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HOSPITAL-TREATED INJURY RESULTING FROM OCCUPATIONAL VIOLENCE AND AGGRESSION IN HEALTHCARE SETTINGS IN VICTORIA, 2016/17–2020/21

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OVERVIEW

This issue of *Hazard* analysed occupational violence and aggression (OVA) injuries sustained by Victorian workers in healthcare settings during the five-year period 2016/17 to 2020/21 that resulted in an admission to hospital or an emergency department (ED) presentation. Workers in health settings continue to face unacceptable and preventable risks of violence with some reports stating that '*almost every hour a health worker is bitten, spat at, punched, abused or threatened while trying to care for patients in Victorian hospitals*' (Spooner et al., 2016). In the first five months of 2020, it was reported that 50 workers in Victorian hospitals, ambulance services and medical clinics were not able to work as a result of an OVA-related incident (McArthur et al., 2022).

The aim of this edition of Hazard was to provide an in-depth epidemiological overview of hospital-treated OVA-related injury among workers in healthcare settings from 2016/17 to 2020/21 (5 years). Injury frequencies and rates of hospital admissions and ED presentations were provided as well as setting-specific OVA incident data for health workers. Throughout this report, hospital-treated OVA-related incident data in all industry settings were included for comparison purposes except for results involving narrative analysis.

The data sources for this report were hospital admissions recorded in the Victorian Admitted Episodes Dataset (VAED) and ED presentation records held in the Victorian Emergency Minimum Dataset (VEMD). Both datasets are provided to the Victorian Injury Surveillance Unit (VISU) by the Victorian Department of Health. All-industry Victorian Labour Force data and Victorian healthcare and social assistance (HCSA) industry labour force data were sourced from the Australian Bureau of Statistics (ABS).

The systematic collection of data on OVA-related hospital-treated injuries in healthcare is vital in providing information on the causes of injury, identifying associated risk factors, at-risk groups, emerging injury patterns and quantifying the overall scale of injury.

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EXECUTIVE SUMMARY

BACKGROUND

Occupational violence and aggression (OVA) towards workers in the Healthcare and Social Assistance (HCSA) industry accounts for a significant proportion of all reported OVA-related incidents both in Australia and around the world (Victorian Auditor-General, 2015). The World Health Organisation (WHO) (2022) estimates that between 8% and 38% of healthcare workers suffer physical violence at least once in their careers, while WorkSafe Victoria (2022) states that up to 95% of healthcare workers have experienced verbal or physical assault. According to Safe Work Australia (2021), the impact of OVA-related incidents can have both short and long-lasting effects on a worker's health. It can lead to both physical injury and illness as well as develop into psychological harm for the worker experiencing the behaviour. Frequent aggressive behaviours (e.g., swearing, yelling, making offensive comments) directed at workers can also have a cumulatively negative impact on a worker's mental and physical health.

The aim of this edition of Hazard was to provide a detailed overview of workers experiencing OVA-related injury in healthcare settings resulting in hospital treatment, in terms of hospital admissions and ED presentations. A 'healthcare setting' included hospitals, health service areas, healthcare centres, day procedure centres, residential care (aged and other types of supported accommodation), GP clinics, disability services, psychiatric units and facilities, and hospital in the home (HITH) arrangements. In addition, non-typical locations such as trade/service areas and roads were included if the incident involved a healthcare worker (e.g., ambulance worker/paramedic, disability support worker, social worker, police assisting a health worker). This can include nurses, GPs, and other associated staff at medical clinics/practices, personal assistant/care workers and associated workers tending to patients or clients in their homes and other non-traditional healthcare settings.

SUMMARY OF MAIN FINDINGS

During the five-year period 2016/17 to 2020/21, there were 181 hospital admissions and 1171 ED presentations for OVA identified as occurring in a healthcare setting among Victorian workers aged 18 years and over. This represented an average of 36 admissions and 234 ED presentations per year for the period under study. The average annual rate per 100,000 employed persons working in the HCSA industries for admissions was 8.2 and the average annual rate for ED presentations was 53.2 per 100,000. During this period, healthcare setting OVA-related hospital admissions accounted for 20.6% of all coded occupational violence-related admissions (n=878) and 46% of all coded occupational violence-related ED presentations (n=2,542).

Limitations within the Victorian Admitted Episodes Dataset (VAED) and Victorian Emergency Minimum Dataset (VEMD) in terms of coding may not have allowed for complete capture of all hospital-treated OVA injury incidents in healthcare settings. However, the inclusion of a descriptive narrative text regarding the circumstances of injury events in the VEMD is a unique feature of this dataset, and when completed, can provide valuable information not adequately described by standard health coding systems.

HOSPITAL ADMISSIONS

FREQUENCY AND RATE PROFILE

- There were 181 hospital admissions for OVA-related injuries among workers aged 18 years and over occurring in healthcare settings selected from the VAED for the five-year period from 1 July 2016 to 30 June 2021. This represents an annual average of 36.2 admissions per year.
- The average annual admission rate was 8.2 per 100,000 employed persons in the HCSA industry; 1.6 times higher than the average annual admission rate for OVA in all industries (5.3 per 100,000 employed persons).
- More females (n=106, 58.6%) were admitted to hospital overall; however, in terms of rates, males had a much higher annual average admission rate of 15.6 per 100,000 employed males in HCSA industries compared to females with a rate of 6.2 per 100,000.
- Admission rates were steady for males over the five-year period but dipped for females during 2020/21, recording an admission rate of 3.8 per 100,000 employed females in the HCSA industries for that financial year. The rate was 7.4 during the previous year (2019/20).

AGE AND SEX DISTRIBUTION PROFILE

- Workers aged 25–29 years were the peak-affected age group, representing 17.1% of the cohort; the next highest proportion for healthcare industry workers was among 55–59 year-olds (13.8%) followed by 45–49 year-olds (13.3%).
- The average age of persons in healthcare setting cases was 41.8 years, slightly older compared to those in all-industry OVA cases recording an average age of 39.8 years. Female cases were similar in age on average, 39.9 years and 40.0 years for healthcare workers and all-industry workers, respectively. Male cases working in healthcare settings tended to be older on average (44.6 years) compared to male cases in all industries combined (39.7 years).
- Male workers in healthcare settings tended to be older with over half (56%) aged 45 years and above with the highest proportion aged between 45–54 years (29.3%). Additionally, a large proportion (28.0%) were aged between 25–34 years.
- Female workers in healthcare settings tended to be younger with 60% aged 44 years and below; the highest proportion (31.1%) were aged between 25–34 years while a significant proportion (19.8%) were aged 45–54 years.
- In healthcare settings, a high proportion of 18–24 year-old workers was observed among females, accounting for 11.3% of admissions compared with male workers in the same age group accounting for 2.7% of males.

CIRCUMSTANCES AND CAUSES OF INJURY PROFILE

- Overall, 20.6% of OVA-related injury admissions in all settings/industries occurred in healthcare settings specifically. Focusing on OVA in healthcare settings alone (n=181), 74.0% (n=134) occurred in health service areas, and the remaining proportion (12.7%, n=23) occurred in aged care facilities. A small number of OVA-related injury admissions for healthcare workers occurred in non-typical settings such as trade and service areas, public roads, streets or highways and private residences or homes.
- For OVA-related injury admissions in healthcare settings, 76.8% (n=141) coded the perpetrator as 'other specified person', followed by a 'stranger' (12.7%, n=23) and a 'person known to the victim' (5.5%, n=10).
- The major cause of OVA-related injury admissions in healthcare settings were bodily force (85.6%, n=155), followed by assault with a blunt object (3.9%, n=7) and assault with a sharp object (2.8%, n=5).

INJURY PROFILE

- OVA-related injury admissions in healthcare settings were commonly superficial injuries (12.7%, n=23), fractures (7.2%, n=13), open wounds (6.6%, n=12), and intracranial/head injuries (4.9%, n=9). A large proportion (58.0%, n=105) were coded as 'other specified and unspecified' injuries. In contrast, just over a quarter (27.8%, n=244) of OVA-related injury admissions in all industry settings were due to fractures, followed by open wounds (14.7%, n=129) and superficial injuries (10.8%, n=95).
- More than half of OVA-related injury admissions in healthcare settings involved the head/face area (51.4%, n=93), mostly superficial injuries to the head (8.8%), intracranial injuries (concussion, etc.) accounting for 5.0% (n=9), open wounds to the head (3.9%, n=7), eye/orbit injuries (3.9%, n=7) and skull/facial bone fractures (3.3%, n=6).
- Other commonly injured body regions included the abdomen/lower back/lumbar spine/pelvic area accounting for 17.1% (n=31) of admissions, followed by the neck (7.7%, n=14) and shoulder/upper arm (7.2%, n=13). Broadly, the head/face/neck area accounted for the majority of admissions (59.1%), followed by the trunk area (21.0%), upper extremity (13.8%) and lower extremity area (4.4%).

CLINICAL PROFILE

- Approximately 54% of OVA-related injury admissions in healthcare settings were WorkCover compensable admissions and 45.3% were recorded as public (Medicare-funded) patients.
- Patients admitted and discharged from hospital on the same day accounted for 74.0% (n=134) of admissions.
- Most patients were discharged to home (97.2%) with the remaining proportion either transferred to another facility, left against medical advice or underwent some other specified type of separation.
- OVA-related injury admissions in healthcare settings were commonly admitted to the following clinical speciality units: General Medicine unit (34.3%), followed by Neurology (27.6%), Plastics (12.2%) and Orthopaedics (10.5%).
- The peak day of the week for OVA-related injury healthcare setting admissions occurred on Fridays accounting for 17.7% of admissions, followed by Tuesdays (16.6%) and Thursdays/Saturdays (14.9%). The lowest proportion occurred on Mondays (11.0%).
- The peak month for admissions was March accounting for 11.0% of OVA admissions in healthcare settings followed by December/January (both 10.5%) and the lowest occurred in August (5.5%).

EMERGENCY DEPARTMENT (ED) PRESENTATIONS

FREQUENCY AND RATE PROFILE

- There were 1171 ED presentations for OVA-related injuries among workers aged 18 years and over occurring in healthcare settings selected from the VEMD for the five-year period from 1 July 2016 to 30 June 2021. This represents an annual average of 234.2 ED presentations per year.
- The average annual ED presentation rate was 53.2 per 100,000 employed persons in the HCSA industry; 3.5 times higher than the average annual ED presentation rate for OVA in all industries (15.4 per 100,000 employed persons).
- Slightly more male workers in healthcare settings presented to the ED overall (55.2%, n=646) with an average of 129 ED presentations per year compared to females (44.8%, n=525) averaging 105 ED presentations annually during the five-year study period.
- In terms of rates, this sex difference was amplified with males working in healthcare settings having a much higher five-year average ED presentation rate of 135.3 per 100,000 than females in the same setting at 30.5 per 100,000 females employed in HCSA industries per year.
- ED presentation rates fluctuated for males over the five-year period, peaking in 2017/18 at 171.7 per 100,000 males employed in the HCSA industries and lowest in 2016/17 at 97.8 per 100,000. Rates remained steady for females, peaking in 2018/19 at 33.5 per 100,000 employed females in the HCSA industries and lowest in 2019/20 at 27.0 per 100,000.

AGE AND SEX DISTRIBUTION PROFILE

- Workers aged 25–29 years were the peak-affected age group, representing 17.7% of the cohort; the next highest proportion for healthcare industry workers was among 30–34 year-olds (14.0%) followed by 35–39 year-olds (11.3%) and 50–54 year-olds (10.3%).
- The average age of persons in healthcare setting cases was 40.4 years, marginally older compared to those in all-industry OVA cases recording an average age of 39.0 years. Male workers were slightly older with an average age of 41.1 years while female workers had an average age of 39.6 years.
- In healthcare settings, ED presentations for male and female workers had very similar distributions in terms of age group categories. The highest proportion for both sexes was observed for those aged between 25–34 years (males: 30.0%, females: 33.7%), followed by workers aged 35–34 years (males: 20.4%, females: 19.8%).

CIRCUMSTANCES AND CAUSES OF INJURY PROFILE

- Overall, following adjustment of the location of injury variable through narrative analysis, it was found that 83.9% (n=983) of ED presentations took place in a hospital or health service area and 6.7% (n=79) took place in aged care facilities.
- The type of perpetrator involved in the OVA-related injury incident was identified through narrative analysis of the event description variable. Patients (not further defined – NFD) accounted for the majority of perpetrator types (44.2%, n=517), followed by psychiatric/mental health patients (11%, n=129) and aged care/nursing home residents (2.0%, n=23). Insufficient perpetrator information was provided for a large proportion of cases (37.7%, n=441).
- The occupation or role of the injured worker affected by the OVA-related incident was not specified for a large proportion of cases (60.2%, n=705). The term 'staff' was frequently used to refer to a worker of the same facility (usually hospital) they were presenting to for their injury. Staff NFD (at this facility) accounted for 17.2% (n=201) of OVA-related ED presentations in healthcare settings followed by hospital security officers (7.3%, n=85). Other worker types mentioned included nurses, mental health/psychiatric services workers, aged care worker, psychiatric nurses/mental health nurses, disability support workers, doctors and ambulance workers.
- The major coded cause of OVA-related injury ED presentations in healthcare settings was being struck by or colliding with another person (73.4%, n=859), followed by being struck by/colliding with an object (6.1%, n=72) and cutting/piercing object (3.8%, n=44).
- Narrative text analysis was used to expand on the 'causes of injury' VEMD variable and create a new variable that categorised the 'mechanisms of injury' in more detail. In instances where the narrative text was lacking in detail, the code or value from the VEMD cause variable was applied instead. The most common mechanisms of injury for this group were:
  - Being struck or hit by another person (exact cause not further defined) accounting for 450 ED presentations (38.4%)
  - Workers being punched by the perpetrator (12.7%, n=149)
  - Being bitten (8.7%, n=102)
  - Scratched (7.9%, n=92)
  - Hit with an object (5.7%, n=67)
  - Being kicked or kneed (5.2%, n=61)
  - Having their arm/hand/hair or other body parts pulled, grabbed or twisted (4.0%, n=47)
  - Being spat on in the face, mouth or eye (2.5%, n=29)
  - Less than 2% each were a result of cutting/piercing injuries, being pushed or shoved, strangled/choked, being head-butted, held down and tackled and having hot substances thrown at them.

- Up to four factor codes were created to flag details of interest within the 'description of injury event' variable. These variables included categories describing factors, situations, objects, circumstances, names of specialised healthcare units and any other relevant information relating to the OVA incident that may be of interest. Overall, 416 cases (35.5%) recorded at least one factor code, some of which recorded up to 4 factors of interest. In total, 544 factors were observed within the narrative text variable. The most common factor observed in the narrative text variable was:
  - The mention of a psychiatric unit or mental health ward in a hospital (n=89 responses, 16.1% of responses) or 21.4% of cases; specific (named) acute psychiatric inpatient units or mental health services involved in the injury event were mentioned in 15.9% of cases (n=66 responses)
  - Mention of a ward or inpatient unit accounting for 11.2% of responses and 14.9% of cases
  - The task of restraining a patient and sustaining an injury from that patient was recorded in 35 instances, representing 8.4% of cases
  - Other common factors included the terms 'agitated, aggressive' (10.8% of cases), emergency department (9.9% of cases), 'spit, saliva' recorded by 5.8% of cases
  - Other factors or objects involved in the injury event included chairs, bottles, glass, plates, knives, walking sticks and meal trays. Some perpetrators were drug affected, intoxicated, confused or disorientated, verbally aggressive or suffering from dementia.

INJURY PROFILE

- OVA-related injury in healthcare settings resulting in an ED presentation were commonly superficial injuries (35.4%, n=415), dislocations/sprains/strains (15.9%, n=186), open wounds (10.2%, n=120) and muscle and tendon injuries (6.6%, n=77).
- Approximately a third of OVA-related injury ED presentations involved the head/face area (34.1%, n=399), followed by upper extremities such as the wrist/hand (18.4%, n=215), elbow/forearm (11.6%, n=136) and shoulder/upper arm (9.6%, n=113). Multiple body region injuries made up 6.7% (n=78) of cases.

CLINICAL PROFILE

- Almost three-quarters (73.7%) of OVA-related injury ED presentations in healthcare settings were WorkCover compensable cases while 26.3% were recorded as public (Medicare-funded) patients.
- Workers presenting to the ED were mostly triaged as semi-urgent (recommended time to treatment less than 60 minutes) accounting for 50.1% (n=587) of presentations, followed by the urgent group (recommended time to treatment less than 30 minutes) at 24.4% (n=286) and non-urgent group (recommended time to treatment less than 2 hours) at 20.8% (n=244). A small proportion were treated as emergency patients (4.6%, n=54) requiring treatment within 10 minutes.
- While a high proportion of cases (94.0%) were discharged to home, a significant proportion were referred to GPs/local medical officers for ongoing care (60.4%, n=707).
- The peak day of the week for OVA-related injury healthcare setting ED presentations was Fridays (16.8%) and the trough was Mondays (12.4%).
- The peak month for OVA-related ED presentations was May (10.1%), followed by June (9.6%) while the lowest occurred in July (6.7%).

REPORTED OVA INCIDENT STATISTICS IN SELECTED HEALTHCARE SETTINGS

Reported OVA statistics were drawn from various publicly available sources across a selection of healthcare sectors and providers. These included a random selection of five major Victorian public hospital/healthcare networks and Ambulance Victoria. Section C of this edition of Hazard includes brief descriptions of each health service, OVA-related incident statistics and OVA-related prevention activities and initiatives undertaken by each organisation to provide some insight on their varied approaches towards this issue. A comparable statistic to report across these organisations is the number of OVA incidents reported per 100 full-time equivalent (FTE) staff as summarised in Table 1. During the 2020/21 period the rate of OVA incident reporting ranged between 11.4 and 26.9 per 100 FTE for these selected organisations.

TABLE 1
OVA-RELATED INCIDENCE DATA (PUBLICLY AVAILABLE): ST VINCENT'S HOSPITAL MELBOURNE, PENINSULA HEALTH, THE ROYAL MELBOURNE HOSPITAL, LATROBE REGIONAL HOSPITAL, EASTERN HEALTH AND AMBULANCE VICTORIA

Number of occupational violence incidents reported per 100 (YTD) FTE*	2020/21	2019/20	2018/19	2017/18	2016/17
St Vincent's Hospital Melbourne	17.9	15.6	11.6	9.9	11.0
Peninsula Health	25.0	31.0	27.0	22.0	16.2
The Royal Melbourne Hospital	26.9	15.6	30.3	26.7	26.4
Latrobe Regional Hospital	26.1	15.4	22.3	24.1	33.1
Eastern Health	16.1	15.6	11.4	11.1	9.4
Ambulance Victoria	11.4	13.1	13.2	12.7	12.5

***Sourced from organisational annual reports.**
Occupational violence – any incident where an employee is abused, threatened or assaulted in circumstances arising out of, or in the course of their employment.
Incident – Occupational Health and Safety incidents reported in the health service incident reporting system. Code Grey reporting is not included, however, if an incident occurs during the course of a planned or unplanned Code Grey, the incident must be included.
YTD FTE – Year to date full-time equivalents (represents the average number of FTE throughout the year).

INTRODUCTION

Occupational violence and aggression (OVA) behaviour is completely unacceptable in any workplace and for any worker to experience. All workers are entitled to a safe and supportive working environment to perform their duties and to return home safely. WorkSafe Victoria, the workers' compensation scheme in Victoria, Australia, defines occupational violence as *"incidents in which a person is abused, threatened or assaulted in circumstances relating to their work. This definition covers a broad range of actions and behaviours that can create a risk to the health and the safety of employees"* (WorkSafe Victoria, 2020b). The perpetrators of occupational violence can range from patients, clients, customers, the public and even co-workers. Occupational violence incidents can include:

- harassment or aggressive behaviour that creates a fear of violence: eye rolling, sneering, yelling, swearing, calling names, stalking, verbal threats or abuse, standing over someone
- intentionally coughing or spitting on someone
- hazing or initiation practices for new or young workers
- scratching, shoving, tripping, grabbing
- hitting, punching, kicking, pushing, throwing objects
- threatening someone with an object or weapon
- online harassment, threats or abuse
- assault with a weapon
- sexual assault or any other form of indecent physical contact
- gendered violence, defined as any behaviour directed at any person that affects them because of their sex, gender or sexual orientation, or because they do not adhere to socially prescribed gender roles, that creates a risk to health and safety (Safe Work Australia, 2021).

Several acts described above, particularly assault, stalking and obscene or threatening communications (e.g., phone calls, texts, emails) are potentially considered to be offences under criminal law and should be referred to Police as well as managed under OHS laws. OVA can occur at a worker's usual workplace, or where a worker is working off-site or working remotely including working in their home or at a different location such as a client's or patient's home (Safe Work Australia, 2021).

IMPACT OF OVA

According to Safe Work Australia (2021), the impact of OVA-related incidents can be short and long-lasting on a worker's health. It can lead to both physical injury and illness as well as develop into psychological harm for the worker experiencing the behaviour. Frequent aggressive behaviours (e.g., swearing, yelling, making offensive comments) directed at workers can also have a cumulatively negative impact on a worker's mental and physical health. WorkSafe Victoria (2020b) highlights the importance of managing psychological health and safety in the workplace particularly for people working in environments where there is an inherent risk of violence or where violence is anticipated. This can cause psychological injury, fear or distress and impair a worker's ability to function, exacerbate an injury and hinder recovery. Safe Work Australia (2021) lists the following effects of OVA behaviour directed at workers:

- feelings of isolation, social isolation or family dislocation
- loss of confidence and withdrawal
- physical injuries as a result of assault
- stress, depression, anxiety or post-traumatic stress disorder (PTSD)
- illness such as cardiovascular disease, musculoskeletal disorders, immune deficiency and gastrointestinal disorders, e.g., as a result of stress, and
- suicidal thoughts.

There are also significant economic costs to the healthcare sector associated with OVA-related incidence such as sick leave, legal action, diminished staff effectiveness, and the recruitment and retention of staff (Victorian Auditor-General, 2015). OVA-related incidences can occur in any industry but are most common in industries involving work with public or external clients such as the healthcare and social assistance sectors (e.g., nurses, doctors, paramedics, allied health workers, child protection workers, residential and home carers), aged care sector, disability services, youth services, education, law enforcement, retail, hospitality, security, cash-handling, finance and banking industries (WorkSafe Victoria, 2016; Safe Work Australia, 2021).

HEALTHCARE SETTINGS AND THE HEALTHCARE WORKFORCE

Occupational violence towards workers in the healthcare and social assistance (HCSA) industries accounts for a significant proportion of all reported OVA-related incidents both in Australia and around the world (Victorian Auditor-General, 2015). The World Health Organisation (WHO) (2022) estimates that between 8% and 38% of healthcare workers suffer physical violence at least once in their careers, while WorkSafe Victoria (2022) states that up to 95% of healthcare workers have experienced verbal or physical assault. In Australia, the healthcare workforce is substantial and comprises a range of occupations including registered health practitioners as well as other health professionals and health support workers. In 2020, there were more than 642,000 registered health practitioners in Australia including 105,300 medical practitioners, 350,000 nurses and midwives, 21,500 dental practitioners and 166,000 allied health professionals (Australian Institute of Health Welfare, 2022). The majority of registered health practitioners in Australia were female (except for medical and dental practitioners), and aged between 20–34 years. Australian Bureau of Statistics (ABS) 2021 Census workforce data included all workers (registered practitioners and all other worker types) associated with the HCSA industry. The ABS found that in 2021, the HCSA industry was the largest employing industry in Australia, accounting for 14.5% of the workforce, followed by Retail Trade (9.1%) and Construction (8.9%) (Australian Bureau of Statistics, 2021). It also found that the HCSA industry in Australia comprises 1.7 million workers, of which 30% are working in hospitals.

Healthcare settings, and hospitals in particular, are stressful places. Patients and their families are going through stressful and uncomfortable experiences, usually involving pain and in environments that are unfamiliar and very busy (Moylan, 2017). There is also an element of frustration with processes that may be routine for members of the healthcare workforce, but are new and not always comprehensible from the perspective of the patient or carer. For some people, these contextual factors can lead to feelings of aggression (Australian Commission on Safety and Quality in Health Care, 2022; Lim et al., 2022). Based on national and international research, the Victorian Auditor-General (2015) report identified the following as 'high-risk settings':

- emergency departments
- mental health settings
- drug and alcohol clinics
- paramedic/ambulance call outs
- aged care settings
- maternity wards
- intensive care units
- other areas where high stress incidents occur or where there are few staff and limited support.

