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“Tell them what they want to hear and get back to work”: Insights into the utility of current occupational health assessments from the perspectives of train drivers

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ABSTRACT

Australian train drivers undergo periodic health assessments as part of a nationally standardised approach to reducing sudden incapacitation risk, given the demonstrated potential for occupational and public harm. These assessments occur pre-placement, then every 5 years to age 50, then every 2 years to age 60, and then every year. Despite some reported benefits to rail workforce health indicators since implementation, research suggests the assessments are not operating as effectively as they might. For example, the prevalence of obesity in drivers is higher than in the general population and continues to increase. To improve this, there is a need to understand the experiences of drivers undergoing workplace health assessments. The aims of this study were to examine train drivers' perceptions and experiences of the assessments, understand how these experiences shape their engagement with the process, and to generate recommendations for improvement from a systems thinking perspective. A qualitative design was used, involving semi-structured interviews within five focus groups of train drivers ($n = 29$) held across four Australian rail organisations. Questions addressed drivers' backgrounds, their understanding of the National Standard, experiences of and attitudes towards health assessments, lifestyle risk factors, and personal approach to health and wellbeing. Transcript data were subjected to thematic analysis. Five factors were identified: drivers' unmet information needs, perceived low reliability and validity of assessment, need for psychological wellbeing assessment and support, maladaptive threat avoidance strategies, and focus on short-term outcomes and compliance. The global theme was reactive organisational culture. Findings suggest that driver engagement with health assessment can be improved by proactively addressing the identified factors in occupational health initiatives and preventative interventions to tackle the burgeoning problem of train driver health impairment.

1. Introduction

The importance of train driver health for safety is evident in rail incidents that have arisen from health-related factors. In Australia, the 2003 Waterfall train derailment occurred after the driver collapsed from a cardiac event at the helm, leading to many deaths and injuries (Hocking, 2006). Waterfall was a disastrous accident; among the factors implicated, the inquiry targeted health

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management policy, and identified a requirement for better, more informed occupational health assessment processes recognising the specific risks in this transport sector. A year after the Waterfall derailment, a National Standard for Health Assessment of Rail Safety Workers (National Transport Commission, 2004, 2012, 2017a) (herein referred to as ‘the Standard’) was introduced, requiring periodic individual health assessment for rail safety workers at pre-placement, then every 5 years to the age of 50, then every 2 years to the age of 60, and then on an annual basis. Health assessments are conducted by Allied Health Professionals (AHPs), selected by the rail transport operator on the basis of their compliance with specified selection criteria.

A broad range of rail safety workers are subject to the health assessments within the Standard, determined by a risk management approach that considers the extent to which the worker is fit for duty; that is, the extent to which physical or psychological health could contribute to a serious incident on the rail network (e.g. collision, derailment). For example, single-operator train drivers are categorised as Category 1 Safety Critical Workers, based on rail work considered to require high levels of task attentiveness where sudden incapacity or collapse (e.g. from a heart attack or blackout) is likely to directly affect public or rail network safety. Signallers are categorised as lower tier Category 2 Safety Critical Workers, indicating that while their tasks also require them to be attentive, the nature of their duties, or fail-safe mechanisms in the system (in this case, signal control), ensures that sudden incapacity would have a lesser effect on public or rail network safety. Finally, track workers are classified as Non-Safety Critical Workers, so-called because despite working in and around the track and moving trains (a personally unsafe environment), their actions or inactions are deemed to have little impact on public or rail network safety.

