, Australia.

**General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

For more information, or if you believe that this document breaches copyright, please contact the Bond University research repository coordinator.

# THAT WAS CLOSE:

## 'Near misses', 'dangerous occurrences' & 'hazardous exposures' in the Australian Army

<sup>1,2</sup>Robin M Orr, <sup>1,2</sup>Rodney Pope & <sup>2</sup>Rigby, T. & <sup>1,2</sup>Schram, B.

<sup>1</sup>Tactical Research Unit, Bond University, <sup>2</sup> Faculty of Health Sciences and Medicine, Bond University

Email: rorr@bond.edu.au

### INTRODUCTION

OH&S incidents, such as 'hazardous exposures', 'near misses' and 'dangerous occurrences', place the safety of military personnel at serious risk.

These incidents, which can differ between service type (e.g. full-time and reserve personnel) can serve as a warning to the military forces as to where future potential injuries and fatalities may occur if risk management strategies are not implemented.

AIM: The aim of this study was to investigate reported incidents in Australian Army personnel and examine differences between full-time (Australian Regular Army [ARA]) and part-time (Army Reserves [ARES]) personnel.



### METHODS

- A retrospective cohort study was conducted using data sourced from the Workplace Health, Safety, Compensation & Reporting (WHSCAR) database.
- Non-identifiable data spanning the period 1st July 2012 to 30th June 2014 were provided.
- **Data were included** in the study if the incident: (a) involved ARA or ARES personnel; (b) occurred when the soldiers were on duty or in training, and (c) occurred during service between 01 July 2012 and 30 June 2014.
- **Data were excluded** if the incident: a) was an injury or fatality, or b) was to a service animals.
- The Australian Defence Human Research Ethics Committee (Protocol LERP 14-024) and the Bond University Human Research Ethics Committee (Protocol RO1927) granted ethics approval for this study.

### RESULTS

- Of the reported 3,791 incidents, 96% involved ARA personnel and 4% ARES personnel.
- The ARA reported **6.18 incidents per 100 soldier-years of active service** and the ARES **3.29 incidents per 100 soldier-years of active service**.
- Across both populations, the leading activity for which an incident was reported was operations (n=2,096, 99.4%) followed by weapon firing (n=304, 8.0%) and unknown (n=206, 5.4%).
- The leading activities by type are shown in Figures 1 (ARA) and Figure 2 (ARES).