The same report also identified common contributing factors to OVA-related incidents in healthcare settings which included:

- ***characteristics of some medical conditions*** – such as dementia, delirium, mental illness or head trauma, where violence or aggression is a potential clinical symptom
- ***characteristics of individuals*** – such as the attributes of the aggressor who may have a history of substance abuse or difficulty dealing with stressful situations, or the characteristics of the victims, such as their level of work experience or communication skills
- ***characteristics of the relationship*** – such as the nature of the daily routine and relationships with the patient involving rules, limit-setting, practices around visitor and patient movements, and processes for undertaking caring duties
- ***organisational and environmental factors*** – such as the physical layout of the environment, procedures and policies, wait times and staffing practices including access to security or other support
- ***societal factors*** – such as community acceptance of violence, or attitudes towards authority.

OVA PREVALENCE IN HEALTHCARE SETTINGS

Aggregated national and state-wide OVA-related incident data in healthcare settings are not readily available as systematic reporting differs across various healthcare services and focuses on specific worker groups rather than the healthcare sector as a whole (Mayhew et al., 2003). Workers compensation data provide some insight on the prevalence of OVA-related injury but only represent more severe incidents rather than the full spectrum of OVA-related incidence in healthcare. In addition, it is widely believed that workers under-report OVA-related incidents with some studies estimating a reporting rate as low as 10% (Mayhew et al., 2003; WorkSafe Victoria, 2022). Several factors associated with under-reporting included the severity of the injury (the more severe, the more likely it will be reported) and the tolerance of lower-level violence which may be an everyday occurrence that becomes accepted as a normal part of the job (Mayhew et al., 2003).

Other reasons for under-reporting, as identified in the Victorian Auditor-General (2015) report through site visits and key stakeholder interviews included:

- the cumbersome nature of incident reporting systems
- staff have compassion and sympathy for patients whose aggression arises from a clinical condition – staff reported feeling that the patient 'couldn't help it'
- the view that clinical violence is an inevitable part of the job – for example, interviews elicited repeated comments that the frequency of OVA incidents meant that if staff reported every incident 'you would be reporting all day'
- staff perceive a lack of management action in responding to incidents – analysis of incident reports highlighted poor investigation and response for any but the most serious of incidents
- logistical and equipment barriers to reporting – including being required to complete a report after a shift ends and difficulty accessing computers.

The same report also identified the types of OVA-related incidents that were more likely and least likely to be reported. Factors associated with OVA incidents more likely to be reported included: significant physical injury, repeated occupational violence or aggression from the same patient, weapons and deliberate intention to cause harm. OVA incidents unlikely to be reported involved injuries not requiring medical attention, near misses, verbal abuse, and mental or psychological distress (Victorian Auditor-General, 2015).

OVA-related incidence varies among different work environments and roles within the healthcare sector (Chataway, 2021). Liu et al. (2019) conducted a systematic review and meta-analysis on workplace violence prevalence among healthcare workers and found higher incidence rates for those working in psychiatric and mental health settings and emergency departments. They also found that men, more experienced healthcare workers, white populations, doctors, nurses, single/unmarried healthcare workers and those working longer hours were more likely to experience physical violence in their workplace. Due to the frontline, face-to-face nature of the work healthcare workers do, they are more likely to deal with people in highly stressful, unpredictable and volatile situations. Examples of these situations include treating patients with clinical conditions that involve violent behaviour, dealing with concerned family members who may become increasingly agitated around the handling of the patient they're related to, and patients with alcohol or drug-affected aggressive behaviour (Victorian Auditor-General, 2015).

OVA-related injury incidence in healthcare settings is widely reported in the news media and is a growing concern for the community at large as well as for workers in the industry. Headlines and online newspaper articles for Victoria from the past five years include:

- **"Data shows 15 incidents of violence against health workers are being reported every week"** – Herald Sun, October 8, 2022
  Assaults on Victoria's hospital staff have doubled in just three years, with new calls for urgent action to protect them.
- **"Healthcare workers physically, verbally abused by aggressive patients"** – Herald Sun, June 27, 2022
  Healthcare workers are increasingly abandoning their workplaces as abusive Victorian patients blow up at them, physically and verbally.

- **"Horrific video exposes the drug-fuelled violence plaguing our hospitals"** – Herald Sun, February 4, 2020
  Shocking video has captured the horrific violence helpless hospital staff are forced to put up with while trying to help raging drug-affected patients. And staff say the violence unfolding in Victoria's hospital emergency departments is becoming commonplace.
- **"Victoria's doctors and nurses being assaulted in record numbers"** – Herald Sun, August 11, 2019
  It's the new scourge nurses and doctors on our hospital front lines are being forced to contend with — a record number of patients and their families are attacking healthcare workers.
- **"Triple-dough: The shocking cost of Australia's hospital violence"** – Herald Sun, May 27, 2019
  An explosion of compensation claims is predicted to rip through Australia's hospital network as medical staff face some of the toughest rates of workplace assaults in the country.
- **"Nurse injured after alleged assault by psychiatric patient at Dandenong Hospital"** – Herald Sun, September 18, 2017
  A psychiatric patient has been charged and an investigation launched into safety measures at one of Melbourne's biggest hospitals after an incident left a nurse with serious head injuries.
- **"Box Hill heart surgeon Patrick Pritzwald-Stegmann dies four weeks after alleged one-punch assault"** – The Age, June 28, 2017
- **"Violent patients put into comas to protect staff, emergency doctor says"** – The Age, April 13, 2017
  Hospitals are putting violent patients into comas as a last resort to protect staff who are being sprayed with blood, held hostage, and bashed on the job, a leading doctor says.
- **"Hospital workers 'treated like punching bags' – one attacked every hour in Victoria"** – The Age, October 29, 2016
  Almost every hour a health worker is bitten, spat at, punched, abused or threatened while trying to care for patients in Victorian hospitals.

VICTORIAN STATE GOVERNMENT INITIATIVES

On the 25th of June, 2015, the Victorian State Government announced the establishment of the Occupational Violence Taskforce whose aim was to identify issues and recommend reforms to reduce violence in Victorian hospitals. Members of the taskforce included representatives from the Australian Nursing and Midwifery Federation, the Australian Medical Association, health services, the Victorian Managed Insurance Agency, and the Health and Community Services Union (Hennessy, 2015). This initiative was in response to the recent (at the time) report by the Victorian Auditor-General (2015) which called on the Department of Health and Human Services (DHHS), as it was known at the time, and WorkSafe Victoria in conjunction with health services and Ambulance Victoria to take a leadership role in campaigning for better community understanding of OVA towards healthcare workers of appropriate behaviours in healthcare settings. Since the establishment of the Taskforce and release of the Victorian Auditor-General's report, several state-wide initiatives have been implemented and awareness campaigns have been launched by the Department of Health (DH), WorkSafe Victoria, Ambulance Victoria and relevant health services. Some of these initiatives are discussed further in the Discussion section of this report.

A key statement included in the Taskforce's first report was the acknowledgement that:

"The issue of occupational violence within healthcare settings is complex and multifaceted and an overarching strategy needs to focus strongly on shifting organisational culture and behaviour. The Taskforce recognises that without an approach that enables cultural change across the sector, it is unlikely that initiatives implemented will have a longstanding impact on addressing occupational violence" (Violence in Healthcare Taskforce, 2016).

Occupational violence and aggression experienced by healthcare workers can have physical, psychological, emotional, work-functioning, social and financial consequences for the victim (Chappell et al., 2009; Lanctôt et al., 2014). Research to date has been mostly focussed on nurses (Edward et al., 2014), emergency department (ED) staff (Kowalenko et al., 2012) and emergency service workers (Chappell et al., 2009; Bigham et al., 2014), but violence in general practice is also common (P. J. Magin et al., 2005; P. Magin et al., 2011). Work-related assault is generally studied per occupational group or setting. To identify vulnerable groups and potential targets for preventive measures, research into occupational violence and aggression in the healthcare setting more broadly is required.

This edition of Hazard describes the incidence of hospital-treated OVA-related injury in healthcare settings in Victoria, Australia, as recorded in two Victorian Injury Surveillance Unit (VISU)-held injury surveillance datasets, representing injury-related hospital admissions and Emergency Department (ED) presentations. Threatening behaviour, non-physical violence such as verbal abuse and intimidation as well as non-injurious assaults are not coded and recorded in the VISU-held datasets. The exception to this would be in the Victorian Emergency Minimum Dataset (VEMD) for ED presentations in which the 'description of injury' free-text variable may contain descriptions of precipitating events and associated behaviours for cases involving an OVA-incident.

In addition, data regarding injurious events requiring medical treatment from other health service providers such as General Practitioners are not held by VISU. While analysis of hospital admission and ED presentation data for injurious OVA-related incidence is critically important for understanding the scope of the problem, this report does not address the wide-ranging impact of this issue on all workers within the healthcare sector.

AIMS AND DATA SOURCES

The aim of this edition of Hazard was to provide an in-depth epidemiological overview of workers experiencing OVA-related injury in healthcare settings resulting in hospital treatment, in terms of hospital admissions and ED presentations for the years 2016/17 to 2020/21 (5 years).

AIMS

Specific aims are to provide insight into:

- ***Frequencies and rates profile:*** rates calculated per labour force in the HCSA industry and total labour force by age, sex and year for both healthcare settings and all-industry settings
- ***Demographic profile:*** 5-year age groups, marital status, region of residence and country of birth for both healthcare and all-industry settings
- ***Circumstances of injury profile:*** location of injury event, perpetrator type, occupation of injured worker (ED presentations only), mechanism of injury (ED presentations only), factor code groups (ED presentations only), narrative text samples (ED presentations only) and cause of injury for both healthcare settings and all-industry settings
- ***Injury profile:*** type of injury, detailed body region injured data and broad body region injured groups for both healthcare settings and all-industry settings
- ***Clinical profile:*** patient type, admission type, triage category (ED presentations only), type of hospital, same day separation flag, length of stay data, clinical speciality/unit admitted to, departure status or type of separation from hospital, referral on departure (ED presentations only), day and month of admission and ED presentation, ED arrival time (grouped hourly) for both healthcare settings and all-industry settings
- ***Common scenarios and detailed injury circumstances*** were derived from narrative injury descriptions in the VEMD (ED presentation data)
- ***OVA incident data*** are described in Section C; these are reported by healthcare workers in hospitals, health services and other healthcare settings. Section C is based on sources available in the public domain.

TIME PERIOD

- In-depth analysis: recent 5 financial years for VAED (2016/17–2020/21)
- In-depth analysis: recent 5 financial years for VEMD (2016/17–2020/21)

DATA SOURCES

The main data sources for this edition of Hazard are the VAED and the VEMD. The VAED contains hospital admission unit record data supplied to VISU by the Victorian Government Department of Health (DH). Injury records are those with an ICD-10-AM injury code (S00-T98) or external cause code (U50-Y98) in any one of the 40 diagnosis codes. These codes are used to derive a range of injury surveillance variables such as cause of injury, human intent, and place of occurrence for reporting and analysis purposes within VISU. The VEMD records all presentations to Victorian public hospitals with 24-hour emergency departments (currently 39 hospitals). It records cases that are treated and discharged from the ED, and cases that are assessed in the ED and admitted to a ward for treatment. Additional data sources include published worker injury incident reports by individual hospitals and health service networks, Ambulance Victoria and other sources.

Australian Bureau of Statistics (Australian Bureau of Statistics (ABS)) labour force data for all employed persons and employed persons in the HCSA industry (15+ years) were used to calculate injury rates.

The utilisation of VISU surveillance data to describe OVA in healthcare can identify key safety issues and related risk factors. Relevant findings can act as the basis for evidence-based priority setting through effective injury prevention and safety promotion initiatives.

METHODS

The scope of this Hazard is limited to hospital-treated injury resulting from OVA in healthcare settings in Victoria for the financial years ranging from 2016/17 to 2020/21. This can include healthcare workers, GPs and other associated staff (e.g. hospital security workers) at hospitals, medical clinics and practices, personal assistant/care workers and associated workers tending to patients or clients in their homes and other non-traditional healthcare settings.

OVERVIEW OF METHODS USED TO DETERMINE PATTERNS OF OVA INJURY IN HEALTHCARE SETTINGS

For the correct interpretation of the presented hospital admission and ED presentation data statistics, an understanding of the case selection criteria for each data source is essential. Injury records were extracted from each dataset using the same selection criteria to ensure consistency in obtaining comparable subsets.

CASE SELECTION

HOSPITAL ADMISSIONS (VAED)

- Years: 2016/17 – 2020/21 (5 years in-depth analysis)
- Community injury (Principal diagnosis ICD-10-AM codes: S00-T75, T79)
- If the admission was an incident (excluding admission type codes representing repeat admissions, transfers within/between hospitals, statistical separations)
- Adults of working age (18+ yrs)
- If sex was male or female[1]
- Activity codes for ***healthcare settings***: 'working for income in health services industry' (VAED: ICD-10-AM code U73.07) or a WorkCover/WorkSafe compensable record (Separation Account Patient Type code 'W').
- Location codes for ***healthcare settings***: hospitals, residential institutions, aged care facilities, other health service areas. These are represented by VAED ICD-10-AM place of occurrence external cause codes:
  - Health Service Area: Y92.22 (for 2016/17 data)
  - Health service area, not specified as this facility: Y92.23 (for 2017/18 data onwards)
  - Health service area, this facility: Y92.24 (for 2017/18 data onwards)
  - Aged Care Facility: Y92.14
  - In addition to the above codes, all other locations were included if the activity code or compensable status criteria were met as described in the previous dot point
- If the injury was intentional (assault):
  - ICD-10-AM external cause codes: X85 – Y09

1. Cases where the patient's sex is recorded as *Indeterminate* or *Other* were excluded in the VAED & VEMD case selection due to data confidentiality concerns related to reporting of small numbers.

EMERGENCY DEPARTMENT PRESENTATIONS (VEMD)

- Years: 2016/17 – 2020/21 (5 years in-depth analysis)
- Community injury (Principal diagnosis ICD-10-AM codes: S00-T75, T79)
- Incident injury (exclude ED return visits and prearranged visits)
- Adults of working age (18+ yrs)
- If sex was male or female[2]
- Activity codes: 'working for income' ('W'), and/or WorkCover compensable record (Compensable Status code '3' or 'W')
- Location codes: all locations initially included with further refinement via narrative analysis
- If the injury was intentional: assault (VEMD: Grouped Human Intent code = 3)
- Narrative key search terms for incidents occurring in healthcare settings as well as misspellings included some of the following:
  - Assault, argument, punch, head butt, altercation, violence, abuse, strangulation, bash, spitting, scratch, push, patient, pt, nurs, grey, code black, order, hit, bite, ambulance, psych, paramedic, carer, hospital, strangul, violen, mh (mental health), hospital security, etc.
  - NB. The term 'psychiatric nurse' frequently appears in the VEMD narrative/descriptive variable rather than the more recent term 'mental health nurse'. The former term will be referred to when describing or reporting narrative text data in this report as this is the specific term entered by triage and clerical staff. However, where possible, both terms will be included.

OVA INJURY INCIDENCE IN ALL INDUSTRIES: COMPARISON DATASETS

The above criteria were applied a second time to extract comparison subsets of data to represent OVA injuries in **all** industry settings as a whole (not excluding healthcare services) and locations of injury (not excluding health service areas, residential care, etc.). This was provided for both hospital admissions data (VAED) and ED presentation data (VEMD).

RESULTS

Section A is a detailed examination of OVA injuries resulting in admission to hospital for the five-year period 2016/17 to 2020/21, in terms of various associated demographic, injury event and clinical details.

Section B is a detailed examination of OVA injuries resulting in ED presentations for the five-year period 2016/17 to 2020/21, in terms of various associated demographic, injury event and clinical details. In-depth narrative analysis describing the injury event is also included.

Section C reports on a selection of OVA incident data reported by healthcare workers in hospitals, health services and other healthcare settings utilising sources available in the public domain for the five-year period 2016/17 to 2020/21.

2. Cases where the patient's sex is recorded as *Indeterminate* or *Other* were excluded in the VAED & VEMD case selection due to data confidentiality concerns related to reporting of small numbers.

SECTION A:
HOSPITAL ADMISSIONS 2016/17–2020/21

HOSPITAL ADMISSIONS: FREQUENCY AND RATE PROFILE

Over the five-year period 2016/17 to 2020/21, there were 181 hospital admissions for (OVA) in a healthcare setting among Victorian workers aged 18 years and over. During this period, healthcare-related OVA admissions accounted for 21% of all occupational violence-related admissions (n=878). That equated to 36.2 hospital admissions per year and an average annual rate of 8.2 per 100,000 employed persons working in the HCSA industries (Table 2).

The OVA-related industry-specific (HCSA services) rate was much higher across the five-year period compared to the rate for all employed persons, with an average ratio of 1.6:1. Noticeably, the admission rate was slightly lower for the 2020/21 period at 6.6 per 100,000 employed persons working in the HCSA industries; notably, this includes extensive periods of COVID-19-related lockdown in Victoria (Table 2).

In terms of frequencies, more female healthcare workers were admitted to hospital overall (n=106) with an average of 21 assault injury admissions per year compared to males (n=75), averaging 15 admissions annually during the five-year study period. However, in terms of rates, males had a much higher five-year average admission rate at 15.6 per 100,000 employed males in the HCSA industry compared to 6.2 per 100,000 for employed females in the same industry (Table 2). Across the 5-year period, rates remained steady for males but dipped for females during 2020/21, recording an admission rate of 3.8 per 100,000 employed females in HCSA. Sex differences for male and female-related OVA in healthcare admission rates displayed similar patterns when compared to all-industry OVA admission rates. On average, rates were 2.1 times higher for males working in healthcare settings versus males in all industries and female rates were 2.2 times higher for females working in healthcare settings as opposed to females working in all industries (Table 2).

TABLE 2
OVA-RELATED ADMISSION FREQUENCIES AND RATES IN HEALTHCARE AND SOCIAL SUPPORT INDUSTRIES FOR WORKERS AGED 18+ YEARS (2016/17–2020/21)

5-year study period	OVA-related hospital admissions in healthcare settings		Rate per 100,000 employed persons in healthcare & social assistance industries*	OVA-related hospital admissions (all industry settings)		Rate per 100,000 employed persons in all industries*	Ratios of healthcare to all industries rate
	N	%	Rate	N	%	Rate	Rate ratio
Year							
2016/17	35	19.3	8.5	178	20.3	5.6	1.5
2017/18	34	18.8	8.3	173	19.7	5.3	1.6
2018/19	39	21.6	8.9	166	18.9	4.9	1.8
2019/20	42	23.2	9.0	187	21.3	5.5	1.6
2020/21	31	17.1	6.6	174	19.8	5.2	1.3
Total	181	100.0	–	878	100.0	–	–
5-year average	**36.2**	**–**	**8.2**	**175.6**	**–**	**5.3**	**1.6**
Sex by year							
Males							
2016/17	14	18.7	15.2	130	19.7	7.7	2.0
2017/18	13	17.3	15.6	133	20.1	7.6	2.0
2018/19	16	21.3	16.7	112	16.9	6.2	2.7
2019/20	15	20.0	14.8	144	21.8	8.0	1.8
2020/21	17	22.7	15.8	142	21.5	7.9	2.0
Total	75	100.0	–	661	100.0	–	–
5-year average	**15.0**	**–**	**15.6**	**132.2**	**–**	**7.5**	**2.1**
Females							
2016/17	21	19.8	6.5	48	22.1	3.3	2.0
2017/18	21	19.8	6.4	40	18.4	2.6	2.4
2018/19	23	21.7	6.8	54	24.9	3.5	2.0
2019/20	27	25.5	7.4	43	19.8	2.7	2.8
2020/21	14	13.2	3.8	32	14.7	2.0	1.9
Total	106	100.0	–	217	100.0	–	–
5-year average	**21.2**	**–**	**6.2**	**43.4**	**–**	**2.8**	**2.2**

*ABS Labour Force data only available for persons aged 15+ years. All industries subset includes healthcare settings.

DEMOGRAPHIC PROFILE

The demographic profile for OVA-related admissions in healthcare settings versus all industry settings is provided in Table 3. In terms of frequencies, female healthcare workers were more likely to be admitted for an OVA-related injury (n=106, 58.6%) compared to their male counterparts (n=75, 41.4%). This is in contrast to OVA-related injuries occurring in all industry settings requiring admission to hospital, with male workers representing 75.3% (n=661) of cases. These sex patterns can be seen in ABS Labour Force data for workers involved in the HCSA industries. The average number of workers in this industry for the 2020/21 financial year was 439,933 of which, 78.2% (n=343,976) were female compared to workers in all industries for the same period (n=3,307,225) of which 46.7% (n=1,543,712) were female (Australian Bureau of Statistics (ABS), 2022).

The age distribution by 5-year age group categories varied for OVA in healthcare settings compared to all-industry OVA admissions (Table 3). Both groups recorded workers aged 25–29 years as the peak-affected age group, representing 17.1% (healthcare industry) and 16.4% of admissions (all-industries) respectively. However, the next highest proportion for healthcare industry workers was among 55–59 year-olds (13.8%) followed by 45–49 year-olds (13.3%). All-industry OVA admissions clustered around workers aged under 40 years with 30–34 year-olds comprising 15.1% of admissions and 35–39 year-olds accounting for 12.1%.

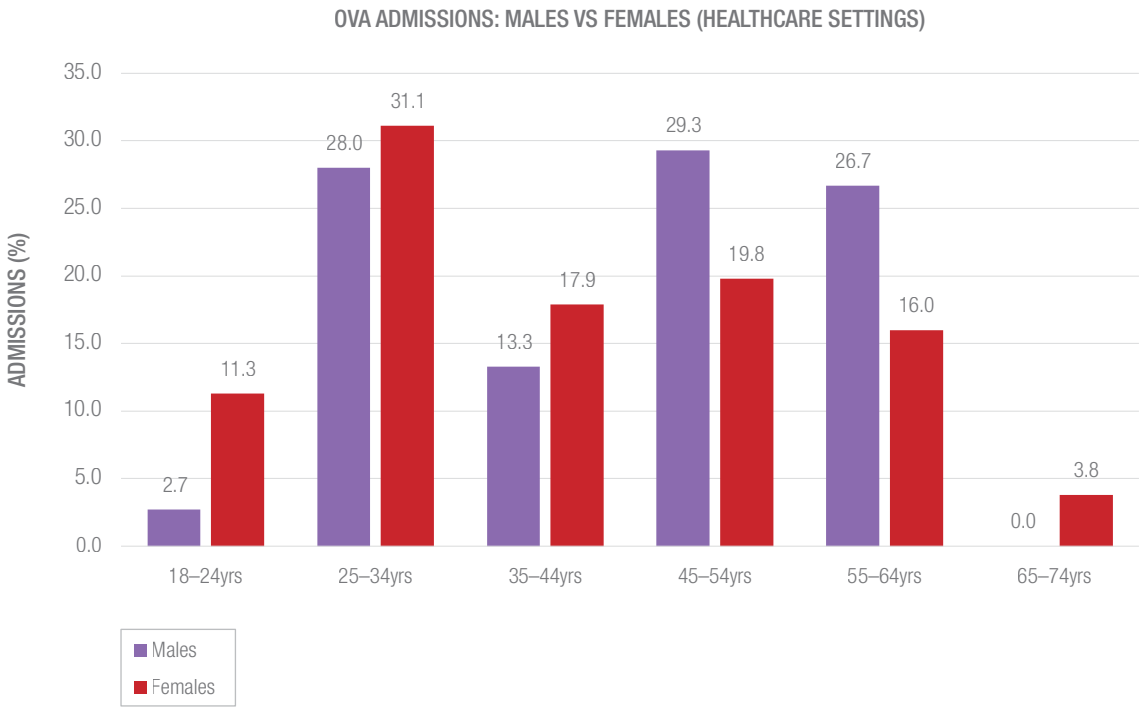
The average age of injured workers in healthcare setting cases was 41.8 years, slightly older compared to all-industry OVA cases recording an average age of 39.8 years. Female cases were similar in age on average: 39.9 years and 40.0 years for healthcare workers and all-industry workers, respectively, while male cases working in healthcare settings tended to be older on average (44.6 years) compared to male cases in all industries (39.7 years) (Table 3). Other demographic characteristics such as marital status and geographic region of residence recorded similar patterns in frequency distribution.