While the Standard does not explicitly define health, it considers the health and fitness of workers in relation to their ability to perform rail safety duties. The periodic health assessment¹ of train drivers within the Standard (National Transport Commission, 2004, 2012, 2017a) includes a self-reported health questionnaire consisting of a medical conditions history and the Epworth Sleepiness Scale (ESS, Johns, 1991); 10-item Alcohol Use Disorders Identification Test (Babor et al., 2001); 10-item K10 psychological distress scale assessing anxiety and depression (Kessler et al., 2002); and single-item questions on sleeping patterns, smoking status, illicit drug use, experiences of difficulty completing tasks and involvement in accidents or near-misses (Y/N). Clinical assessments should involve hearing, vision and musculoskeletal capacity testing. Clinical cardiovascular examination should include blood pressure, pulse rate, heart sounds, resting ECG, and calculation of overall cardiac risk level score (calculated from age, sex, smoking status, blood pressure, fasting cholesterol and diabetic status). Diabetes is assessed via history or HbA1c testing. Body Mass Index (BMI, kg/m²), blood pressure reading and presence of diabetes should be considered alongside the ESS score to assess risk of sleep disorders.² Guidelines for categorisation as ‘fit’ (unconditional/conditional/subject to review/subject to job modification) or ‘unfit’ (temporarily/permanently) following the above assessments are presented in the Standard.

The Standard has been revised twice (in 2012 and 2017) since its introduction in 2004, but evidence for its effectiveness remains mixed. For example, a file review of health records comparing the prevalence of health conditions in RailCorp drivers (based in New South Wales) between 2004/5 and 2009/10 reported that, during this period, the proportion of drivers with systolic blood pressure ≥ 140 mmHg and total cholesterol ≥ 5.5 mmol/L had decreased, as had rates of self-reported smoking (Mina and Casolin, 2012). However, the same study reported an increased prevalence of obesity, pre-diabetes and diabetes, and no improvement in overall cardiac risk score. Later analysis of data relating to obstructive sleep apnoea prevalence demonstrated that sleep apnoea in the workforce was more widespread than originally reported, showing an increase from 2% in 2009 to 7% following the introduction of revised assessment procedures in 2012 (Colquhoun and Casolin, 2015). Given that: (1) the rates of obesity in drivers exceeds that of the Australian general population and is increasing (Chapman and Naweed, 2015; Mina and Casolin, 2007, 2012); (2) a strong relationship exists between obesity, sleep apnoea and metabolic syndrome (Jennum and Riha, 2009); and (3) the lack of evidence to demonstrate improvement to overall cardiac risk, it is clear that further work is needed.

Furthermore, train driving is classified as one of the highest “at risk” occupations for stress and work-related mental disorders (Read et al., 2012; Safe Work Australia, 2015), and in line with transport occupations more generally, is increasingly recognised as detrimental to general health and wellbeing (Apostolopoulos et al., 2016; Naweed et al., 2017a; Naweed et al., 2017b). Other countries facing similar concerns have identified the need for more consistent industry-wide medical programs (e.g., the US, Federal Railroad Administration, 2005; Weikel, 2014), prompting the development of large-scale health and wellbeing roadmaps and related policy (e.g., the UK, Rail Safety Standards Board, 2016). Similarly, a more comprehensive whole-of-workplace approach is likely to be beneficial in the Australian context.

1.1. Health assessments within the national standard for health assessment of rail safety workers: A systems thinking perspective

As described, the focus of the Standard is to monitor and manage risk in relation to the health and fitness of workers, defending against injury, incapacitation, death, and environmental or property damage (e.g., from collision, derailment). In addition to the formal revisions, in December 2017, a white paper was distributed for public consultation asking whether rail health assessments

¹ Health assessments are described colloquially as “medical” by train drivers and other industry professionals. In line with the Standard, we refer to them as health assessments in this paper, apart from direct quotes from participants where we retain the word “medical” to preserve the discourse.

² The Standard also features other tests such as neurological examinations (e.g. seizures/dementia) when rail safety workers “have had an injury or illness affecting mental processes to help gauge recovery and suitability for work” (National Transport Commission, 2017a, p. 69). Drug and alcohol screening is not routinely included in the periodic assessment. Psychosocial factors are not assessed. Following the periodic health assessment, additional testing or referral may occur if a potentially significant problem is suspected.

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