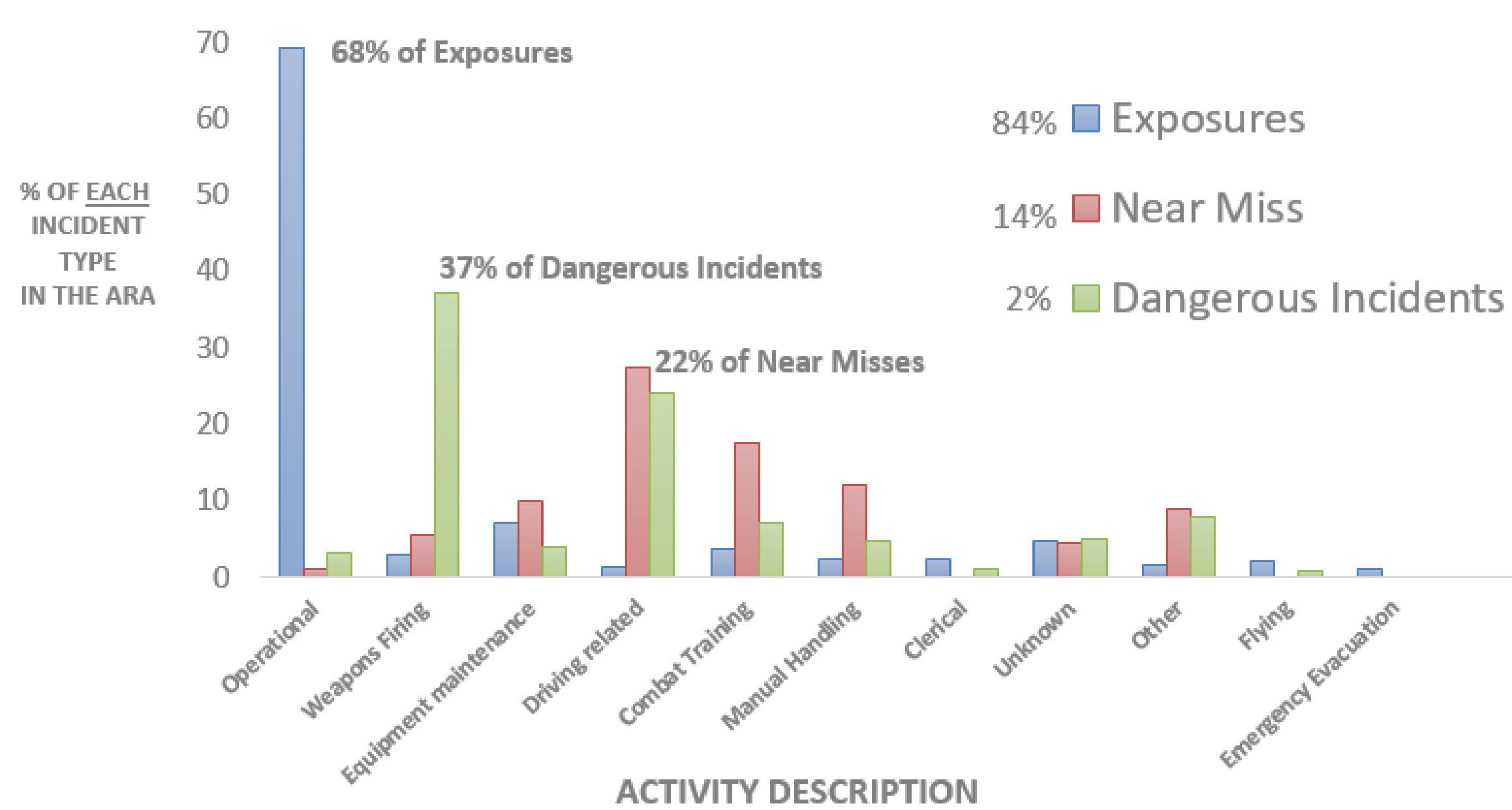


Figure 1: ARA Incidents and leading activities

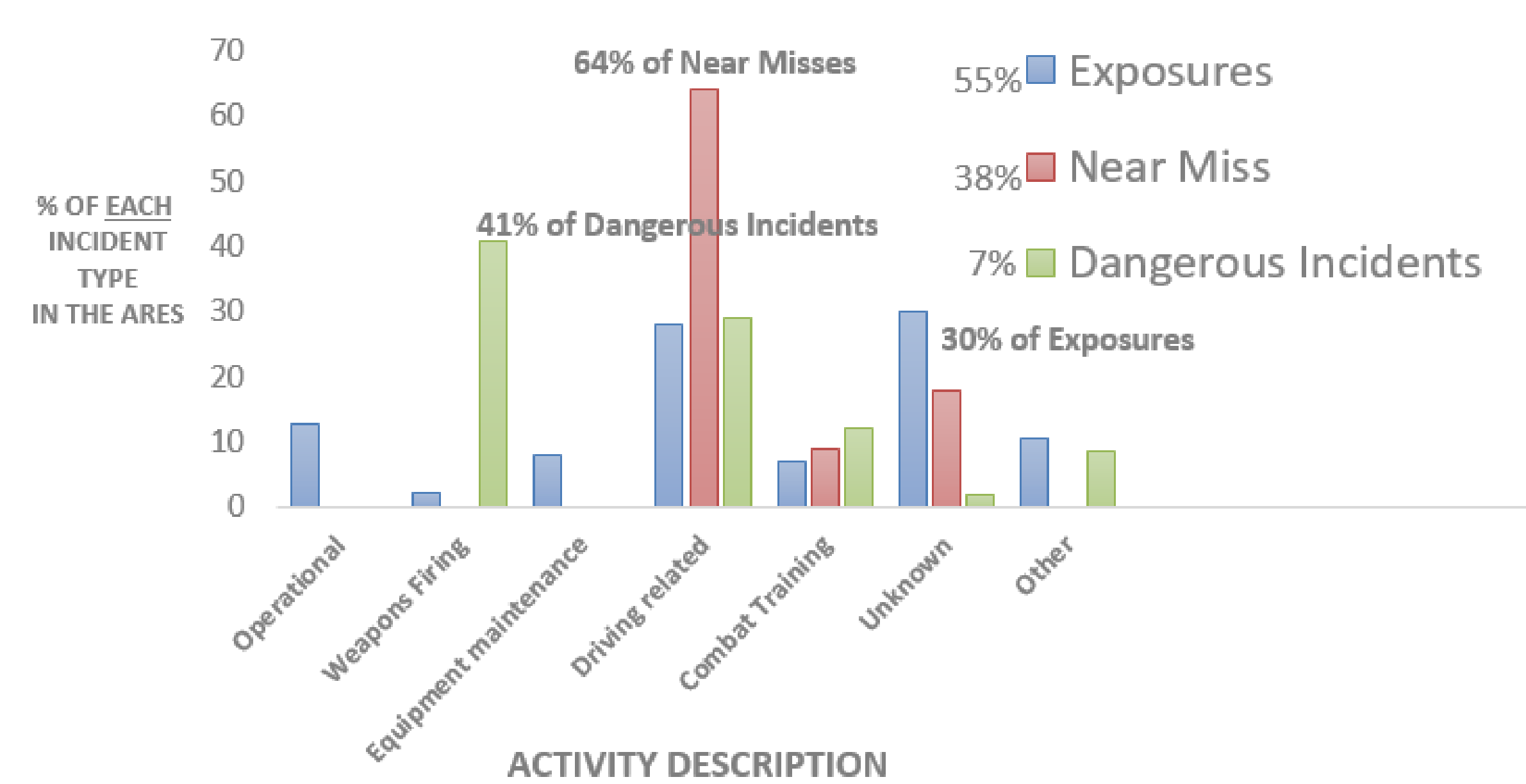


Figure 2: ARES Incidents and leading activities

### DISCUSSION & CONCLUSIONS

Apart from *exposures* reported by ARA personnel as being due mostly to **operations, weapon firing and driving** presented as the leading cause of incidents.

The risk of dangerous *exposures* and driving related incidents amongst army personnel when in military vehicles is supported by the literature.<sup>1,2</sup>

Likewise, weapons firing prevalence is a major threat to military personnel safety, with the U.S military finding 33% of battle fatalities and 10% of all injuries were due to weapons firing during the operation Iraqi freedom.<sup>3,4</sup>

A potential reason for the difference between ARA and ARES in *operations* and *combat training* may be due to ARES personnel being exposed to less chronic military duties and combat training.<sup>5</sup>

Previous studies have also shown **service ranks to greatly influence** the everyday risk faced by army personnel.<sup>6</sup>

Risk mitigation strategies, focussing on operational *exposures*, *weapons firing* and *driving* are recommended to reduce the level of risk and possibly injury, mortality and illness suffered by Australian Army personnel should be targeted towards the **Private (equivalent) / Corporal (equivalent)** ranks.