TABLE 3
OVA-RELATED ADMISSIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): DEMOGRAPHIC CHARACTERISTICS FOR WORKERS AGED 18+ YEARS

Demographic characteristics (Hospital admissions)	OVA in healthcare settings (n=181)		OVA in all industry settings (n=878)	
	N	%	N	%
Sex				
Male	75	41.4	661	75.3
Female	106	58.6	217	24.7
Age group (years)				
18–24	14	7.7	94	10.7
25–29	31	17.1	144	16.4
30–34	23	12.7	133	15.1
35–39	14	7.7	106	12.1
40–44	15	8.3	79	9.0
45–49	24	13.3	89	10.1
50–54	19	10.5	89	10.1
55–59	25	13.8	77	8.8
60+	16	8.9	67	7.6
All persons (mean age, SD), range:	41.8 (13.2), 18–69 years		39.8 (13.0), 18–79 years	
Males (mean age, SD), range:	44.6 (11.9), 20–63 years		39.7 (12.8), 18–79 years	
Females (mean age, SD), range:	39.9 (13.7), 18–69 years		40.0 (13.5), 18–75 years	
Marital status				
Never married	70	38.7	365	41.6
Currently married/de facto	96	53.0	439	50.0
Widowed/divorced/separated/not stated	15	8.3	74	8.4
Geographic region of residence				
Melbourne metropolitan area	144	79.6	693	78.9
Regional/rural Victoria	37	20.4	157	17.9
Interstate/overseas/unknown	0	0	28	3.2
Country of birth (major groups)				
Australia	107	59.1	472	53.8
Asia	38	21.0	237	27.0
Europe	12	6.6	52	5.9
Africa	7	3.9	33	3.7
Other specified	17	9.4	84	9.6

Stratifying broad age groups by sex for workers in healthcare settings highlighted the sex difference in OVA-related injury admissions over the five-year study period. In Figure 1, it can be seen that male workers tended to be older with over half (56%) aged 45 years and above with the highest proportion aged between 45–54 years (29.3%). Additionally, a large proportion (28.0%) were aged between 25–34 years. Female workers in healthcare settings tended to be younger with 60% aged 44 years and below; the highest proportion (31.1%) were aged between 25–34 years while a significant proportion (19.8%) were aged 45–54 years (Figure 1). A much higher proportion of 18–24 year-old workers was observed among females, accounting for 11.3% of admissions compared with male workers in the same age group accounting for 2.7% of male admissions (Figure 1).

FIGURE 1
OVA-RELATED ADMISSIONS IN HEALTHCARE SETTINGS (2016/17–2020/21):
BROAD AGE GROUP DISTRIBUTION FOR MALE AND FEMALE WORKERS AGED 18+ YEARS



CIRCUMSTANCES OF INJURY PROFILE

The location of the OVA-related injury event is further broken down in Table 4 for both healthcare settings and all industry settings. Healthcare settings included health service areas, healthcare centres, day procedure centres, hospitals, residential care (aged care services), hospital in the home and other locations where a healthcare service was provided (e.g., ambulance workers tending to a patient in a public area). While healthcare settings, overall, accounted for 20.9% (n=181) of OVA-related injury admissions over the 5-year study period, health service areas specifically accounted for 15.3% (n=134) of all industry OVA-related injury admissions. The majority (n=80) occurred to healthcare workers in the same facility (hospital) that they were admitted to. Focusing on OVA in healthcare settings alone (n=181), 74.0% (n=134) occurred in health service areas, and the remaining proportion (12.7%, n=23) occurred in aged care facilities. A small number of OVA-related injury admissions for healthcare workers occurred in non-typical settings such as trade and service areas, public roads, streets or highways and private residences or homes. These numbers were too small to report individually but represent an important subset of at-risk workers such as ambulance workers, nurses providing home care services and other healthcare workers providing health-related services off-site or in the field.

The activity undertaken at the time of injury is provided in Table 4 with the majority (87.3%) of OVA injury related healthcare setting admissions falling under the 'health services industry', with a small proportion (12.7%) assigned to the 'other specified and unspecified' categories. These are most likely individuals whose specific occupation or job title does not directly fall within the health services industry category, e.g., security worker, cleaner but they work in a healthcare setting with specific health services skill sets/training. Statistics describing the location of the injury event and activity/industry involved are provided for OVA injury admissions in all industries for comparison purposes and to further highlight the prominence of these injury events occurring in healthcare settings.

Additional coding provided details regarding the perpetrator of the assault injury and their relationship to the victim (healthcare worker). For OVA-related injury admissions in healthcare settings, 76.8% (n=141) coded the perpetrator as 'other specified person', followed by a 'stranger' (12.7%, n=23) and a 'person known to the victim' (5.5%, n=10) (Table 4). These perpetrator categories are very limited when it comes to specific settings, particularly work-related settings. The majority of interactions in healthcare settings occurred between healthcare workers and their patients or clients, who ranged from strangers to partially known or somewhat acquainted individuals. Similar limitations in coding could be seen for OVA injury-related admissions in all industry settings, with the majority of admissions (34.9%, n=307) allocated to the 'other specified person' perpetrator category.

The major cause of OVA-related injury admissions in healthcare settings were due to bodily force (85.6%, n=155), followed by assault with a blunt object (3.9%, n=7) and assault with a sharp object (2.8%, n=5) (Table 4). Similar proportions were observed for OVA-related injury admissions in all industry settings, with the exception of firearm-related assault injury, accounting for 6 (0.7%) of admissions.

TABLE 4
OVA-RELATED ADMISSIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): CIRCUMSTANCES AND CAUSES OF INJURY PROFILE FOR WORKERS AGED 18+ YEARS

Circumstances of assault injury characteristics (Hospital admissions)	OVA in healthcare settings (n=181)		OVA in all industry settings (n=878)	
	N	%	N	%
Location of injury event				
Health service area	134	74.0	134	15.3
Health service area (at this facility)	*80*	*44.2*	*80*	*9.1*
Health service area (not at this facility)	*24*	*13.2*	*24*	*2.7*
Health service area (not specified)	*30*	*16.6*	*30*	*3.4*
Residential institution – aged care facilities	23	12.7	23	2.6
Residential institution – prison	0	0	29	3.3
Residential institution – juvenile detention centre	0	0	11	1.2
Residential institution – other specified & unspecified	0	0	14	1.6
School	0	0	23	2.6
Other specified institution & public admin area	0	0	12	1.4
Home/private residence	*	*	14	1.6
Public road, street or highway	*	*	84	9.6
Trade or service area – shop, store, bank, post office	*	*	92	10.5
Trade or service area – office building	*	*	5	0.6
Trade or service area – commercial garage, service station	0	0	13	1.5
Trade or service area – café, hotel, restaurant, bar, pub, night club, casino, holiday accommodation	0	0	74	8.4
Trade or service area – other specified (bus/railway stations, airport) & unspecified	0	0	29	3.3
Industrial & construction area	0	0	33	3.7
Other specified location	*	*	41	4.7
Unspecified location	15	8.3	247	28.1

*Cases have been suppressed due to small cell counts (<5).

TABLE 4 (CONTINUED)
OVA-RELATED ADMISSIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): CIRCUMSTANCES AND CAUSES OF INJURY PROFILE FOR WORKERS AGED 18+ YEARS

Circumstances of assault injury characteristics (Hospital admissions)	OVA in healthcare settings (n=181)		OVA in all industry settings (n=878)	
	N	%	N	%
While working for income activity sub-groups (industry types)				
Health services industry	158	87.3	158	18.0
Construction industry	0	0	23	2.6
Wholesale & retail trade	0	0	49	5.6
Transport & storage	0	0	74	8.4
Government administration & defence	0	0	18	2.1
Other specified industry	12	6.6	493	56.1
Unspecified industry	11	6.1	63	7.2
Relationship of the perpetrator to the victim				
Person unknown to the victim (stranger)	23	12.7	206	23.5
Acquaintance or friend (incl. employer, employee & co-worker, family friend)	10	5.5	110	12.5
Official authorities (correctional services, police, security guard, etc.)	0	0	5	0.6
Multiple persons unknown to the victim (gang, mob)	0	0	92	10.5
Other specified person	141	76.8	307	34.9
Unspecified person	7	3.9	158	18.0
Major causes of assault injury				
Bodily force	155	85.6	660	75.2
Blunt object	7	3.9	72	8.2
Sharp object	5	2.8	58	6.6
Hanging, strangulation and suffocation	*	*	9	1.0
Smoke, fire and flames (e.g. cigarette)	*	*	*	*
Firearms	0	0	6	0.7
Drugs, medicaments & biological substances	0	0	*	*
Explosive materials	0	0	*	*
Pushing or placing victim before moving object	0	0	*	*
Crashing of motor vehicle	0	0	*	*
Other specified means	6	3.3	31	3.5
Unspecified means	5	2.8	33	3.8

*Cases have been suppressed due to small cell counts (<5).

INJURY PROFILE

Table 5 outlines specific injuries involved in OVA-related injury admissions in healthcare settings and they included superficial injuries (12.7%, n=23), fractures (7.2%, n=13), open wounds (6.6%, n=12), and intracranial/head injuries (4.9%, n=9). A large proportion (58.0%, n=105) were coded as 'other specified and unspecified' injuries. In contrast, just over a quarter (27.8%, n=244) of OVA-related injury admissions in all industry settings were due to fractures, followed by open wounds (14.7%, n=129) and superficial injuries (10.8%, n=95). A smaller proportion of injuries were coded as 'other specified and unspecified' for this group (29.0%, n=254).

The region of the body injured is described in detail in Table 5, including cross-referencing with its corresponding nature of injury, while Figure 2 describes body region injured more broadly. More than half of OVA-related injury admissions in healthcare settings involved the head/face area (51.4%, n=93): mostly superficial injuries to the head (8.8%), intracranial injuries (concussion, etc.) accounting for 5.0% (n=9), open wounds to the head (3.9%, n=7), eye/orbit injuries (3.9%, n=7) and skull/facial bone fractures (3.3%, n=6). Other commonly injured body regions included the abdomen/lower back/lumbar spine/pelvic area accounting for 17.1% (n=31) admissions, followed by the neck (7.7%, n=14) and shoulder/upper arm (7.2%, n=13). Broadly speaking, the head/face/neck area accounted for the majority of admissions (59.1%), followed by the trunk area (21.0%), upper extremity (13.8%) and lower extremity area (4.4%) (Figure 2). Comparatively, OVA-related injury admissions among all industry settings, were similarly ranked in terms of body region injured with 70.2% occurring around the head/face/neck area, followed by the upper extremity (13.3%) and trunk area (11.8%).

FIGURE 2
OVA-RELATED ADMISSIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): BODY REGION INJURED (BROAD GROUPS) FOR WORKERS AGED 18+ YEARS

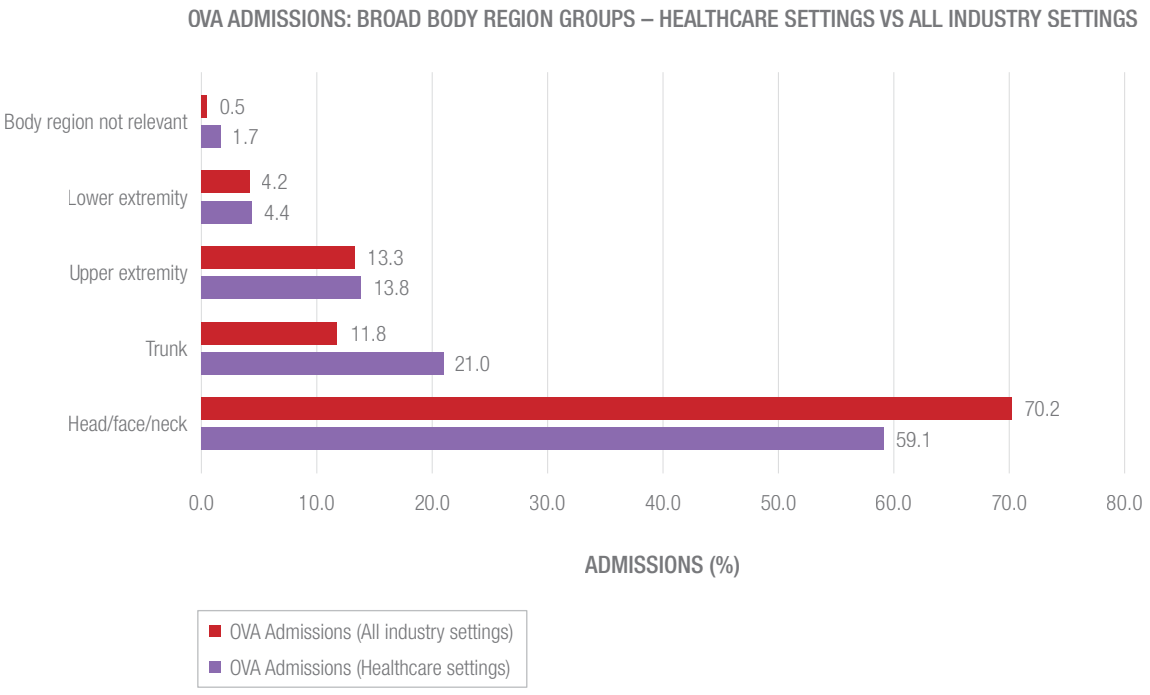


TABLE 5
OVA-RELATED ADMISSIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): NATURE OF INJURY PROFILE FOR WORKERS AGED 18+ YEARS

Specific assault injury characteristics (Hospital admissions)	OVA in healthcare settings (n=181)		OVA in all industry settings (n=878)	
	N	%	N	%
Type of injury				
Superficial injury	23	12.7	95	10.8
Fracture	13	7.2	244	27.8
Open wound	12	6.6	129	14.7
Intracranial injury	9	4.9	81	9.2
Dislocation/sprain/strain	7	3.9	28	3.2
Eye injury (excluding foreign body)	7	3.9	24	2.7
Injury to muscle & tendon	5	2.8	23	2.6
Other specified & unspecified injury	105	58.0	254	29.0
Body region injured				
Head/face	93	51.4	555	63.2
Superficial injury – head	*16*	*8.8*	*80*	*9.1*
Intracranial injury	*9*	*5.0*	*81*	*9.2*
Open wound – head	*7*	*3.9*	*83*	*9.5*
Eye & orbit injury	*7*	*3.9*	*24*	*2.7*
Fracture of skull & facial bones	*6*	*3.3*	*173*	*19.7*
Other & unspecified head injuries	*48*	*26.5*	*114*	*13.0*
Neck	14	7.7	61	6.9
Thorax/chest	7	3.9	41	4.7
Abdomen, lower back, lumbar spine & pelvis	31	17.1	63	7.2
Shoulder & upper arm	13	7.2	31	3.5
Elbow & forearm	*	*	26	3.0
Wrist & hand	8	4.4	60	6.8
Open wound – wrist & hand	*0*	*0*	*16*	*1.8*
Fracture – wrist & hand	*	*	*24*	*2.7*
Dislocation, sprain & strain of joints & ligaments – wrist & hand	*0*	*0*	*6*	*0.7*
Injury of muscle & tendon – wrist & hand	*	*	*6*	*0.7*
Other & unspecified wrist & hand injuries	*	*	*8*	*0.9*
Hip & thigh	5	2.8	10	1.1
Knee & lower leg	*	*	23	2.6
Ankle & foot	0	0	*	*
Other specified body region injured	*	*	*	*

*Cases have been suppressed due to small cell counts (<5).

CLINICAL PROFILE

Just over half (53.6%) of OVA-related injury admissions in healthcare settings were WorkCover/WorkSafe compensable admissions and 45.3% were recorded as public (Medicare-funded) patients. A significant proportion (92.3%) were emergency admissions and almost all (97.8%) were admitted to public hospitals (Table 6). Patients admitted and discharged from hospital on the same day accounted for 74.0% (n=134) of admissions. Most patients were discharged to home (97.2%) with the remaining proportion either transferred to another facility, left against medical advice or underwent another specified type of separation. Similar patterns were observed for OVA-related injury admissions in all industry settings except for same-day admissions which accounted for 65.3% of cases (Table 6).

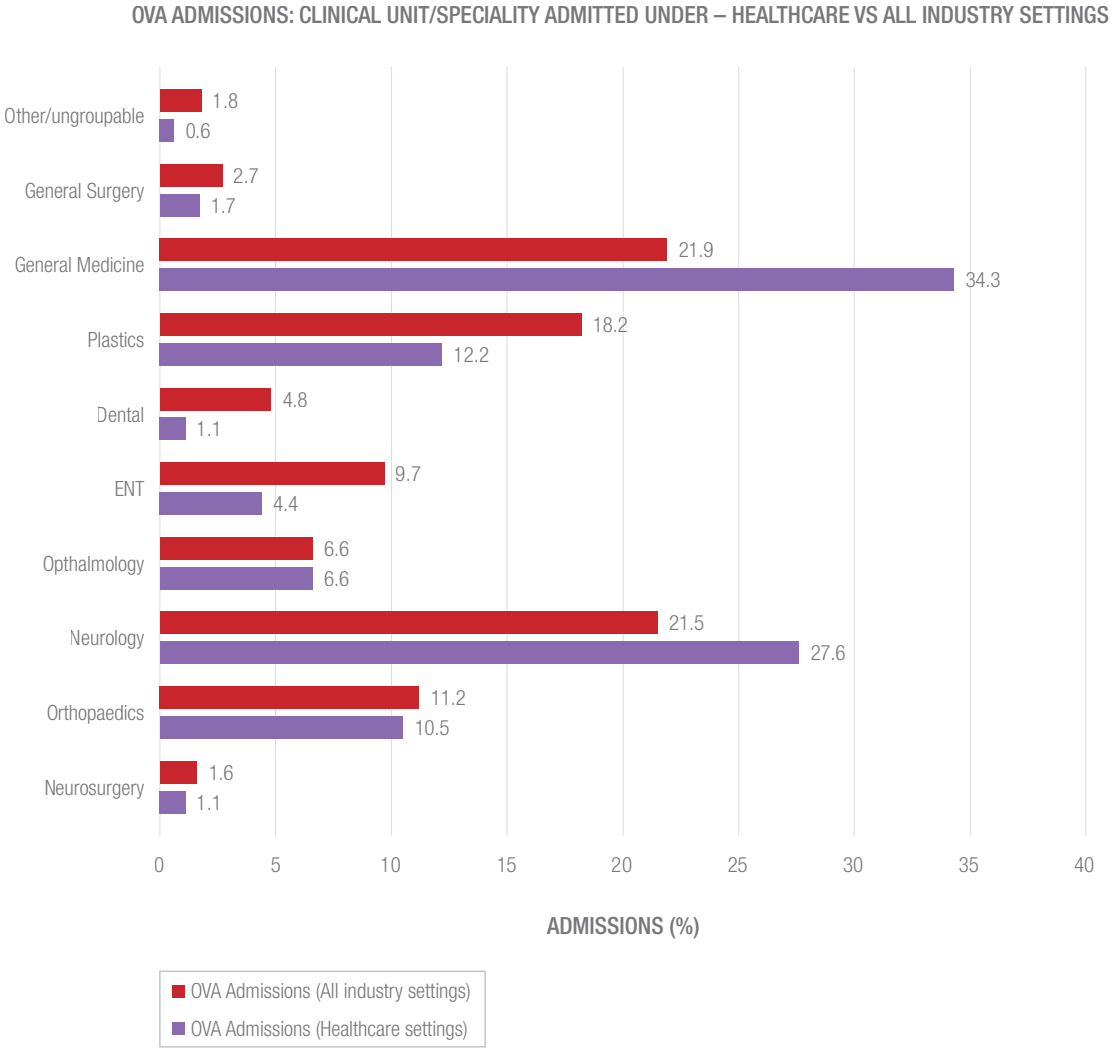
TABLE 6
OVA-RELATED ADMISSIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): CLINICAL PROFILE OF INJURY FOR WORKERS AGED 18+ YEARS

Assault injury clinical characteristics (Hospital admissions)	OVA in healthcare settings (n=181)		OVA in all industry settings (n=878)	
	N	%	N	%
Patient type				
Public – Medicare	82	45.3	422	48.1
Private	*	*	21	2.4
Compensable – WorkCover/WorkSafe (Victoria)	97	53.6	400	45.5
Other specified	*	*	35	4.0
Admission type				
Emergency admission	167	92.3	768	87.5
Elective admission & other admission types	14	7.7	110	12.5
Hospital type				
Public	177	97.8	842	95.9
Private	*	*	36	4.1
Other specified	*	*	0	0
Same-day separation (admitted & separated on the same day)				
Same-day case	134	74.0	573	65.3
Not same-day case	47	26.0	305	34.7
Separation type				
Home, private residence	176	97.2	836	95.2
Transfer – other acute hospital, extended care, rehabilitation	*	*	35	4.0
Left against medical advice	*	*	*	*
Other specified separation type	5	2.8	<10	<1.0

*Cases have been suppressed due to small cell counts (<5).

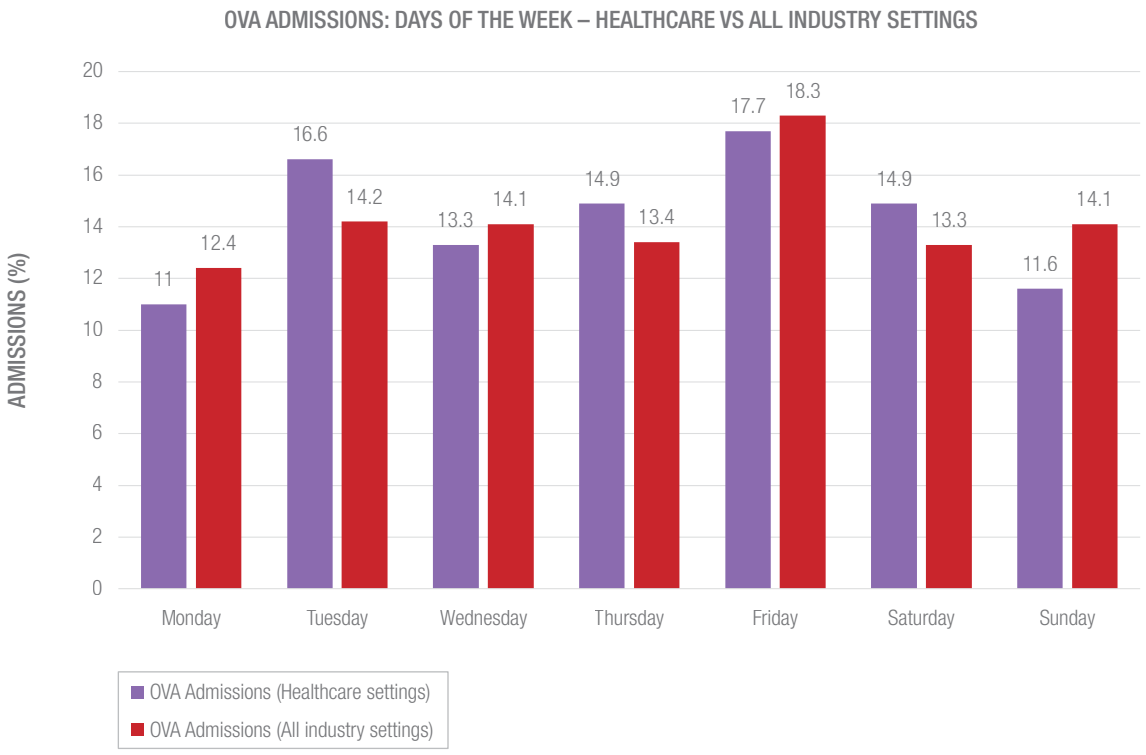
The clinical speciality patients were admitted under are described in Figure 3 for both OVA admission settings. In terms of ranking, both settings have the same specialities represented but with varying proportions. OVA-related injury admissions in healthcare settings were commonly allocated to the General Medicine unit (34.3%), followed by Neurology (27.6%), Plastics (12.2%) and Orthopaedics (10.5%).

FIGURE 3
OVA-RELATED ADMISSIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): CLINICAL SPECIALITY ASSOCIATED WITH ADMISSIONS FOR WORKERS AGED 18+ YEARS



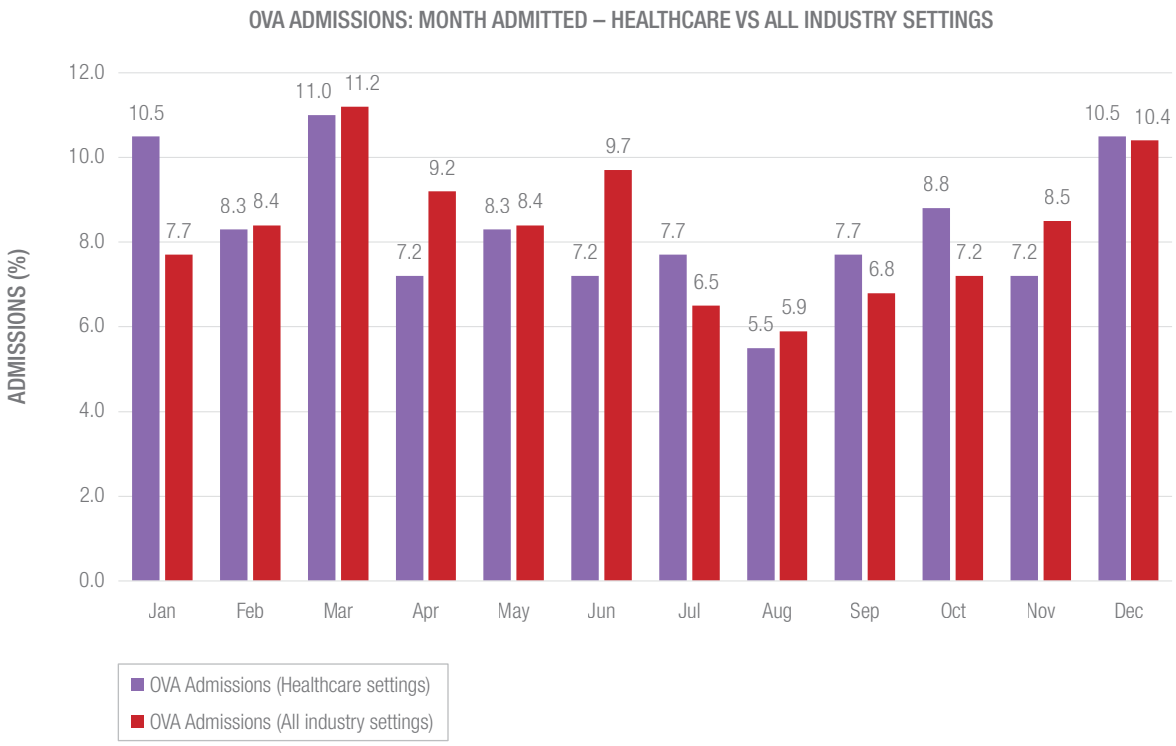
In terms of days of the week, no distinctive pattern was observed with proportions generally evenly spread throughout the week. The peak day of the week for OVA-related injury admissions for both settings occurred on Fridays accounting for 17.7% of healthcare setting admissions and 18.3% of all-industry setting admissions (Figure 4). Healthcare setting OVA-related injury admissions also commonly occurred on Tuesdays (16.6%) and Thursdays/Saturdays (both 14.9%). The lowest proportion for both setting groups occurred on Mondays, 11.0% in healthcare settings and 12.4% in all industry settings combined.

FIGURE 4
OVA-RELATED ADMISSIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): DAY OF THE WEEK ADMITTED FOR WORKERS AGED 18+ YEARS



The month that the patient was admitted to hospital over the five-year study period is depicted in Figure 5. There are no obvious patterns for either group, although both peak in March accounting for 11.0% of OVA admissions in healthcare settings and 11.2% in all industry settings, followed by December/January (10.5% equally for healthcare settings) and December (10.4%) for industry settings. Proportions differ in ranking beyond these months; however, both record their lowest proportions in August: 5.5% of healthcare setting admissions and 5.9% of all industry setting admissions.

FIGURE 5
OVA-RELATED ADMISSIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): MONTH OF ADMISSION FOR WORKERS AGED 18+ YEARS



SECTION B:
ED PRESENTATIONS 2016/17–2020/21

ED PRESENTATIONS

FREQUENCY AND RATE PROFILE

There were 1171 incidents of OVA in a healthcare setting that resulted in an Emergency Department (ED) presentation by Victorian workers aged 18 years and above for the five-year period 2016/17 to 2020/21. During this period, healthcare-related OVA ED presentations accounted for 46.1% of all work-related assault-coded ED presentations (n=2,542). This equates to 234.2 ED presentations per year and an average annual rate of 53.2 per 100,000 employed persons working in the HCSA industries (Table 7).

The OVA-related industry-specific (HCSA services) rate was much higher across the five-year period compared to the rate for all employed persons, with an average rate ratio of 3.5:1. The industry-specific rate peaked in 2017/18 at 58.7 per 100,000 employed persons in HCSA while the rate for workers in all industries peaked the year after (2018/19) at 16.2 per 100,000 employed persons (Table 7).

In terms of frequencies, a slightly greater number of male workers in healthcare settings presented to the ED overall (n=646) with an average of 129 ED presentations per year compared to females (n=525) averaging 105 ED presentations annually during the five-year study period. However, in terms of rates, this sex difference was amplified with males working in healthcare settings having a much higher five-year average ED presentation rate of 135.3 per 100,000 than females in the same setting at 30.5 per 100,000 females employed in HCSA industries per year (Table 7). Across the five-year period, rates fluctuated for both males and females working in healthcare settings, with the male rate peaking in 2017/18 at 171.7 per 100,000 and the female rate peaking in 2018/19 at 33.5 per 100,000 employed females in the HCSA industries. Noticeably, the frequency and rate for OVA-related male ED presentations decreased between the years 2019/20 and 2020/21, from 149.7 per 100,000 employed males in HCSA industries (n=152) to 126.8 per 100,000 (n=136). The opposite occurred for female workers in healthcare settings presenting to the ED for OVA-related injuries with rates increasing from 27.0 per 100,000 employed females in the HCSA industries (n=98) in 2019/20 to 32.3 per 100,000 in 2020/21 (n=118) (Table 7).

Sex differences for male and female OVA-related ED presentations in healthcare settings, in terms of frequencies and rates, displayed similar patterns when compared to all-industry OVA ED presentations for the same 5-year study period. On average, rates were 7.0 times higher for males working in healthcare settings versus males in all industries, while female rates were 2.8 times higher for females working in healthcare settings as opposed to females working in all industries (Table 7).

TABLE 7
OVA-RELATED ED PRESENTATION FREQUENCIES AND RATES IN HEALTHCARE AND SOCIAL SUPPORT INDUSTRIES FOR WORKERS AGED 18+ YEARS (2016/17–2020/21)

5-year study period	OVA-related ED presentations in healthcare settings		Rate per 100,000 employed persons in healthcare & social assistance industries*	OVA-related ED presentations (all industry settings)		Rate per 100,000 employed persons in all industries*	Ratios of healthcare to all industries rate
	N	%	Rate	N	%	Rate	Rate ratio
Year							
2016/17	186	15.9	44.9	445	17.5	14.1	3.2
2017/18	242	20.7	58.7	512	20.1	15.7	3.7
2018/19	239	20.4	54.8	546	21.5	16.2	3.4
2019/20	250	21.3	53.8	509	20.0	15.0	3.6
2020/21	254	21.7	53.7	530	20.8	15.7	3.4
Total	1171	100.0	–	2542	100.0	–	–
5-year average	**234.2**	**–**	**53.2**	**508.4**	**–**	**15.4**	**3.5**
Sex by year							
Males							
2016/17	90	13.9	97.8	286	17.0	16.8	5.8
2017/18	143	22.1	171.7	359	21.3	20.6	8.3
2018/19	125	19.3	130.6	351	20.8	19.5	6.7
2019/20	152	23.5	149.7	348	20.7	19.4	7.7
2020/21	136	21.1	126.8	340	20.2	19.0	6.7
Total	646	100.0	–	1684	100.0	–	–
5-year average	**129.2**	**–**	**135.3**	**336.8**	**–**	**19.1**	**7.0**
Females							
2016/17	96	18.3	29.8	159	18.5	10.9	2.7
2017/18	99	18.9	30.1	153	17.8	10.1	3.0
2018/19	114	21.7	33.5	195	22.7	12.5	2.7
2019/20	98	18.7	27.0	161	18.8	10.1	2.7
2020/21	118	22.5	32.3	190	22.1	12.0	2.7
Total	525	100.0	–	858	100.0	–	–
5-year average	**105.0**	**–**	**30.5**	**171.6**	**–**	**11.1**	**2.8**

*ABS Labour Force data only available for persons aged 15+ years. All industries subset includes healthcare settings.

DEMOGRAPHIC PROFILE

The demographic profile for OVA-related ED presentations in healthcare settings versus all industry settings is provided in Table 8. Across the five-year period, male workers accounted for 55.2% (n=646) of ED presentations for OVA-related injury in healthcare settings which is a lower proportion compared to male workers in all industries (66.2%, n=1684). Female workers presenting to the ED as a result of an OVA-related injury accounted for 44.8% (n=525) of all cases, slightly higher than the proportion for all female workers in all settings (33.8%, n=858). Stratifying the data by five-year age groups showed that the peak-affected age groups, among workers presenting with OVA-related injuries, were those aged 25–29 years (17.7%, n=207), 30–34 years (14.0%, n=164) and 35–39 years (11.3%, n=132). An additional peak was observed among workers aged 50–54 years (10.3%, n=121) and 55–59 years (10.1%, n=118) (Table 8).

Similar age distribution patterns were observed within the all-industry OVA-related injury category in relation to peak-affected age groups; however, the additional peak observed for older healthcare industry workers was not observed for this group. Instead, high frequencies were noted for younger age groups, specifically those aged 18–24 years (12.5%, n=317). The average age for workers with an OVA-related injury in a healthcare setting was 40.4 years with an age range between 19 and 76 years. Male workers were slightly older with an average age of 41.1 years while female workers had an average age of 39.6 years. Average ages for workers in all industries were marginally lower with an average age of 39.0 years (Table 8).

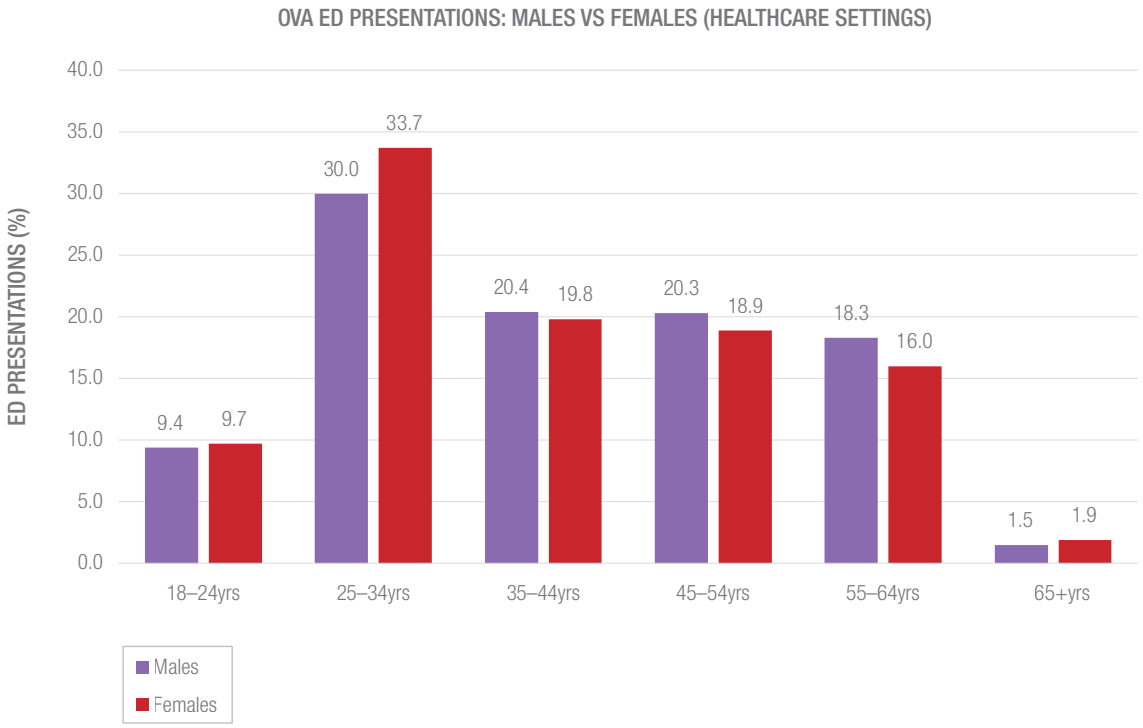
The majority of workers in healthcare settings experiencing OVA-related injuries resided in the Melbourne metropolitan area (72.7%, n=851) while a quarter resided in regional/rural Victoria (25.3%, n=296). The country or region of birth most common among workers in healthcare settings was Australia (62.3%, n=729), followed by Asia (17.1%, n=200) and Europe (8.8%, n=103). Similar proportions for region of residence and country of birth was observed for workers in all industry settings (Table 8).

TABLE 8
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): DEMOGRAPHIC CHARACTERISTICS FOR WORKERS AGED 18+ YEARS

Demographic characteristics (ED presentations)	OVA in healthcare settings (n=1171)		OVA in all industry settings (n=2542)	
	N	%	N	%
Sex				
Male	646	55.2	1684	66.2
Female	525	44.8	858	33.8
Age group (years)				
18–24	112	9.6	317	12.5
25–29	207	17.7	463	18.2
30–34	164	14.0	374	14.7
35–39	132	11.3	296	11.6
40–44	104	8.9	232	9.1
45–49	109	9.3	227	8.9
50–54	121	10.3	213	8.4
55–59	118	10.1	217	8.5
60+	104	8.9	203	8.1
All persons (mean age, SD), range:	40.4 (12.9), 19–76 years		39.0 (13.0), 18–78 years	
Males (mean age, SD), range:	41.1 (12.8), 19–73 years		39.0 (12.9), 18–78 years	
Females (mean age, SD), range:	39.6 (13.0), 19–76 years		39.3 (13.1), 18–76 years	
Geographic region of residence				
Melbourne metropolitan area	851	72.7	1787	70.3
Regional/rural Victoria	296	25.3	666	26.2
Interstate/overseas/unknown	24	2.0	89	3.5
Country of birth (major groups)				
Australia	729	62.3	1594	62.7
Asia	200	17.1	462	18.2
Europe	103	8.8	186	7.3
Africa	65	5.5	120	4.7
Other specified	74	6.3	180	7.1

Figure 6 shows the stratification of male and female workers with OVA-related injuries in healthcare settings by broad age groups. Unlike observations for hospital admission cases, where distinctive differences in age and sex were noted, ED presentations for male and female workers had very similar distributions in terms of age group categories. The highest proportion for both sexes was observed for those aged between 25–34 years (males: 30.0%, females: 33.7%), followed by workers aged 35–34 years (males: 20.4%, females: 19.8%).

FIGURE 6
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS (2016/17–2020/21): BROAD AGE GROUP DISTRIBUTION FOR MALE AND FEMALE WORKERS AGED 18+ YEARS



CIRCUMSTANCES OF INJURY PROFILE

The location of the OVA-related injury event resulting in an ED presentation was further broken down in Table 9 for both healthcare settings and all-industry settings. As mentioned in Section A, healthcare settings included hospitals, health service areas, healthcare centres, day procedure centres, residential care (aged and other types of supported accommodation), GP clinics, disability services, psychiatric units and facilities, and hospital in the home (HITH) arrangements. In addition, non-typical locations such as trade/service areas and roads were included if the incident involved a healthcare worker (e.g., ambulance worker/paramedic, disability support worker, social worker, police assisting a healthcare worker). This can include healthcare workers, GPs and other associated staff at medical clinics/practices, personal assistant/care workers and associated workers tending to patients or clients in their homes and other non-traditional healthcare settings. As the VEMD has two very broad categories: "medical hospital" and "residential institution" that largely represent 'healthcare settings' both still required further clarification and refining. Analysis of narrative/descriptive text along with the allocated location of injury code allowed for the creation of an adjusted location of injury event variable. The variable and its categories are provided in Table 9; however, some categories were collapsed due to small cell numbers. A comprehensive list of all the categories developed for initial analysis is provided in the Appendix section in Table 19. Similar analysis and adjustment to the location of injury event variable was not conducted for OVA in all industry settings as it was beyond the scope of this Hazard and not the focus of this edition.

The adjusted location of injury event variable recorded 83.9% (n=983) of all OVA-related injury ED presentations in healthcare settings as having occurred in hospitals and other health services, followed by residential institutions such as aged care facilities and other supported accommodation services (6.7%, n=79), while smaller proportions occurred in home locations (1.0%, n=12), trade/service areas (0.7%, n=8) and road/street/highways (0.6%, n=7) (Table 9). To put this in perspective, just over a third of OVA-related injury ED presentations in all industries (36.3%, n=923) were coded as having occurred in medical hospitals with an additional 5.4% (n=138) having occurred in residential institutions. This was followed by trade and service areas accounting for 18.2% (n=462) of all-industry OVA-related ED presentations, which in terms of numbers, was half of those occurring in healthcare settings.

Narrative text analysis allowed for the coding of the type of perpetrator involved in the OVA healthcare setting incident as well as the occupation of the worker injured. Persons in psychiatric units, residential care and support services were referred to as patients or clients interchangeably. Specific location information allowed for the distinction between general hospital/health patients, psychiatric patients, aged care residents and so forth. The term 'patient' was frequently used without further qualification in many instances, hence the term 'patient NFD' (not further defined) was applied instead. Patients (NFD) accounted for the majority of perpetrator types representing 44.2% (n=517) of incidents, followed by psychiatric/mental health patients (11%, n=129), aged care/nursing home residents (2.0%, n=23), residential clients NFD (1.4%, n=16) and disability clients/patients (1.0%, n=12). A small proportion were observed to be visitors or family members of a patient or client (0.5%, n=6). Notably, for a significant proportion (37.7%, n=441) of ED presentation cases, details regarding the perpetrator of the assault was not provided (Table 9).

Information in the narrative text regarding the occupation of the injured worker involved in the OVA-related incident was not mentioned for a large proportion of cases (60.2%, n=705). The term 'staff' or 'staff member' was frequently used to refer to a worker of the same facility, usually the hospital, they were presenting to for their injury. However, this term could be applied to a number of hospital worker types: nurses, doctors, orderlies, hospital security staff, and more. Therefore, in instances where specific occupation details were provided, it is likely to be an underestimate of the true number for that particular occupation. Staff members NFD (at this facility) accounted for 17.2% (n=201) of OVA-related injury ED presentations in healthcare settings, followed by hospital security officers (7.3%, n=85), nurses (4.4%, n=52), mental health or psychiatric services worker NFD (2.3%, n=27), healthcare worker NFD (2.1%, n=25), aged care worker (1.4%, n=16), mental health or psychiatric nurse (1.0%, n=12) and disability support worker (1.0%, n=12) (Table 9). Small proportions of cases (0.5% or less) comprised ambulance workers, police officers, doctors, and other types of supported accommodation workers.

The major causes of assault, as coded in the VEMD, for OVA-related injury ED presentations in healthcare settings were being struck by or colliding with another person (73.4%, n=859), followed by being struck by or colliding with an object (6.1%, n=72), cutting/piercing object (3.8%, n=44), falls (1.4%, n=16) and threats to breathing (0.5%, n=6). Comparing these proportions to causes of assault for workers in all industry settings shows that the proportion due to being struck by or colliding with another person was slightly lower at 65.1% (n=1654) but higher for struck by/collision with object (10.1%, n=258) and injuries involving cutting/piercing objects (5.2%, n=131) (Table 9).

TABLE 9
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): CIRCUMSTANCES AND CAUSES OF INJURY PROFILE FOR WORKERS AGED 18+ YEARS

Circumstances of assault injury characteristics (ED presentations)	OVA in healthcare settings (n=1171)		OVA in all industry settings (n=2542)	
	N	%	N	%
Location of injury event (adjusted variable) *(modified variable based on narrative text information, original coded value applied if narrative text information missing)*				
Medical hospital & other health services	983	83.9	Narratives were not analysed for this dataset as the focus for this edition of *Hazard* was on healthcare settings	
Residential institution	79	6.7		
Aged care/nursing home	*24*	*2.0*		
Supported accommodation or hostel (incl. supported disability accommodation)	*9*	*0.8*		
Youth supported accommodation or hostel NS	*5*	*0.4*		
*Residential institution NFD***	*41*	*3.5*		
Home	12	1.0		
Trade or service area	8	0.7		
Road, street or highway	7	0.6		
School, day care centre or public administrative area	*	*		
Industrial or construction area	*	*		
Athletics or sports area	*	*		
Other specified place	47	4.0		
Unspecified place	31	2.6		

*Cases have been suppressed due to small cell counts (<5); **NFD = not further defined; #The term 'psychiatric nurse' is taken directly from VEMD narratives as entered by triage staff. However, the current standard is to use the term 'mental health nurse'. Both terms are included in this table.