### REFERENCES

- <sup>1</sup> Bell, N. S.; Amoroso, P. J.; Yore, M. M.; Smith, G. S.; Jones, B. H., Self-reported risk-taking behaviors and hospitalization for motor vehicle injury among active duty army personnel. *American Journal of Preventive Medicine* 2000, 18 (3), 85-95.
- <sup>2</sup> Smith, G. S.; Dannenberg, A. L.; Amoroso, P. J., Hospitalization due to injuries in the military: evaluation of current data and recommendations on their use for injury prevention. *American Journal of Preventive Medicine* 2000, 18 (3), 41-53.
- <sup>3</sup> Plat, M. J.; Frings-Dresen, M. H. W.; Sluiter, J. K., A systematic review of job-specific workers' health surveillance activities for fire-fighting, ambulance, police and military personnel. *Int Arch Occup Environ Health* 2011, 84 (8), 839-857
- <sup>4</sup> Ryan, M. A.; Smith, T. C.; Smith, B.; Amoroso, P.; Boyko, E. J.; Gray, G. C.; Gackstetter, G. D.; Riddle, J. R.; Wells, T. S.; Gumbs, G., Millennium Cohort: enrollment begins a 21-year contribution to understanding the impact of military service. *Journal of clinical epidemiology* 2007, 60 (2), 181-191.
- <sup>5</sup> Orr, R.M., Pope, R.P., Knapik J.J., A physical training framework for reserve personnel: A rationalization and recommendations. *Strength & Conditioning Journal* 2016, 38: 36-41.
- <sup>6</sup> Lee, C., Socioeconomic background, disease, and mortality among Union Army recruits: Implications for economic and demographic history. *Explorations in Economic History* 1997, 34 (1), 27-55