TABLE 9 (CONTINUED)
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): CIRCUMSTANCES AND CAUSES OF INJURY PROFILE FOR WORKERS AGED 18+ YEARS

Circumstances of assault injury characteristics (ED presentations)	OVA in healthcare settings (n=1171)		OVA in all industry settings (n=2542)	
	N	%	N	%
Location of injury event (unadjusted, coded variable) *(original coded variable, as provided to VISU)*				
Medical hospital	923	78.8	923	36.3
Residential institution	64	5.5	138	5.4
Trade or service area	59	5.0	462	18.2
Home	11	0.9	48	1.9
Road, street or highway	7	0.6	189	7.4
School, day care centre or public administrative area	6	0.5	52	2.0
Industrial or construction area	*	*	83	3.3
Athletics or sports area	*	*	7	0.3
Place for recreation	–	–	45	1.8
Mine or quarry	–	–	5	0.2
Other specified location	51	4.4	294	11.6
Unspecified location	46	3.9	296	11.6
Type of perpetrator committing the assault *(based on analysis of narrative text information)*				
Patient NFD	517	44.2	Narratives were not analysed for this dataset as the focus for this edition of *Hazard* was on healthcare settings	
Psychiatric/mental health patient	129	11.0		
Aged care/nursing home resident	23	2.0		
Residential client NFD	16	1.4		
Disability client/patient	12	1.0		
Supported accommodation resident (not aged care)	11	0.9		
Client NFD	10	0.9		
Visitor or family member of patient/client	6	0.5		
Co-worker	*	*		
Disability supported accommodation resident	*	*		
Arrested/custodial/prison patient	*	*		
Unspecified person	441	37.7		

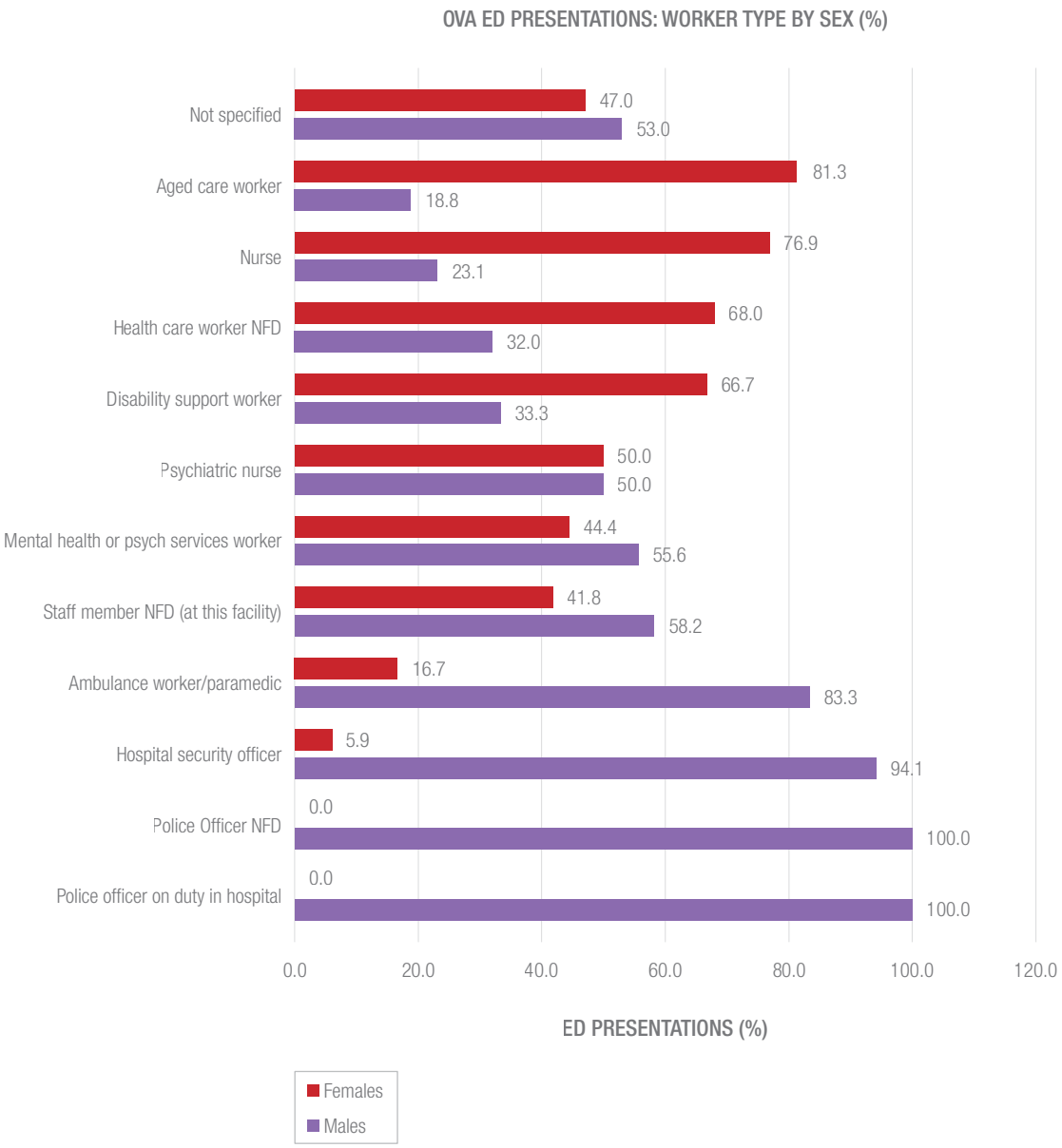
TABLE 9 (CONTINUED)
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): CIRCUMSTANCES AND CAUSES OF INJURY PROFILE FOR WORKERS AGED 18+ YEARS

Circumstances of assault injury characteristics (ED presentations)	OVA in healthcare settings (n=1171)		OVA in all industry settings (n=2542)	
	N	%	N	%
Occupation of injured worker *(based on analysis of narrative text information)*				
Staff member NFD (at this facility)	201	17.2	Narratives were not analysed for this dataset as the focus for this edition of *Hazard* was on healthcare settings	
Hospital security officer	85	7.3		
Nurse	52	4.4		
Mental health or psych services worker NFD	27	2.3		
Healthcare worker NFD	25	2.1		
Aged care worker	16	1.4		
Psychiatric (mental health) nurse#	12	1.0		
Disability support worker	12	1.0		
Residential care/supported accommodation worker (not aged care)	8	0.7		
Ambulance worker/paramedic	6	0.5		
Police Officer NFD	6	0.5		
Doctor (ED doctor, surgeon, psychiatrist, pathologist)	5	0.4		
Police officer on duty in hospital	5	0.4		
Other specified worker (incl. social worker, child protection worker)	6	0.5		
Not specified	705	60.2		
Major causes of assault injury (coded variable)				
Struck by or collision with person	859	73.4	1654	65.1
Struck by or collision with object	72	6.1	258	10.1
Cutting, piercing object	44	3.8	131	5.2
Fall	16	1.4	72	2.8
Other threat to breathing (includes strangulation, asphyxiation)	6	0.5	10	0.4
Scalds (hot drink, food, water, other fluid, steam, gas or vapour)	*	*	7	0.3
Contact burn (hot object or substance)	*	*	8	0.3
Other specified cause	131	11.1	280	11.0
Unspecified cause	38	3.2	122	4.8

*Cases have been suppressed due to small cell counts (<5); **NFD = not further defined; #The term 'psychiatric nurse' is taken directly from VEMD narratives as entered by triage staff. However, the current standard is to use the term 'mental health nurse'. Both terms are included in this table.

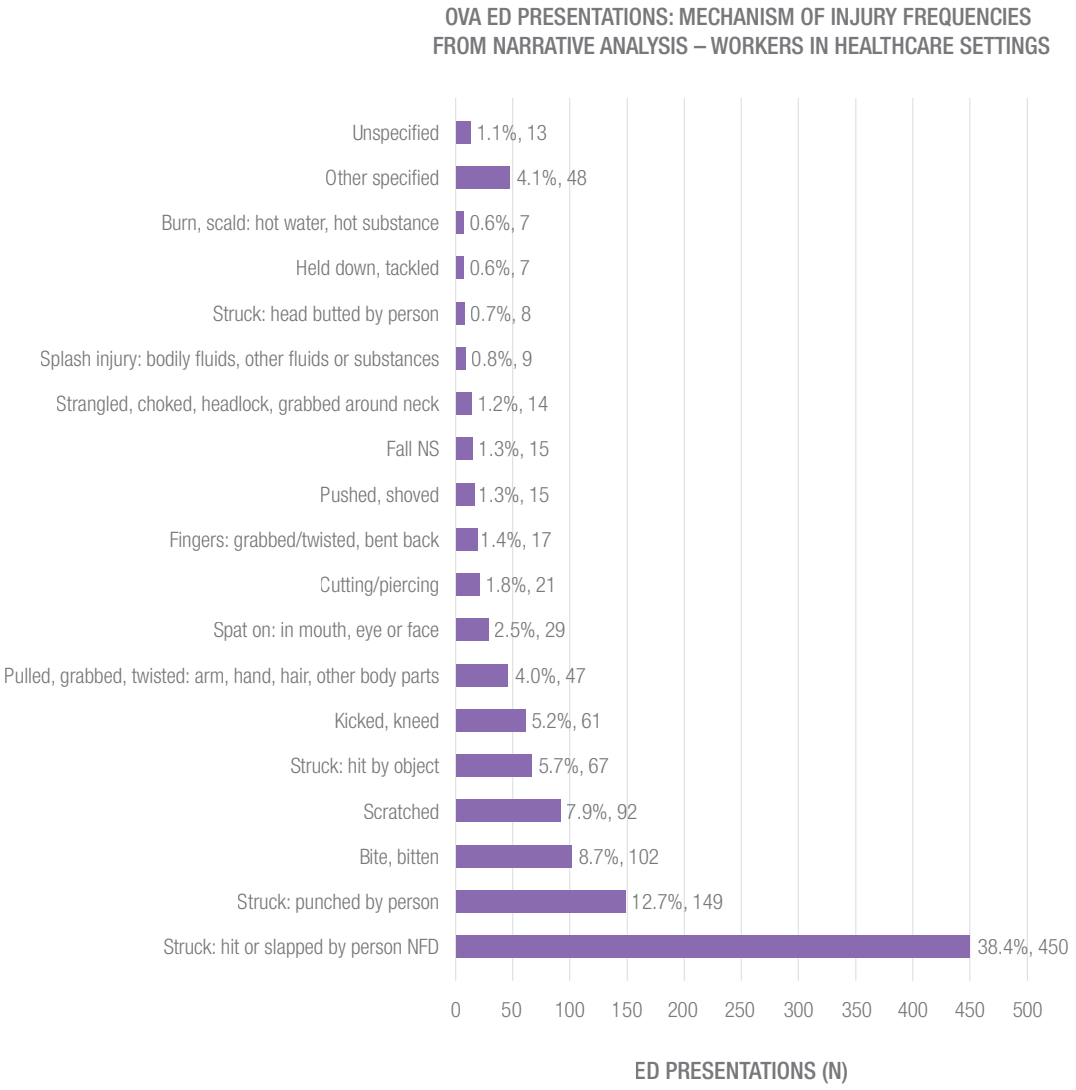
Further exploration of worker type by sex, as depicted in Figure 7, showed that the majority of nurses were female (76.9%); a female majority was also observed among aged care workers (81.3%), disability support workers (66.7%), residential care/ supported accommodation workers (66.7%) and health care workers (NFD) (68.0%). Male-dominated occupations included hospital security officers (94.1%), ambulance workers/paramedics (83.3%), all doctors, all police officers on duty in hospital, mental health/psych services workers (55.6%), and 'staff members NFD' (58.2%).

FIGURE 7
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS (2016/17–2020/21): WORKER TYPE BASED ON NARRATIVE ANALYSIS, BY SEX



Narrative text analysis was used to expand on the 'causes of injury' VEMD variable and create a new variable that categorised the 'mechanisms of injury' in more detail. In instances where the narrative text was lacking in detail, the code or value from the VEMD cause variable was applied instead. The full list of categories created under the "mechanism of injury" variable is provided in the Appendix section, Table 19. These more detailed categories for OVA-related injury ED presentations in healthcare settings were ranked in ascending order of frequency and depicted in Figure 8 along with corresponding percentages of ED presentations. The most common mechanism of injury for this group was being struck or hit by another person (exact cause not further defined) accounting for 450 ED presentations (38.4%). This was followed by workers being punched by the perpetrator (12.7%, n=149), being bitten (8.7%, n=102), scratched (7.9%, n=92), hit by an object (5.7%, n=67), being kicked or kneed (5.2%, n=61), having their arm/hand/hair or other body parts pulled, grabbed or twisted (4.0%, n=47) and being spat on in the face, mouth or eye (2.5%, n=29). Smaller proportions (less than 2%) were a result of cutting/piercing injuries, being pushed or shoved, strangled/choked, being head butted, held down and tackled and having hot substances thrown at them (Figure 8).

FIGURE 8
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS (2016/17–2020/21): MECHANISM OF INJURY BASED ON NARRATIVE ANALYSIS FOR WORKERS AGED 18+ YEARS (FREQUENCIES AND PROPORTIONS)



Up to four factor codes were created to flag details of interest within the 'description of injury event' variable. These variables included categories describing factors, situations, objects, circumstances, names of specialised healthcare units and any other relevant information relating to the OVA incident that may be of interest. The full list of codes is provided in Table 19 in the Appendix section of the report. The most common factors reported in the 'description of injury event' variable for ED presentations due to OVA-related injuries in healthcare settings are provided in Table 10. Not all cases had sufficient information in their corresponding narrative text variable to record a relevant factor code. Overall, 416 cases (35.5%) recorded at least one factor code, some of which recorded up to four factors of interest. In total, 544 factors were observed within the narrative text variable. The most common factor observed in the narrative text variable was the mention of a psychiatric unit or mental health ward in a hospital not further defined (NFD) or named (n=89 responses, 16.1% of responses) or 21.4% of cases recording at least one factor code. Specifically-named acute psychiatric inpatient units or mental health services involved in the injury event were mentioned for 15.9% of cases (n=66 responses) with at least one factor code recorded.

This was followed by mention of a ward or inpatient unit accounting for 11.2% of responses and 14.9% of cases with at least one factor code. The task of restraining a patient and sustaining an injury from that patient was recorded in 35 responses, representing 8.4% of cases with at least one factor recorded.

Other common factors included the terms 'agitated, aggressive' (10.8% of cases), emergency department (9.9% of cases), 'restraining patient' among 8.4% of cases, 'spit, saliva' recorded by 5.8% of cases with at least one factor code (Table 10). Other factors or objects involved in the injury event included chairs, bottles, glass, plates, knives, walking sticks and meal trays. Some perpetrators were drug affected, intoxicated, confused or disorientated, verbally aggressive or suffering from dementia.

TABLE 10
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS (2016/17–2020/21):
MOST COMMON FACTORS INCLUDED IN THE 'DESCRIPTION OF INJURY EVENT' VARIABLE FOR WORKERS AGED 18+ YEARS

Factors (multi-response summary)*	Responses (N=554 total number of factors recorded)		Percentage of cases recording this factor (N=416 cases with at least one factor recorded)
	N	%	%
Psychiatric unit or mental health ward in hospital NFD	89	16.1	21.4
Named acute inpatient psychiatric unit[#] *(incl. both within hospital mental health services as well as stand-alone services)*	66	11.9	15.9
Ward, IPU (inpatient unit NS)	62	11.2	14.9
Agitated, aggressive	45	8.1	10.8
ED – Emergency department	41	7.4	9.9
Restraining patient	35	6.3	8.4
Bodily fluid: spit, saliva	24	4.3	5.8
Delirious, confused, disoriented, dementia	23	4.2	5.5
Elderly perpetrator	20	3.6	4.8
Wall	13	2.3	3.1
Low COVID risk comment	12	2.2	2.9
Bodily fluid: not specified	8	1.4	1.9
Police involved	7	1.3	1.7
Door	7	1.3	1.7
Hair	6	1.1	1.4
Needle, needle stick	5	0.9	1.2
Blood test/exposure kit used	**	**	**
ICU – intensive care unit	**	**	**
Perpetrator was drug affected	**	**	**
Hot beverage: coffee, tea	**	**	**
Perpetrator infected with Hep B and/or C	**	**	**
Capsicum spray exposure	**	**	**
Home visit	**	**	**

TABLE 10 (CONTINUED)
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS (2016/17–2020/21):
MOST COMMON FACTORS INCLUDED IN THE 'DESCRIPTION OF INJURY EVENT' VARIABLE FOR WORKERS AGED 18+ YEARS

Factors (multi-response summary)*	Responses (N=554 total number of factors recorded)		Percentage of cases recording this factor (N=416 cases with at least one factor recorded)
	N	%	%
Section 351 patient	**	**	**
Bottle	**	**	**
Glass, broken	**	**	**
Metal object (pole, etc.)	**	**	**
Shirt collar	**	**	**
Wheelchair	**	**	**
Chair	**	**	**
Plate	**	**	**
Bin	**	**	**
Waiting room	**	**	**
Psychiatric unit in prison	**	**	**
Perpetrator was drunk/intoxicated	**	**	**
Verbal abuse from perpetrator	**	**	**
HDU: High dependency unit within Psych Unit	**	**	**
Weapon: knife	**	**	**
Victim: teary, shaky, upset	**	**	**
Perpetrator arrested	**	**	**
Meal tray	**	**	**
Walking stick	**	**	**
Tetanus shot given	**	**	**
Razor, blade	**	**	**
Shoe	**	**	**
Cleaning sign, signage	**	**	**
Lanyard	**	**	**
Pot lid	**	**	**
Nebuliser	**	**	**
HLCNH (High level care nursing home)	**	**	**
Oxygen tank	**	**	**
Oxygen tank trolley	**	**	**
Linen trolley	**	**	**
Urine container	**	**	**
Pencil	**	**	**
Psychogeriatric unit	**	**	**
Other specified factor	17	3.1	4.1
Total	**554**	**100.0%**	**133.2%**

*Grouped response for cases with up to four factor codes recorded in their corresponding narrative variable.
**Cases have been suppressed due to small cell counts (<5).
#This category includes both specifically named psychiatric units/mental health wards within hospitals as well as stand-alone units not located within acute care hospitals. Individually named units have been suppressed for confidentiality purposes and are reported in aggregate form only.

A 10% random sample of narrative text descriptions was selected to further describe typical OVA-related injury scenarios occurring in healthcare settings to workers presenting to the ED as a result of their injury. Narratives within this random sample with adequate descriptions of the injury event were selected and included the following:

- *"works as residential care worker, punched in ear by client"*
- *"ipu staff, punched to l)arm multiple time, teary and shaky. l)upper arm swollen …"*
- *"aggressive pt grabbed/squeezed hand, injured fingers"*
- *"injury – arm (digits), l wrist and fingers whilst restraining patient. staff member"*
- *"icu, security guard, bottle thrown into face"*
- *"arm wrenched back by patient"*
- *"unpredictable patient, dug nails in arm"*
- *"staff member in ipu- code black called. was shoved against a wall impacted on left hip, punched to right side face and grabbed right arm …"*
- *"staff in ipu- hot coffee thrown on them at work. burn to right upper chest …"*
- *"l arm pulled up and over head by a pt at work"*
- *"spat in eye by patient"*
- *"client's home, working as disability support worker, client attack patient, strangulation, punching"*
- *"bitten by patient whilst transferring from stretcher to bed"*
- *"assaulted by patient, punched to face and dragged by hair"*
- *"headbutt by ward patient".*

INJURY PROFILE

Table 11 outlines specific injuries involved in OVA-related ED presentations in healthcare settings and included, in order of frequency, superficial injuries accounting for 35.4% (n=415) of ED presentations, dislocations, sprains/strains, accounting for 15.9% (n=186), followed by open wounds (10.2%, n=120), injuries to muscles and tendons (6.6%, n=77) and eye injuries (excludes foreign body) accounting for 2.4% (n=28). Comparing healthcare setting injuries to all industry settings, slight differences in injury group rankings can be observed: superficial injuries were also most common but with a lower proportion (27.3%), followed by open wounds (13.6%) and dislocations/sprains/strains at 13.1% of ED presentations. Fracture-related injuries recorded a higher proportion of ED presentations (7.0%) compared to the proportion in healthcare settings at 2.1% (Table 11). Body regions most commonly involved in OVA-related injury ED presentations in healthcare settings included the head and face area (34.1%, n=399), followed by upper extremity areas such as the wrist and hand (18.4%, n=215), elbow and forearm (11.6%, n=136), and shoulder and upper arm (9.6%, n=113). Multiple body region injuries accounted for 6.7% (n=78) of ED presentations for workers injured in healthcare settings (Table 11). Similar injury patterns were observed among workers in all industry settings with a higher proportion of head and face injuries (42.1%) and lower elbow/forearm (7.9%) and shoulder/upper arm (7.0%) injuries.

Breaking down head and face injuries further for workers in healthcare settings, revealed that superficial injuries to the head accounted for 14.4% (n=169) of all ED presentations, followed by open wounds (3.8%, n=45), intracranial (concussion) injuries (2.7%, n=31) and eye/orbit injuries (2.1%, n=24). Wrist and hand injuries mostly involved dislocations, sprains/strains of the joints and ligaments comprising 6.3% (n=74) of all ED presentations, followed by superficial injuries (4.2%, n=49) and open wounds (4.0%, n=4.0) (Table 11).

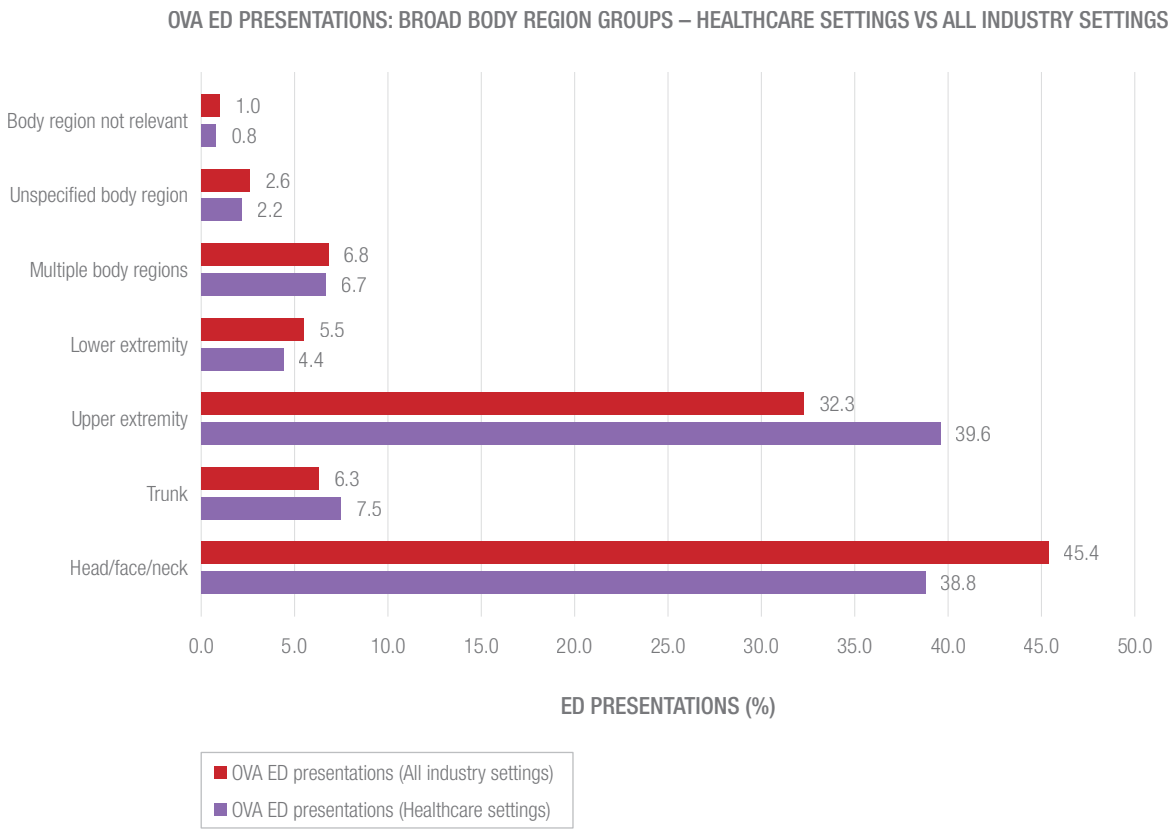
TABLE 11
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): NATURE OF INJURY PROFILE FOR WORKERS AGED 18+ YEARS

Specific Assault Injury Characteristics (ED presentations)	OVA in healthcare settings (n=1171)		OVA in all industry settings (n=2542)	
	N	%	N	%
Type of injury				
Superficial injury	415	35.4	695	27.3
Dislocation/sprain/strain	186	15.9	334	13.1
Open wound	120	10.2	345	13.6
Injury to muscle & tendon	77	6.6	129	5.1
Eye injury (excluding foreign body)	28	2.4	69	2.7
Fracture	25	2.1	178	7.0
Intracranial injury	25	2.1	107	4.2
Foreign body	18	1.5	45	1.8
Crushing injury	12	1.0	30	1.2
Burns	6	0.5	14	0.6
Injury to internal organs	5	0.4	18	0.7
Other specified & unspecified injury	254	21.7	578	22.7
Body region injured				
Head/face	399	34.1	1069	42.1
Superficial injury – head	*169*	*14.4*	*334*	*13.1*
Open wound – head	*45*	*3.8*	*160*	*6.3*
Fracture of skull & facial bones	*5*	*0.4*	*46*	*1.8*
Eye & orbit injury	*24*	*2.1*	*62*	*2.4*
Foreign body (eye)	*9*	*0.8*	*23*	*0.9*
Intracranial injury	*31*	*2.7*	*130*	*5.1*
Other & unspecified head injuries	*116*	*9.9*	*314*	*12.4*
Neck	55	4.7	86	3.4
Thorax/chest	49	4.2	87	3.4
Abdomen, lower back, lumbar spine & pelvis	37	3.2	66	2.6
Shoulder & upper arm	113	9.6	177	7.0
Elbow & forearm	136	11.6	200	7.9
Wrist & hand	215	18.4	445	17.5
Open wound – wrist & hand	*47*	*4.0*	*117*	*4.6*
Superficial injury – wrist & hand	*49*	*4.2*	*72*	*2.8*
Fracture – wrist & hand	*9*	*0.8*	*53*	*2.1*
Dislocation, sprain & strain of joints & ligaments – wrist & hand	*74*	*6.3*	*114*	*4.6*
Injury of muscle & tendon – wrist & hand	*15*	*1.3*	*23*	*0.9*
Other & unspecified wrist & hand injuries	*21*	*1.8*	*66*	*2.6*
Hip & thigh	7	0.6	20	0.8
Knee & lower leg	40	3.4	80	3.1
Ankle & foot	5	0.4	40	1.6
Multiple body regions	78	6.7	174	6.8
Other specified body region injured	11	0.9	33	1.3
Unspecified body region	26	2.2	65	2.6

*Cases have been suppressed due to small cell counts (<5).

Generally, the upper extremity area accounted for the majority of ED presentations (39.6%) for OVA-related injuries in healthcare settings, followed by the head/face/neck area (38.8%), the trunk (7.5%) and multiple body regions category (6.7%) (Figure 9). In contrast, OVA-related injury ED presentations among all industry settings had head/face/neck injuries ranked highest at 45.4%, followed by upper extremity injuries (32.3%) and multiple body regions injuries accounting for 6.8% (Figure 9).

FIGURE 9
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): BODY REGION INJURED (BROAD GROUPS) FOR WORKERS AGED 18+ YEARS



CLINICAL PROFILE

The clinical characteristics associated with each OVA-related injury ED presentation in a healthcare setting are described in Table 12. Almost three quarters (73.7%, n=863) of ED presentations were WorkCover or WorkSafe compensable presentations, while 26.3% were recorded as public (Medicare-funded) patients. All industry proportions were slightly lower for WorkCover/WorkSafe compensable patients, accounting for 66.8% of ED presentations, with a higher proportion of public patients (31.4%) and a small proportion (1.7%) falling under other compensable patient type categories such as the Transport Accident Commission (TAC).

Each ED presentation undergoes triage which involves the use of a systematic classification according to urgency of need of medical and nursing care, using the National Triage Scale. Categories range in scale from '*non-urgent: recommended time to treatment is less than or equal to 120 minutes*' through to '*resuscitation: recommended time to treatment immediate, less than or equal to 1 minute*'. Workers in healthcare settings presenting to the ED were mostly triaged as semi-urgent (recommended time to treatment less than 60 minutes) accounting for 50.1% (n=587) of presentations, followed by the urgent group (recommended time to treatment less than 30 minutes) at 24.4% (n=286) and non-urgent group (recommended time to treatment less than 2 hours) at 20.8% (n=244). A small proportion were treated as emergency patients (4.6%, n=54) requiring treatment within 10 minutes (Table 12). Comparing these proportions to data for workers in all industries sees the same proportion triaged as semi-urgent (50.4%), but with a higher proportion triaged as urgent (30.4%) and lower percentage as non-urgent (13.5%).

A very high proportion (94.0%, n=1101) of OVA-related injury ED presentations in healthcare settings were discharged to home or their usual residence after attending the ED, while 5.1% (n=60) were admitted to a ward or transferred to another acute hospital for ongoing care. A large proportion (85.6%) of workers in all industries were discharged to home and a higher proportion (13.8%), compared to healthcare setting workers, were admitted to a ward or transferred to another hospital (Table 12).

Upon departure, a significant proportion of workers sustaining OVA-related injuries in healthcare settings were referred to their GPs or local medical officers for ongoing care (60.4%, n=707). Other patients required no further care having completed their treatment (15.5%, n=182), while 10.3% (n=121) were given the option of an ED review visit if required, and 3.1% (n=36) were referred to an outpatients clinic. Similar patterns of referral recommendations were observed for workers in all industry settings (Table 12).

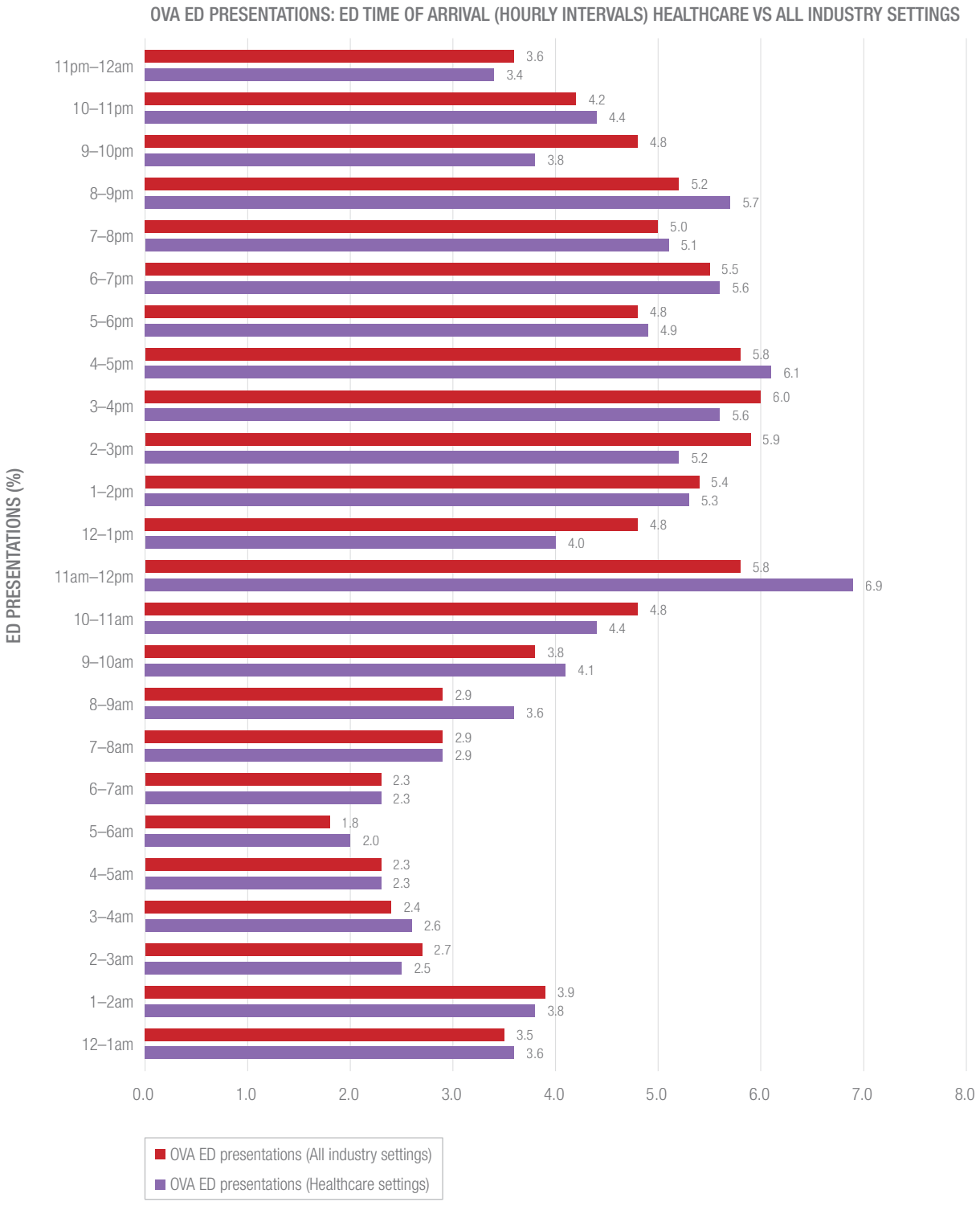
TABLE 12
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): CLINICAL PROFILE OF INJURY FOR WORKERS AGED 18+ YEARS

Assault injury clinical characteristics (ED presentations)	OVA in healthcare settings (n=1171)		OVA in all industry settings (n=2542)	
	N	%	N	%
Patient type				
Compensable – WorkCover/WorkSafe (Victoria)	863	73.7	1699	66.8
Public – Medicare patient	308	26.3	799	31.4
Other specified patient type	0	0	44	1.7
Triage category				
Resuscitation *(recommended time to treatment ≤ 1 minute)*	0	0	5	0.2
Emergency *(recommended time to treatment ≤ 10 minutes)*	54	4.6	140	5.5
Urgent *(recommended time to treatment ≤ 30 minutes)*	286	24.4	773	30.4
Semi-urgent *(recommended time to treatment ≤ 60 minutes)*	587	50.1	1282	50.4
Non-urgent *(recommended time to treatment ≤ 120 minutes)*	244	20.8	342	13.5
Departure status				
Returning to home, usual residence	1101	94.0	2176	85.6
Admission to ward/transferred to another hospital	60	5.1	350	13.8
Departure before treatment completed	10	0.9	16	0.6
Referral on departure *(agency patient referred to for continuing care)*				
Review in ED – scheduled	8	0.7	19	0.7
Review in ED – as required	121	10.3	187	7.4
Outpatients clinic	36	3.1	115	4.5
Local medical officer (LMO, GP)	707	60.4	1441	56.7
Medical specialist	7	0.6	32	1.3
Other specialist health practitioner (allied health personnel, dentist)	9	0.8	23	0.9
Other specified referral	17	1.4	30	1.2
Not known	16	1.4	32	1.3
No referral (treatment completed)	182	15.5	299	11.8
Not applicable (transferred, left at own risk, died)	68	5.8	364	14.3

*Cases have been suppressed due to small cell counts (<5).

ED presentation arrival times were collated using hourly intervals and are presented in Figure 10. The majority of OVA-related injury ED presentations occurring in healthcare settings occurred in the time period between 10am to 10pm, with peaks occurring at 11am to 12 pm (6.9%, n=81), 4 to 5pm (6.1%, n=71), 8 to 9pm (5.7%, n=67), 3 to 4pm (5.6%, n=66) and 6 to 7pm (5.6%, n=65). All industry ED presentation arrival times followed similar patterns, mostly occurring during the 10am to 10pm period.

FIGURE 10
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): TIME OF ARRIVAL IN ED FOR WORKERS AGED 18+ YEARS (HOURLY INTERVALS)



Analysing data by day of the week did not reveal any distinctive patterns with proportions generally evenly spread throughout the week. The peak day of the week for OVA-related injury ED presentations for both setting types occurred on Fridays accounting for 16.8% of healthcare setting ED presentations and 15.9% of all-industry setting ED presentations (Figure 11). Healthcare setting OVA-related injury ED presentations also frequently occurred on Wednesdays (15.9%) and Tuesdays (14.7%). The lowest proportion for both setting groups occurred on Mondays: 12.4% in healthcare settings and 12.3% in all industry settings combined.

The months that each ED presentation occurred over the five-year study period is described in Figure 12 for both setting groups. There were no distinct patterns observed for either group, with both recording peaks for differing months of the year. Injuries to workers in healthcare settings were most common in May (10.1%), June (9.6%), March (9.2%) and August (8.8%). All-industry settings had ED presentations peaking in March (9.5%), followed by December (9.4%), February (9.3%) and May (9.3%). The lowest proportion for healthcare setting workers presenting to the ED occurred in July (6.7%) and in April (6.8%) for all-industry workers (Figure 12).

FIGURE 11
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): DAY OF THE WEEK OF PRESENTATION FOR WORKERS AGED 18+ YEARS

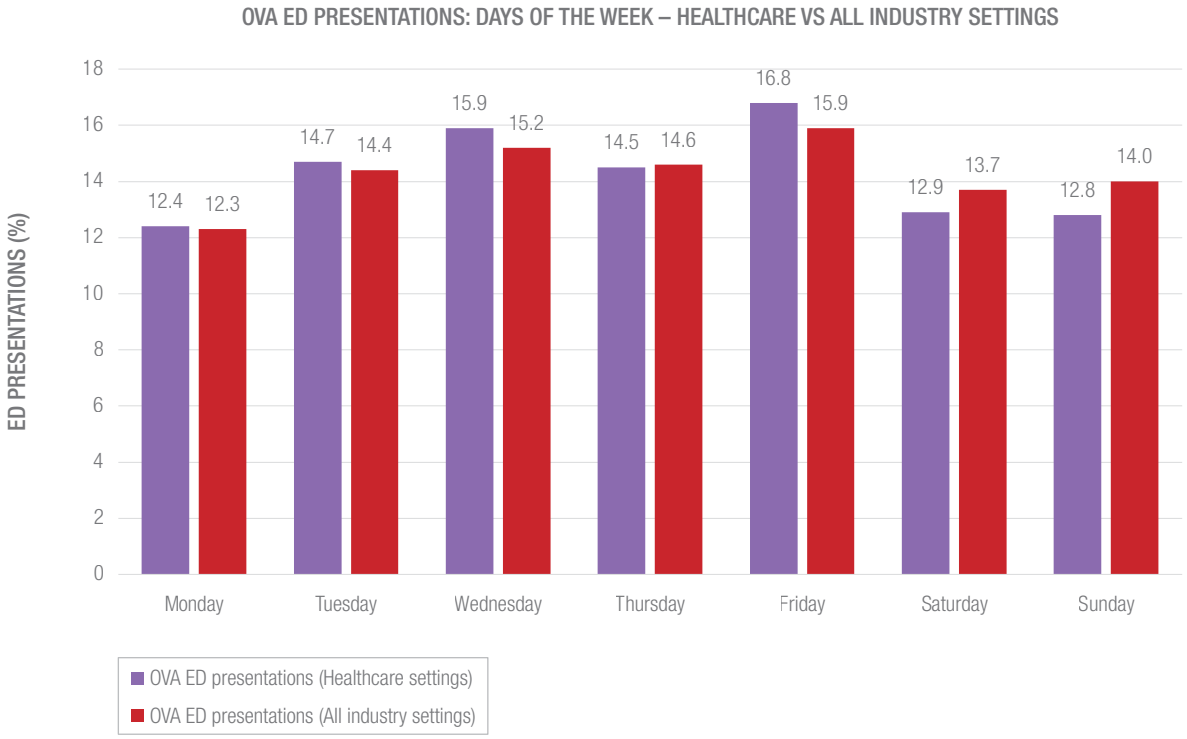
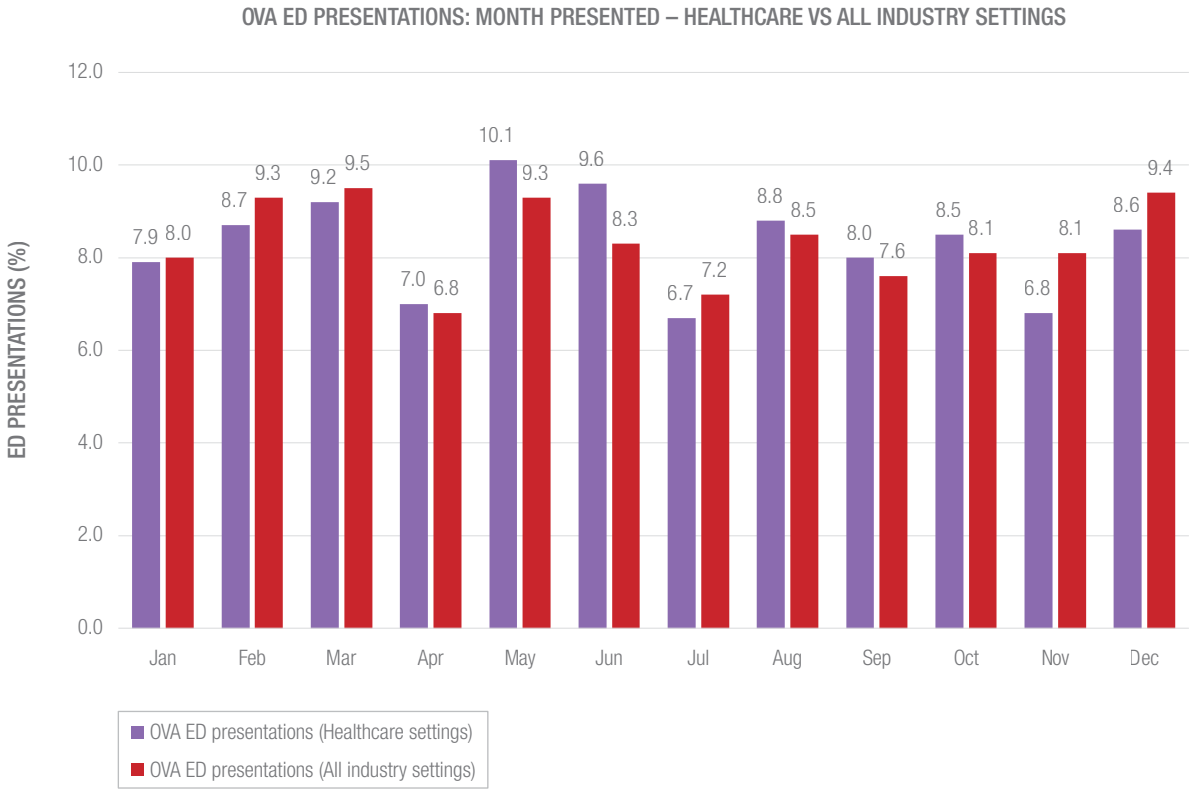
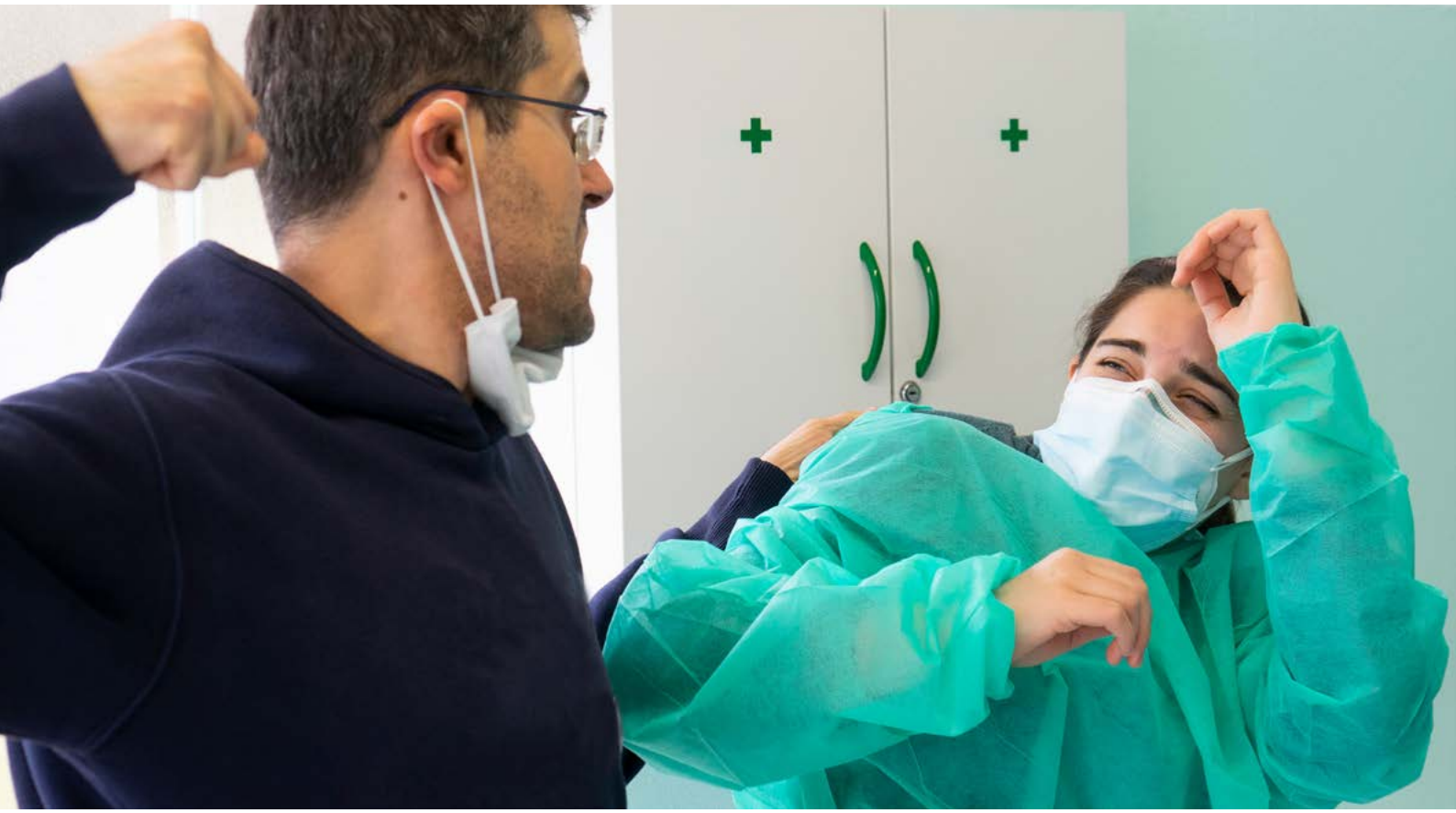


FIGURE 12
OVA-RELATED ED PRESENTATIONS IN HEALTHCARE SETTINGS VS ALL INDUSTRY SETTINGS (2016/17–2020/21): MONTH OF ED PRESENTATION FOR WORKERS AGED 18+ YEARS





SECTION C:
OVA INCIDENT STATISTICS IN SELECTED HEALTHCARE SETTINGS 2016/17–2020/21

The following provides a five-year snapshot of occupational violence statistics drawn from various sources across a selection of healthcare sectors including five major Victorian public hospital networks and Ambulance Victoria. Hospital statistics were reported separately for each hospital as reporting rates varied between hospitals and health service networks. Brief descriptions for each health service were included to present an overall picture of the range of services they provide and the diversity of the patients and clients they serve. Summaries of OVA-related hazard and incident prevention activities and initiatives undertaken by each organisation were included to provide some perspective regarding their varied approaches on this issue.

PUBLIC HOSPITALS IN VICTORIA OVA INCIDENCE PROFILE

Five hospitals and/or health networks were randomly chosen and their annual reports were utilised to derive OVA-related incidence statistics reported by hospital and health services staff over the same five-year study period examined in previous sections of this report. Statistics extracted from hospital annual reports included total full-time equivalent (FTE) numbers of staff at each hospital or health network, WorkCover (Victoria) claims data, internally reported OVA hazard and incident data and OVA-related incident outcomes data. These annual reports included consistent reporting of these statistics over the five-year study period along with short reports of OVA-related initiatives implemented for that particular financial year. Selected hospitals/health service networks included: St Vincent's Hospital Melbourne, Peninsula Health, The Royal Melbourne Hospital, Latrobe Regional Hospital (Traralgon) and Eastern Health.

ST VINCENT'S HOSPITAL MELBOURNE

St Vincent's Hospital Melbourne (SVHM) is a tertiary public healthcare service that provides acute medical and surgical services, emergency and critical care, aged care, diagnostics, rehabilitation, allied health, correctional health, mental health, palliative care and residential care. SVHM operates from 16 sites across greater Melbourne, including a major teaching, research and tertiary referral centre situated in Fitzroy, sub-acute care at St Vincent's Hospital on The Park and St George's Health Service Kew, palliative care at Caritas Christi Hospice, as well as aged care, correctional health, mental health and community centres, pathology collection centres, general practice services and dialysis satellite centres. In 2020/21, SVHM treated approximately 62,998 inpatients, saw 173,720 outpatients through specialist clinics and attended to 45,604 emergency department (ED) presentations. It also attended to 55,661 fever clinic presentations (SVHM, 2021).

SVHM reported that 2020/21 was an "*unprecedented year for staff safety*". As was commonly reported by many hospitals, actions to prevent the spread of COVID-19 in the workplace evolved as more became known about the virus. In addition, St Vincent's implemented their Wellbeing strategy during this time to provide support for infected, quarantined, frontline and home-based workers.

SVHM found that OVA was the leading type of incident reported during this period and also noted a rise in the number of injuries reported from these incidents. They are currently in the process of pursuing an organisation-wide project to review further ways to prevent occupational violence in their workplace (SVHM, 2021). Table 13 contains OVA-related incidence data for the period beginning 2016/17 to 2020/21. FTE hospital staff numbers steadily increased over the five-year period as did the rates of WorkCover accepted claims per 100 FTE staff for OVA, starting at 0.02 in 2016/17 and increasing to 0.18 per 100 FTE in 2020/21. There was also a noticeable increase in the number of OVA incidents reported in 2020/21 (n=801) compared to 2016/17 (n=448), also reflected in the number reported per 100 FTE (17.87) in 2020/21 versus 10.99 per 100 FTE in 2016/17. These increases were due to increases in OVA incidents as well as increases in the rates of reporting by staff over time. Hospital staff were more likely to report OVA incidents in more recent years due to increasing awareness of the need to report and address these issues rather than accept them as part of the job (SVHM, 2021).

TABLE 13
OVA-RELATED INCIDENCE DATA: ST VINCENT'S HOSPITAL MELBOURNE

Statistics*	2020/21	2019/20	2018/19	2017/18	2016/17
All hospital Staff (YTD FTE)	4483	4262	4146	4079	4023
WorkCover accepted claims with an occupational violence cause per 100 FTE	0.18	0.09	0.09	0.05	0.02
Number of accepted WorkCover claims with lost time injury with an occupational violence cause per 1,000,000 hours worked	1.05	0.55	0.56	0.30	0.15
Number of reported hazards/incidents per 100 FTE **(all causes)**	Not provided	39.91	43.99	39.91	39.92
Number of occupational violence incidents reported per 100 FTE	17.87	15.60	11.60	9.89	10.99
Number of occupational violence incidents reported	801	661	481	409	448
Percentage of occupational violence incidents resulting in a staff injury, illness or condition	15.36%	18.05%	25.78%	17.60%	18.00%

***Annual reports sourced from: https://www.svhm.org.au/newsroom/reports**
Notes/definitions for all hospital tables (Table 13 – Table 17) in Section C:
Occupational violence – any incident where an employee is abused, threatened or assaulted in circumstances arising out of, or in the course of their employment.
Incident – Occupational Health and Safety incidents reported in the health service incident reporting system. Code Grey reporting is not included, however, if an incident occurs during the course of a planned or unplanned Code Grey, the incident must be included.
Accepted WorkCover claims – accepted WorkCover claims that were lodged in the financial year.
Lost Time – defined as greater than one day.
YTD FTE – Year to date full-time equivalents (represents the average number of FTE throughout the year).

PENINSULA HEALTH (MORNING PENINSULA REGION)

Peninsula Health is the major metropolitan health service for Frankston and the Mornington Peninsula and encompasses four major hospitals: Frankston Hospital, Rosebud Hospital, Golf Links Road Rehabilitation Centre, and The Mornington Centre; five community mental health facilities; and five community health centres in Frankston, Mornington, Rosebud, Hastings and Carrum. During the 2020/21 twelve-month period, Peninsula Health treated 91,283 patients in their hospitals, had 96,555 people attend their emergency departments of which 39,742 patients were then admitted to hospital (Peninsula Health, 2021).

Peninsula Health reported that the recorded incidence of aggression and violence against their staff, volunteers and contractors had decreased slightly in 2020/21; however, "*an ongoing notable occurrence of assault occurring on staff by consumers in the over 65 age group was identified*". In response, weekly multi-disciplinary team Behaviour Meetings were implemented in wards reporting higher frequencies of OVA incidents leading to a decrease in such incidents as a result of these meetings (Peninsula Health, 2021). Other approaches included:

- *Daily Behaviours of Concern Rounds* – these occurred throughout various wards where issues had been identified resulting in the provision of support and advice to staff at 'the bedside'.
- *Behaviour Contracts* and *Not Welcome Notices* – these were both utilised across the organisation for patients and visitors who displayed significant aggressive behaviour or repeated aggression towards staff.
- *Extreme Aggression Alert* – this notice was placed on a patient's file following a significant aggression event flagging the need for extra security if deemed necessary.
- *Behaviour management education and support* – this was provided both face-to-face with small simulated scenario training taking place onsite as well as the utilisation of online programs using 'mock codes' videos (hospital emergency codes) recorded at various Peninsula Health sites (Peninsula Health, 2021).

Table 14 contains OVA-related incidence data for the period from 2016/17 to 2020/21. The number of OVA incidents reported per 100 FTE increased steadily over the five-year period, starting at 16.17 in 2016/17 and rising to 31.0 per 100 FTE in 2019/20, then dipping slightly to 24.97 per 100 FTE in 2020/21. A similar pattern was observed for the actual number of OVA incidents reported, while the percentage of these incidents resulting in a staff injury, illness or condition doubled over the five years, from 14.5% in 2016/17 to 33.0% in 2020/21.

TABLE 14
OVA-RELATED INCIDENCE DATA: PENINSULA HEALTH NETWORK (MORNINGTON PENINSULA REGION)

Statistics*	2020/21	2019/20	2018/19	2017/18	2016/17
All hospital Staff (YTD FTE)	4179	3984	3923	3754	3601
WorkCover accepted claims with an occupational violence cause per 100 FTE	0.23	0.22	0.09	0.34	0.03
Number of accepted WorkCover claims with lost time injury with an occupational violence cause per 1,000,000 hours worked	1.15	1.14	0.46	1.28	0.14
Number of reported hazards/incidents per 100 FTE **(all causes)**	54.00	47.00	51.00	39.10	39.50
Number of occupational violence incidents reported per 100 FTE	24.97	31.00	27.00	22.00	16.17
Number of occupational violence incidents reported	1049	1159	887	755	579
Percentage of occupational violence incidents resulting in a staff injury, illness or condition	33.0%	28.3%	10.3%	13.2%	14.5%

*Annual reports sourced from: https://www.peninsulahealth.org.au/about-us/publications/past-publications/
For notes/definitions see Table 13.

THE ROYAL MELBOURNE HOSPITAL

The Royal Melbourne Hospital (RMH) began in 1848 as Victoria's first public hospital and has since grown to be one of the largest health providers in the state. RMH provides acute medical and surgical services, emergency and critical care, a comprehensive range of specialist medical, surgical, and mental health services; as well as rehabilitation, aged care, outpatient and community programs. Services provided by RMH extend from the City through Royal Park and 32 mental health services across the north-western suburbs of Melbourne. During the 2020/21 period, RMH had 98,900 inpatient admissions across their services, 77,371 ED presentations and 4,412 mental health inpatient admissions (RMH, 2021).

During 2020/21, the RMH reported that they "*continued to progress projects from previous years, as well as implementing a number of new initiatives to ensure a safe working environment for our staff and improve staff health and wellbeing. Our safety systems and processes continued to evolve in response to COVID-19 and a range of initiatives to support the safety of our staff have been implemented.*" In keeping with their interdisciplinary approach of the COVID-19 Staff Support and Wellbeing Service (a confidential phone line and intervention support team), a Workforce Wellbeing Team was created in September with wellbeing consultants, general and mental health nurses, psychologists and occupational therapists to support staff. The team used a psychological first aid framework, and offered skills sessions to build wellbeing capacity among staff and leaders. The team also oversaw services including a Peer Support Program, Family Violence Contact Officers and the Employee Assistance Program. The OVA clinical nurse consultancy (CNC) service was introduced in 2020/21 to support staff through code grey responses. This included the implementation of early intervention strategies, training and in-services, wellbeing check-ins and work to improve the reporting culture of incidents across the organisation (RMH, 2021).

OVA incident statistics over the five-year study period are provided in Table 15. The number of FTE staff increased steadily over this period while the number of OVA incidents reported per 100 FTE remained around the 26–27 mark. It was much lower during 2019/20 at 15.6 per 100 FTE. The actual number of reported OVA incidents increased over the study period, rising from n=1717 in 2016/17 to almost double in 2020/21 at n=2955 incidents. The lowest number was observed for the 2019/20 financial year at n=1160 reported OVA incidents. The proportion of OVA incidents resulting in a staff injury, illness or condition dropped significantly over time from 15.6% in 2016/17 to 0.61% in 2020/21.

TABLE 15
OVA-RELATED INCIDENCE DATA: THE ROYAL MELBOURNE HOSPITAL

Statistics*	2020/21	2019/20	2018/19	2017/18	2016/17
All hospital Staff (YTD FTE)	7440	7235	6920	6904	6669
WorkCover accepted claims with an occupational violence cause per 100 FTE	0.13	0.13	0.001	0.18	0.17
Number of accepted WorkCover claims with lost time injury with an occupational violence cause per 1,000,000 hours worked	0.09	0.83	Not provided	1.14	1.04
Number of reported hazards/incidents per 100 FTE **(all causes)**	42.72	33.40	31.00	26.26	Not provided
Number of occupational Violence incidents reported per 100 FTE	26.9	15.6	30.3	26.7	26.4
Number of occupational violence incidents reported	2955	1160	2123	1775	1717
Percentage of occupational violence incidents resulting in a staff injury, illness or condition	0.61%	0.86%	1.69%	23%	15.6%

*Annual reports sourced from: https://www.thermh.org.au
For notes/definitions see Table 13.

LATROBE REGIONAL HOSPITAL (TRARALGON)

Latrobe Regional Hospital (LRH) is located 150km east of Melbourne and is Gippsland's specialist referral and trauma centre. LRH provides services such as emergency care, elective surgery, aged care, obstetrics, mental health, pharmacy, rehabilitation and medical and radiation oncology. They are the main provider of acute mental health services in the Gippsland area and have community mental health teams in the Latrobe Valley, Sale, Bairnsdale, Yarram, Orbost, Korumburra, Warragul and Wonthaggi as well as an inpatient unit at the hospital. In 2020/21, LRH treated approximately 174,001 patients overall, they saw 80,599 outpatients through specialist clinics and attended to 41,605 emergency department (ED) presentations (LRH, 2021).

In 2018/19, the Latrobe Regional Hospital (LRH) reported that their Occupational Violence and Aggression (OVA) Working Group (established in 2013) encourages staff to report incidents of violence and abuse. The group's role is to develop, implement and evaluate a framework of best practice interventions to reduce the frequency and impact of occupational violence and aggression (LRH, 2019). The following initiatives were implemented:

- *"OVA page updated on the staff intranet – additional psychological wellbeing content and trauma video uploaded*
- *OVA updates in weekly LRH staff newsletter*
- *'Self-Talk' posters in all staff amenities rooms*
- *revised Home Visiting Policy and Risk Screen OVA Staff Survey completed,*
- *Post Incident Response Protocol and Education completed*
- *'calm down' and sensory boxes introduced in staff areas*
- *Pre-admission OVA screening project commenced*
- *new online mandatory OVA training program introduced*
- *patient safety alerts now being added to patient records"* (LRH, 2019).

Table 16 contains OVA-related incidence data for the period beginning 2016/17 to 2020/21 for the LRH. The number of OVA incidents reported per 100 FTE decreased steadily over the five-year period, starting at 33.1 in 2016/17 and dropping to 15.38 per 100 FTE in 2019/20, but then increasing to 26.12 per 100 FTE in 2020/21. A similar pattern was observed for the actual number of OVA incidents reported, while the percentage of these incidents resulting in a staff injury, illness or condition fluctuated each year over the five years around the 3% and 7% mark, recording 3.14% in 2020/21.

TABLE 16
OVA-RELATED INCIDENCE DATA: LATROBE REGIONAL HOSPITAL (TRARALGON)

Statistics*	2020/21	2019/20	2018/19	2017/18	2016/17
All hospital Staff (YTD FTE)	1561.50	1483.75	1414.58	1324.61	1259.96
WorkCover accepted claims with an occupational violence cause per 100 FTE	0.38	0.07	0.37	0.45	0.39
Number of accepted WorkCover claims with lost time injury with an occupational violence cause per 1,000,000 hours worked	1.51	0	1.83	2.26	1.92
Number of reported hazards/incidents per 100 FTE **(all causes)**	7.38	6.33	10.35	14.98	Not provided
Number of occupational violence incidents reported per 100 FTE	26.12	15.38	22.25	24.14	33.1
Number of occupational violence incidents reported	414	221	243	324	426
Percentage of occupational violence incidents resulting in a staff injury, illness or condition	3.14%	7.24%	2.47%	7.70%	2.27%

*Annual reports sourced from: https://www.lrh.com.au
For notes/definitions see Table 13.

EASTERN HEALTH

Eastern Health is one of Melbourne's largest metropolitan health services providing a range of emergency, surgical, medical and general healthcare services, including maternity, palliative care, mental health, drug and alcohol, residential care, community health and state-wide specialist services. They have over 60 facilities and their main sites include Angliss Hospital (Upper Ferntree Gully), Box Hill Hospital, Healesville Hospital, Yarra Valley Health, Maroondah Hospital (Ringwood East), Peter James Centre (Burwood East), State-wide Services (Richmond), Wantirna Health and Yarra Ranges Health (Lilydale). During the 2020/21 financial year, Eastern Health attended to 153,839 emergency department presentations, 281,797 specialist clinic appointments, 146,516 patients admitted for acute care and 4581 patients admitted to their mental health inpatient units (Eastern Health, 2021).

In 2018, Eastern Health commissioned an independent review of their occupational health, safety and wellbeing systems and made the following improvements in relation to OVA:

- *"Updated and continued to implement actions from our occupational violence and aggression action plan, including additional body worn cameras, implementation of guidelines to improvement the management of behaviours*
- *Completion of a security audit at Eastern Health sites*
- *Upgrading of the security and duress system at the Peter James Centre*
- *Successful application to Department of Health and Human Services for Occupational Violence Prevention Funding to undertake building works to reduce the risk of injury to staff*
- *A continued focus on improving the safety of our staff who work in the community by purchasing additional duress alarms and developing community safety guidelines"* (Eastern Health, 2019).

OVA-related incidence data for Eastern Health over the five-year study period (2016/17–2020/21) are summarised in Table 17. FTE hospital staff numbers steadily increased each year over the five-year period as did the number of OVA incidents reported per 100 FTE staff, starting at 9.41 in 2016/17 and increasing to 16.1 per 100 FTE in 2020/21. The actual number of OVA incidents also increased over the five year period, with 1123 incidents reported in 2020/21, of which 15% resulted in a staff injury, illness or condition.

TABLE 17
OVA-RELATED INCIDENCE DATA: EASTERN HEALTH

Statistics*	2020/21	2019/20	2018/19	2017/18	2016/17
All hospital Staff (YTD FTE)	6722	6524	6261	6110	5952
WorkCover accepted claims with an occupational violence cause per 100 FTE	0.23	0.28	0.25	0.13	0.18
Number of accepted WorkCover claims with lost time injury with an occupational violence cause per 1,000,000 hours worked	1.40	1.78	1.08	0.70	0.81
Number of reported hazards/incidents per 100 FTE **(all causes)**	32.30	36.89	29.96	32.73	23.71
Number of occupational violence incidents reported per 100 FTE	16.1	15.57	11.37	11.07	9.41
Number of occupational violence incidents reported	1123	1049	731	683	560
Percentage of occupational violence incidents resulting in a staff injury, illness or condition	15.00%	3.80%	11.08%	10.25%	12.50%

*Annual reports sourced from: https://www.easternhealth.org.au/component/cobalt/category-items/3-publications/2-annual-reports?Itemid=170
For notes/definitions see Table 13.

AMBULANCE VICTORIA OVA INCIDENCE PROFILE

Ambulance Victoria (AV) was established on 1 July 2008 as a result of merging the Metropolitan Ambulance Service, Rural Ambulance Victorian and the Alexandra and District Ambulance Service. The AV Charter states that AV aims to improve the health of the community by providing high quality pre-hospital care and medical transport (Ambulance Victoria, 2021). It currently provides emergency medical response services to 6.5 million Victorians in an area of more than 227,000 square kilometres. AV is a statutory authority required by the *Ambulance Services Act 1986* to provide state-wide emergency pre-hospital ambulance services to all Victorians (Ambulance Victoria, 2021). During 2020/21, COVID-19 continued to have a significant impact on emergency response and demand on AV seeing them respond to 1,022,590 incidents in Victoria by road and air, up 4.3% on the previous year.

A 'shift in the geographic profile of demand' was observed during this period, with demand for their services changing from central Melbourne to the outer-ring suburbs and rural communities as people continued to work from home. AV also reported a decline in cardiac arrest survival during the COVID-19 period due to several factors, one of which included the additional time taken to commence resuscitation and to first defibrillation as a result of the necessary application of PPE in all cardiac arrest cases (Ambulance Victoria, 2021). The COVID-19 pandemic significantly impacted the out-of-hospital cardiac arrest (OHCA) systems-of-care in Victoria as essential stay-at-home rules to limit the spread of the virus meant that fewer cardiac arrests occurred in public. This meant that fewer patients were treated with public access defibrillators. Research conducted by AV showed a halving in the likelihood of survival for OHCA patients during the first wave of the pandemic. Overall, in 2020/21, AV received 801,984 Triple Zero (000) calls for assistance of which 660,478 were on-road emergency cases and 7707 cases required aero-medical complex care (Ambulance Victoria, 2021).

The significance of reporting the observed 'shift in the geographic profile of demand' and associated issues during the COVID-19 pandemic period is to describe scenarios in which patients and their family members may become increasingly frustrated with ambulance workers and potentially escalate to violent and aggressive behaviour as a result. For example, taking longer to treat a patient who is experiencing a cardiac arrest could trigger some family members to respond negatively towards the ambulance worker.

Ambulance Victoria's annual report for 2019/20 stated that several initiatives were implemented to continue combatting violence against paramedics who are frequently assaulted and harassed in the course of their work. In the past 12 months, an AV staff member reported an OVA hazard, incident or injury (HII) every 13 hours, up from every 14 hours in the previous two years (Ambulance Victoria, 2020). Of 201 assaults on paramedics in 2019/20, the three most prevalent associated categories were mental health without a weapon (26%), drug and alcohol with or without a weapon (23%) and mental health with a weapon (11%). An additional 34% were due to various other causes and 12% were associated with an underlying pathology or cognitive impairment (Ambulance Victoria, 2020). All OVA hazard and incident reports were systematically reviewed to better understand and improve the safety of AV staff. Additionally, all new staff undergo virtual reality training to help them identify and manage risks to improve their safety and their partner's safety (Ambulance Victoria, 2020).

AV attends approximately 33,000 cases each year with Victoria Police with many of these cases involving agitated patients affected by drugs, alcohol or mental health issues. In 2019/20, a new project to help reduce paramedic and police injuries when responding to these cases involved AV working with Victoria Police to develop a scene safety video for use within both organisations. It is now being used across both agencies. In 2019/20, AV developed a Behaviours of Concern (BOC) Risk Assessment Tool comprising a six-item checklist to help identify and predict violent behaviour in patients over 18 years of age. The checklist, along with AV's established clinical expertise, should see improvements in their response to occupational violence risk (Ambulance Victoria, 2020). In March 2021, the new BOC assessment tool was officially launched to help AV workers "*predict the unpredictable*". This important tool provides AV paramedics with a "*simple process to evaluate the risk of violence and put appropriate safety controls in place. Importantly, the BOC can be used to assess the risk of anyone at the scene who poses a risk*" (Ambulance Victoria, 2021).

OVA-related incidence data for AV workers is outlined in Table 18 for the five-year period 2016/17 to 2020/21. FTE on-road clinical staff numbers increased at a steady rate during this period, as did the number of WorkCover accepted claims for OVA per 100 FTE and the number accepted with lost time injury per 1,000,000 hours worked. The number of OVA HII reports increased from n=567 in 2016/17 to n=696 in 2019/20 and then dropped slightly in 2020/21 to n=631. This pattern was also observed in the number of OVA HIIs reported per 100 FTE, peaking in 2019/20 at 13.1 and then dropping to 11.4 per 100 FTE in 2020/21. However, the proportion of OVA HIIs resulting in a staff injury, illness or conditions followed a continually increasing pattern, over the study period, from 2.65% in 2016/17 to 7.77% in 2020/21.

TABLE 18
OVA-RELATED INCIDENCE DATA: AMBULANCE VICTORIA

Statistics*	2020/21	2019/20	2018/19	2017/18	2016/17
On-road clinical staff (FTE)	4497	4337	4185	4049	3813
WorkCover accepted claims with an occupational violence cause per 100 FTE	0.89	0.62	0.52	0.31	0.33
Number of accepted WorkCover claims with lost time injury with an occupational violence cause per 1,000,000 hours worked	5.33	3.66	2.23	1.02	1.66
Number of occupational violence HII's reported	631	696	653	610	567
Number of occupational violence HII's reported per 100 FTE	11.4	13.1	13.2	12.7	12.5
Percentage of occupational violence HII's resulting in a staff injury, illness or condition	7.77%	4.74%	3.98%	2.46%	2.65%

***Annual reports sourced from: https://www.ambulance.vic.gov.au/about-us/our-performance/**
Notes/definitions:
Occupational violence – any incident where an employee is abused, threatened or assaulted in circumstances arising out of, or in the course of their employment.
HIIs – Occupational Health and Safety hazards/incidents/injuries (HIIs) reported in the health service incident reporting system
(AV's Health and Safety Claims System (HSCS)).
Accepted WorkCover claims – accepted WorkCover claims that were lodged in the financial year.
Lost Time – defined as greater than one day
On road Clinical Staff – includes but not limited to paramedics, team managers, patient transport officers, retrieval registrars, clinic transport officers and clinical instructors.
FTE – Full-time equivalents.

DISCUSSION

SUMMARY OF MAIN FINDINGS

This edition of Hazard provided a comprehensive overview of occupational violence and aggression (OVA)-related hospital-treated injury for workers in healthcare settings in Victoria for the five-year period 2016/17 to 2020/21. During the five-year study period, there were 181 hospital admissions and 1171 ED presentations for occupational violence and aggression (OVA) identified as occurring in a healthcare setting among Victorian workers aged 18 years and over. This represented an average of 36 admissions and 234 ED presentations per year for the period under study. The average annual rate per 100,000 employed persons working in the healthcare and social assistance (HCSA) industry for admissions was 8.2 and the average annual rate for ED presentations was 53.2 per 100,000. During this period, healthcare-related OVA hospital admissions accounted for 21% of all occupational violence-related admissions (n=878) and 46% of all coded occupational violence-related ED presentations (n=2542).
The rates for OVA-related injury in healthcare settings was much higher across the five-year period compared to the rates for all employed persons, with an average ratio of 1.6:1 for hospital admissions and an average ED presentation rate ratio of 3.5:1. On average, rates were 2.1 times higher for males working in healthcare settings versus males in all industries and female rates were 2.2 times higher for females working in healthcare settings as opposed to females working in all industries (based on hospital admissions per 100,000 workers). Similarly, in terms of ED presentations, rates were 7.0 times higher for males working in healthcare settings versus males in all industries, while female rates were 2.8 times higher for females working in healthcare settings as opposed to females working in all industries.

AGE AND SEX PATTERNS

In terms of rates, male workers in healthcare settings had a much higher annual average hospital admission rate than female workers: 15.6 per 100,000 males employed in the HCSA industry compared to the female rate of 6.2 per 100,000 employed females in the HCSA industry. This sex difference was amplified among ED presentations with male workers having a much higher annual average rate of 135.3 per 100,000 employed males in HCSA industry compared to females at 30.5 per 100,000 employed females in the same industry. According to Australian Bureau of Statistics (ABS) labour force data, in 2021 the average number of people employed in the HCSA industry in Victoria was recorded to be 485,993 of which 77% (373,903) were female workers (Australian Bureau of Statistics, 2022). Although female workers in this industry make up the majority of the workforce, in terms of hospital-treated injury, this report found that male workers recorded a higher rate of OVA-related hospital admissions and ED presentations. This rate difference may be overestimated in this edition of Hazard as these rates were based on employed persons, not hours worked: females are more likely than males to work part-time.

The observed sex differences may be more pronounced in ED presentations data because the narrative text variable has allowed for the inclusion of workers in healthcare industry such as hospital security workers, social workers, and support/care workers. These workers may have been coded to other industries in VAED/ICD-10-AM coding. Generally, several researchers have found that male healthcare workers were more likely to be physically assaulted in the work place than female healthcare workers. Female healthcare workers were more likely to be verbally abused and experience less physical violence in healthcare settings (Guay et al., 2015; Maran et al., 2019; Dafny et al., 2020; Pich et al., 2020).

Workers aged 25–29 years were the peak-affected age group for both hospital admissions (17.1%) and ED presentations (17.7%); the next highest proportion for healthcare industry workers was among 55–59 year-olds (13.8%) for hospital admissions and 30–34 year-olds (14.0%) for ED presentations.

In terms of hospital admissions, male workers in healthcare settings tended to be older with over half (56%) aged 45 years and above with the highest proportion aged between 45–54 years (29.3%). Additionally, a large proportion (28.0%) were aged between 25–34 years. Female workers in healthcare settings tended to be younger with 60% aged 45 years and below; the highest proportion (31.1%) were aged between 25–34 years while a significant proportion (19.8%) were aged 45–54 years. In healthcare settings, a much higher proportion of 18–24 year-old workers was observed among females, accounting for 11.3% of admissions compared with male workers in the same age group accounting for 2.7% of males. In healthcare settings, ED presentations for male and female workers had very similar distributions in terms of age group categories. The highest proportion for both sexes was observed for those aged between 25–34 years (males: 30.0%, females: 33.7%), followed by workers aged 35–34 years (males: 20.4%, females: 19.8%). Younger, less experienced nursing staff tend to be at a higher risk of OVA compared to their older, more experienced colleagues (Pich et al., 2020).

COVID-19 PERIOD

OVA injury-related admission rates were steady for males over the five-year period but dipped for females during 2020/21, recording an admission rate of 3.8 per 100,000 employed females in the HCSA industries for that financial year. The rate was 7.4 during the previous year (2019/20). This lower rate for female healthcare workers might be associated with COVID-19-related lockdowns and primary carer/parental responsibilities. Female healthcare workers may have been more likely to stay home or work less to care for children and/or family members requiring care leading to increased staff shortages already affected by COVID-19 directly (Duffy, 2021). However, others have reported that the COVID-19 pandemic has caused OVA-incidents to increase across all health settings (Australian College of Nursing (ACN), 2021).

HEALTHCARE SETTING AND INDUSTRY

OVA-related injury admissions in healthcare settings refers to people working in the healthcare industry as per the ICD-10-AM activity code (see Appendix A: Activity Undertaken at Time of Injury Definitions). However, this coding excludes workers not traditionally coded or considered as healthcare workers, such as hospital security staff and supported care staff. These worker types have been included in this report because the focus is on all workers in healthcare settings, not limited to practitioners such as nurses and doctors.

Focusing on OVA-related admissions in healthcare settings alone (n=181), 74.0% (n=134) occurred in health service areas, and the remaining proportion (12.7%, n=23) occurred in aged care facilities. A small number of admissions for healthcare workers occurred in non-typical settings such as trade and service areas, public roads, streets or highways and private residences or homes. Healthcare workers working in non-traditional healthcare settings are particularly vulnerable as they tend to work alone in people's homes and in public spaces. Work patterns have also changed, with workers employed in several jobs across different workplaces and clouding the employer duty of care responsibilities (Small et al., 2020; WorkSafe Victoria, 2020a).

The Healthcare and Social Assistance (HCSA) industry is growing rapidly as a result of population growth, the ageing workforce and the increasing demand for child care and home-based care services. During 2018/19, the HCSA industry accounted for 14.9% of the Victorian labour force, 8.5% of Victorian workplaces, 13.1% of all hours worked and 15.2% of all WorkSafe claims, with $62.5 million total claims paid out (WorkSafe Victoria, 2020a). It represents a diverse range of occupations and a variety of settings including hospitals, residential facilities, homes and the community at large. Workers come from a range of cultural and diverse backgrounds and ages – notably more older workers than in other industries (WorkSafe Victoria, 2020a). They tend to be frontline workers, dealing with patients or clients in close proximity in roles that are physically, emotionally and mentally challenging (Lim et al., 2022). It has been noted that in this industry, the safety and care of patients and clients was perceived to be more important than that of the workers (WorkSafe Victoria, 2020a).

PERPETRATORS OF OVA-INCIDENTS

The type of perpetrator involved in the OVA-related injury event was recorded in both hospital admissions and ED presentation datasets. Hospital admission data indicated the type of perpetrator using ICD-10-AM coding while perpetrators in the ED presentation dataset were identified via narrative text analysis. Both approaches have advantages and disadvantages. In hospital admission data, perpetrator coding was systematic in that every record had a perpetrator code assigned; however, the codes themselves were limiting in the context of a healthcare setting. Hospital admission-coded perpetrator categories were mostly allocated to the 'other specified persons' group (76.8%) as there is no code for 'patient' or 'client' to represent a person that falls somewhere between a 'known person' and an 'unknown person'. A further 12.7% were coded as 'persons unknown to the victim', i.e., a stranger.

ED presentation data do not have specific codes for perpetrators of assault and any analysis of perpetrators relies entirely on their description in the narrative text. Perpetrator information was not always included in the event description variable, accounting for 37.7% of missing perpetrator data for OVA-related ED presentation incidents occurring in a healthcare setting. One advantage is that narrative text is not restricted by standardised coding, allowing the opportunity for specific descriptions of perpetrator types. The ED presentation dataset revealed that, as expected, the majority of perpetrators of OVA-incidents were patients not further defined (NFD) at (44.2%), followed by psychiatric/mental health patients (11%) and aged care/nursing home residents (2.0%).

HEALTHCARE WORKERS

The majority of records (60.2%) in the VEMD narrative text variable did not include information regarding the occupation or role of the injured worker. Further, the term 'staff' or 'staff member' was mentioned in 17.2% of ED presentations. This term does not provide any insight regarding the injured worker's role; however, it does imply that they most likely worked at the same facility at which they experienced the OVA-related incident. The next most commonly recorded occupation type was that of a hospital security officer accounting for 7.3% of cases, followed by nurses (not further defined – NFD) at 4.4%, mental health/psychiatric services worker (NFD) at 2.3%, healthcare worker (NFD) at 2.1%, aged care worker (1.4%) and psychiatric/mental health nurse (1.0%). Sex differences among all these occupations were observed, with male-dominated roles including hospital security workers, police officers on duty in hospitals, ambulance workers/paramedics and mental health/psychiatric services workers (NFD). Female-dominated occupations were observed to be nurses, aged care workers, disability support workers and healthcare workers (NFD). Similar labour force rankings in the HCSA industry were reported by WorkSafe Victoria (2020a) with registered nurses ranked first, followed by aged and disability care workers, child carers and nursing support and personal care workers. In the same strategy report, WorkSafe Victoria, finds that the work challenges faced by this workforce deems them as vulnerable workers. They define 'workplace vulnerability' as:

- *'where a worker is subject to increased exposure to occupational health and safety hazards, and/or increased risk of work-related injury or illness due to personal and/or work-related factors and lacks the capacity or means to be able to do anything to influence or improve it'*.

Occupational violence and aggression (OVA) in healthcare settings is an extensively researched issue both nationally and internationally (Spelten et al., 2020). What is commonly concluded is that OVA in healthcare is a highly complex and multi-faceted issue that requires a multitude of approaches by government, employers and the community to address key elements and factors.

VICTORIAN STATE GOVERNMENT INITIATIVES

WorkSafe research shows that occupational violence and aggression (OVA) in healthcare is a major OHS concern, with up to 95% of healthcare workers reporting to have experienced some form of violence in their workplace (WorkSafe Victoria, 2022). It is reported that healthcare workers are nearly five times more likely than other workers to lodge an occupational violence claim (WorkSafe Victoria, 2018). An investigation by the Victorian Auditor-General (2015) reviewed efforts made by the Department of Health and Human Services Victorian, WorkSafe Victoria, public health services and Ambulance Victoria on this issue and made several recommendations. As a direct result, the *Violence in Healthcare Taskforce* was established by the Minister for Health in August 2015 with Clare Amies (WorkSafe Victoria's Chief Executive at the time) as Chair. The Taskforce included members from the Australian Nursing and Midwifery Federation, Australian Medical Association, a public health service, the Victorian Managed Insurance Authority, Health and Community Services Union, Health Workers' Union and the Department of Health (Violence in Healthcare Taskforce, 2016). The Taskforce identified the following necessary key elements:

- The need to focus on building a workplace safety culture
- Supporting actions that will help to prevent violence
- Shifting the community's (including employer and worker) attitude towards acceptable behaviours in healthcare settings
- Improving organisational prevention of and responses to the incidence of violence to ensure that staff and patients feel safe.

WorkSafe Victoria (2016) reported that the Taskforce found a critical need for improved awareness and reporting of violence in the Victorian health system. It recommended a review of security procedures, simplified incident reporting, a public awareness campaign and continued support for the Health Service Violence Prevention Fund, as well as a three-year program to improve safety of staff in acute public health and acute mental health workplaces. In addition, WorkSafe met with a number of hospital boards to increase accountability for OHS matters at the highest leadership level to promote a sustainable safety culture in hospitals.

WORKSAFE VICTORIA "IT'S NEVER OK" CAMPAIGN

This campaign was developed in partnership with the Department of Health and Human Services following the release of a 2015 Victorian Auditor-General's Office report that found healthcare workers faced unnecessary levels of risk in relation to occupational violence. Acknowledging that OVA in healthcare is a community-wide issue resulted in WorkSafe, the Department of Health (DH) and Ambulance Victoria (AV) joining forces to launch a major Victorian public awareness campaign "*It's Never OK*" with the clear message that violence and aggression against healthcare workers is never OK. The campaign aimed to:

- increase awareness of the prevalence of OVA in the healthcare sector
- shift attitudes so people do not believe OVA is part of the job for healthcare workers
- increase the understanding that extreme acts of violence as well as 'less extreme' acts of aggression are all unacceptable.

The campaign sought to "*drive action by encouraging the community to STOP the behaviour, healthcare workers to REPORT the behaviour, and employers to PREVENT the behaviour and VALUE their workers.*" Campaign messaging featuring a nurse, a paramedic and aged care worker ran across TV, cinema, radio, outdoor and digital during the period beginning 5 June – 31 July 2017 (total expenditure: $1,759,157) (WorkSafe Victoria, 2017).

WorkSafe continues to run campaigns to prevent OVA, with particular focus on workers in the health sector. During the 2020/21 financial year, WorkSafe ran two major media campaigns on this topic. The first campaign was the 'Too many workers face this every day. It's never OK', initiative. Its aims were to raise awareness within the community about the prevalence of work-related violence, shift attitudes so that these behaviours are seen as unacceptable and ensure that employers are aware of their obligations. Campaign messaging ran across TV, radio, print, outdoor, digital and social media during Mar 2021 – Jun 2021 (total expenditure: $2,124,000). The second campaign was the ongoing "It's never OK" campaign which works to shift attitudes about the unacceptability of violence and aggression faced by healthcare workers, and reinforce that no matter the situation, violence and aggression against workers is never ok. As per recommendations from stakeholders, the campaign messaging was extended to include pharmacists and staff working in chemists. The campaign ran across TV, radio, social, digital and outdoor platforms during Oct 2021 – Nov 2021 (total expenditure: $882,000) (WorkSafe Victoria, 2021).

OVA-RELATED HAZARD AND INCIDENT REPORTING

In order to increase hazard and incident reporting levels, the 'safety culture and mindset' around the acceptance by some workers and their employers that OVA is part of the job needs to shift. This kind of belief is associated with high levels of underreporting of OVA incidents and insufficient responses from employers to these reports (WorkSafe Victoria, 2020a). The Department of Health Victoria (DH) (2021) states that '*Incidents of occupational violence and aggression in Victorian health services are significantly under-reported. Accurate reporting is essential to understand the breadth of the issue, and to develop better preventative strategies and controls. Reporting all incidents of violence and aggression, even those that do not require medical attention, helps to create a culture in our health services that does not tolerate violence and aggression.*'

The Victorian Health Incident Management System (VHIMS) is a standardised dataset whose purpose is to collect clinical, occupational health and safety (OHS) incidents, near misses, hazards and consumer feedback for Victorian public health services (VAHI, 2022b). VHIMS was established by the Department of Health in 2009 and taken over by the Victorian Agency for Health Information (VAHI) in 2017. VAHI manages the data collection on incident and feedback information in collaboration with the Department, Safer Care Victoria (SCV) and Victorian public health services (VAHI, 2022a).

IN-HOME SUPPORT WORKERS (HEALTH, DISABILITY, AGED CARE SECTORS)

WorkSafe has developed the Safe Support Tool in order to help those involved in in-home support or services, to understand professional boundaries, maintain a respectful and inclusive home and uphold health and safety during an in-home support service. See links for access to the tool and further information on its development:

- https://www.worksafe.vic.gov.au/safe-support-tool-home-support-workers
- https://www.makestudios.com.au/learn/empowering-in-home-support-workers-with-worksafe-victoria

LIMITATIONS

This edition of Hazard, focussing on OVA-related injury incidence in healthcare settings has several limitations. Some key limitations are outlined below, as well as their impact on the reliability and generalisability of the findings.

LIMITED DATA SOURCES

The results presented in this edition of Hazard do not capture all OVA-related injury incidents in healthcare settings requiring medical treatment in Victoria, but are limited to those that were recorded and coded in the hospital admissions and emergency department datasets. Threatening behaviour, non-physical violence such as verbal abuse and intimidation as well as non-injurious assaults are not coded and recorded in the VISU-held datasets. In addition, data regarding injurious events requiring medical treatment from other health service providers such as General Practitioners are not held by VISU and not captured in this report. Mental health consequences of physical and verbal abuse are also not captured. The results, therefore, are an underestimate of *all OVA-related injuries in healthcare settings* in Victoria, and provide a subset of relatively severe physical injuries, i.e., those requiring hospital treatment.

While analysis of hospital admission and ED presentation data for injurious OVA-related incidence is critically important for understanding the scope of the problem, this report does not address the wide-ranging impact of this issue on all workers within the healthcare sector.

LIMITATIONS USING THE SELECTION CRITERIA

Limitations within the VAED and VEMD in terms of coding may not have allowed for complete capture of all hospital-treated OVA-related injuries in healthcare settings. Case selection was based on several variables: intent of injury (assaults), compensable status (WorkCover) and/or activity at the time injury (working for income) coding in both the VEMD and VAED. Coding of the activity at the time of injury is not always complete and accurate, which is, arguably, the main limitation in terms of complete data capture of OVA-related injuries in healthcare settings in this edition of Hazard.

Perpetrator coding for occupational violence in the hospital admissions dataset (VAED) is not well suited for describing perpetrator type (such as patient; visitor; other staff member) in healthcare setting-related injury events. The 'other specified perpetrator' code was applied in the majority of cases. For a more detailed understanding of healthcare violence perpetrators, coding could be expanded to include patients, aged care residents, clients, co-workers, employers and managers. Similarly, the ED presentation dataset (VEMD) does not currently include perpetrator coding for intentional incidence and could benefit from the introduction of such a variable.

The location or 'place where the injury occurred' variable within the ED presentation dataset regarding the categories, 'medical hospital' and 'residential institution' presented some case selection issues. The former is too limited and the latter is too broad. In the VEMD, the 'medical hospital' category is further described by the singular term, 'hospital' (Department of Health Victoria (DH), 2020). In comparison, ICD-10-AM coding, which is applied to the VAED, represents a large group of health service areas such as day procedure centres, health centres, hospices, hospitals, hospital in the home (HITH), outpatient clinics and other unspecified health service areas (Australian Consortium for Classification Development (ACCD), 2019). The use of the 'medical hospital' category in the VEMD excluded other health service areas by definition. These were most likely allocated to the 'other specified' location category. Narrative analysis identified some of these 'other health service areas' cases where adequate information was provided and were included for analysis. However, it is likely that OVA incidents occurring in health service areas other than hospitals resulting in an ED presentation were undercounted.

The location category labelled 'residential institution' in the VEMD is broad and includes health and non-health institutions such as '*children's home, orphanage, home for the sick, nursing home, old people's home, hospice, military camp, reform school, prison, pensioners home, dormitory*' (Department of Health Victoria (DH), 2020). Extensive narrative analysis was necessary to identify and separate OVA incidents occurring in aged care facilities from the 'residential institutions' location group category in the VEMD. This was limited by the amount of information included in the descriptive text and may have underestimated the true number of OVA-related incidents taking place in aged care facilities resulting in an ED presentation by the worker involved. This was not an issue in the VAED as ICD-10-AM coding allows for specific location coding for aged care facilities.

Previous work by VISU on this topic area has involved extending case selection to include all other intent categories and then refining records by narrative analysis and systematic searches for relevant key terms. The 'undetermined intent' category in particular can yield additional cases due to miscoding and/or under-reporting of OVA-related incidents as 'assaults'.

Narrative searches in the VEMD were used to expand the data selection for a more inclusive approach, and to select cases for specific interest areas. Although a valuable method for improving case selection and addressing specific focus areas, narrative analysis is limited by the data quality of the narrative data in the VEMD. Narrative data quality can vary per hospital and can also vary over time: the narrative data presented in this Hazard should therefore be considered to provide context rather than a complete quantitative analysis.

AREAS FOR FURTHER ACTION

ED PRESENTATION AND HOSPITAL ADMISSION INJURY SURVEILLANCE AND RESEARCH

The following VEMD data quality, capture and completeness suggestions can help to improve the utility of this data resource for monitoring and reporting of OVA-related injury incidence statistics in healthcare settings:

1. Additional descriptive data collected through VEMD free-text fields could lead to improved identification of healthcare setting OVA-related injury causes and hazardous circumstances. This would include improvements to the recording of the place of occurrence (location) and the activity undertaken at the time of injury variables. This recommendation can be achieved through the current, ongoing in-depth injury surveillance data quality project of ED data in Victoria (Sheppard et al., 2022).

2. Expand the VEMD location code for 'medical hospitals' by adding another category to represent other 'health service areas'.

3. Modify the VEMD location code for 'residential institutions' by removing aged care facilities from this category and creating a new category/code labelled 'aged care facilities'.

GOVERNMENT, HEALTH SERVICES & AFFILIATED ORGANISATIONS

Due to the complex and multi-faceted nature of OVA in healthcare and the vast array of initiatives and strategies set in place by organisations such as the Victorian Department of Health (DH), Victoria's occupational health and safety regulator (WorkSafe Victoria) and many other health service organisations such as Ambulance Victoria, hospital services and health professional associations, it is beyond the scope of Hazard to propose further system-wide recommendations. Instead it recognises current and ongoing initiatives and refers to them, as outlined below, firstly reiterating the proposals put forward by the *Violence in Healthcare Taskforce*.

The Violence in Healthcare Taskforce (2016) outlined the following ten key outcomes that can be achieved as a result of improvements in organisational culture and behaviour towards OVA:

1. Victoria has a systems approach to the prevention of violence within health services.
2. A culture exists that does not tolerate violence against healthcare staff and supports the provision of an acceptable standard of care that ensures the health and safety of both health professionals and patients.
3. System level leadership and governance reduces sector-wide risk and holds services to account for organisational management, prevention and the response to occupational violence.
4. There is an integrated approach to identifying, investigating and eliminating or controlling risks. The effectiveness of risk control measures is regularly reviewed from a system and service perspective.
5. Health Service Boards and management are informed of incidents and risks identified in their organisation and across the system and have oversight and responsibility for the elimination and control of risks within their service.
6. Healthcare environments are safe for staff, patients and others.
7. The culture fosters engagement and empowerment to prevent violence in healthcare.
8. A culture of reporting, feeding back and learning is entrenched.
9. Where incidents do occur, post incident responses are appropriate to support staff and prevent future incidents.
10. Health Service Boards, the executive, staff, patients and the community are held accountable for their actions.

DEPARTMENT OF HEALTH (DH)

The Victorian Department of Health (DH) has implemented a range of initiatives to address OVA in healthcare. Current initiatives include standardising Code Grey responses, improving data collection on violence in healthcare settings, and improving education and training. Information, resources and additional links can be found on their website:

- https://www.health.vic.gov.au/worker-health-wellbeing/occupational-violence-and-aggression.

In addition, the Department of Health's strategy, '*Reducing occupational violence in Victorian hospitals*' (June 2016) outlines the department's strategic objectives to prevent and reduce occupational violence and aggression in Victorian health services. The strategy is articulated in a summary document and an infographic and can be accessed at the address below:

- https://www.health.vic.gov.au/worker-health-wellbeing/reducing-occupational-violence-and-aggression-in-victorian-health-services

There is also work currently being undertaken to implement OVA de-escalation training for healthcare workers. Training is integral to building and strengthening knowledge and skills to prevent and manage occupational violence and aggression (OVA) in the workplace. Occupational Violence and Aggression de-escalation (OVA) training for frontline healthcare workers is now available to equip them with skills and knowledge they need to recognise and respond to occupational violence. The training will be focused on de-escalation knowledge and practical skills for a range of patients and settings. Whilst the training will be delivered to frontline workers including ward clerks, front-of-house staff, health services are able to identify staff who they think will benefit from the training. There are two training options available:

- For healthcare workers in low-risk areas, a 1-hour online session
- For high-risk workers exposed to OVA, a 3-hour in-house face to face workshop (or alternatively offered as 2 x 1.5 hours sessions)

The training is being delivered by highly trained senior psychologists who have extensive experience. Further information can be found at the address below:

- https://www.health.vic.gov.au/worker-health-wellbeing/occupational-violence-and-aggression-training

SAFER CARE VICTORIA (SCV)

Established in 2017, Safer Care Victoria (SCV) is an administrative office of the Department of Health under Section 11 of the Public Administration Act 2004. SCV has a broad remit to improve healthcare for all Victorians, achieved through the delivery and oversight of multiple streams of work to address safety, reform and improvement across the public health system.

The Healthcare Worker Wellbeing Centre (the Centre), established in February 2021 as part of the Victorian Government's $9.8 million healthcare worker wellbeing package, aims to support and promote the wellbeing for healthcare workers across all disciplines (both clinical and non-clinical) and healthcare settings. Led by the Clinical and Professional Leadership Unit at Safer Care Victoria, the Centre provides direct engagement with and support for health services to improve healthcare workers' wellbeing through Improvement Science methodology as well as networking and learning opportunities through the establishment of a Community of Practice. The Centre is responsive to issues and concerns raised by the workforce via an expert Advisory Group to guide the execution of the Centre's work and engagement with the broader health sector.

The perception and experience of physical and psychological safety within the workplace is known to impact healthcare workers' wellbeing. Hence, this will be a focus area to support the healthcare workforce and ensure they are well equipped with relevant resources to overcome any challenges that might put their wellbeing at risk in workplaces. For more information, please visit: Healthcare Worker Wellbeing Centre webpage:

- https://www.safercare.vic.gov.au/support-and-training/hcw-wellbeing/about-hcwwc

WORKSAFE VICTORIA

WorkSafe Victoria has several resources for workers and employers in the healthcare industry on its dedicated website for work-related violence:

- https://www.worksafe.vic.gov.au/work-related-violence

In addition, WorkSafe Victoria's strategy, '*Health Care and Social Assistance industry strategy 2020–23*' aims to improve health and safety outcomes for healthcare and social assistance workers and can be accessed here:

- https://www.worksafe.vic.gov.au/resources/health-care-and-social-assistance-hcsa-industry-strategy-2020-23

NURSING AND MIDWIFERY ORGANISATIONS

The Australian Nursing and Midwifery Federation's (ANMF) Victorian Branch prepared a guide for health services to end violence and aggression in July 2017 and updated in 2022. The guide outlines changes hospitals need to implement to make staff safer at work. The '*10-Point Plan to End Violence and Aggression: A Guide for Health Services*' uses a traffic-light approach to show hospitals how to move from a high risk to a low risk environment. The Guide can be accessed on their website:

- https://www.anmfvic.asn.au/~/media/files/anmf/ohs/ovaguide-10pp.pdf

The ANMF's (Victorian Branch) 'Prevention of occupational violence and aggression policy' can be found here:

- https://www.anmfvic.asn.au/news-and-publications/publications/2020/12/01/prevention-of-occupational-violence-and-aggression

The Australian College of Nursing position statement released in October 2021 on OVA can be found here:

- https://www.acn.edu.au/wp-content/uploads/position-statement-occupational-violence-against-nurses.pdf

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APPENDIX A: DEFINITIONS, DATA SOURCES AND CASE SELECTION

The scope of this Hazard is limited to occupational violence and aggression-related hospital-treated injury to workers aged 18+ years in Victoria for the 5 years ranging from 2016/17 – 2020/21.

VISU DEFINITIONS

Injury – commonly defined as: 'any unintentional or intentional damage to the body … caused by exposure to physical agents such as mechanical energy, heat, electricity, chemicals, ionizing radiation interacting with the body in amounts or at rates that exceed the threshold of human tolerance' (National Committee for Injury Prevention and Control, 1989; Baker et al., 1992).

Intentional injury (assault) – injuries inflicted by another person with intent to injure or kill, by any means; homicide.

Community injury – an injury that occurs in the community and has a first diagnosis code in the ICD-10-AM code range of S00-T75 or T79 (excludes medical injuries).

Incident admission/ED presentation – (VAED) an episode of care that was not a statistical separation from another unit within the same hospital or transfer from another hospital, and not a repeat admission for the same injury; (VEMD) excludes ED return visits and prearranged visits.

DATA SOURCES

HOSPITAL ADMISSIONS

Hospital admissions data were extracted from the Victorian Admitted Episodes Dataset (VAED), which records all admissions to public and private hospitals in the state of Victoria, including rehabilitation centres, extended care facilities and day procedure centres. The VAED was supplied to VISU by the Victorian Department of Health. The VAED includes demographic, clinical and administrative details for every admitted episode of care. VAED data is used to provide equitable funding to public hospitals under the Casemix system, support health service planning, policy formulation and epidemiological research, and meet national data reporting requirements (Department of Health Victoria (DH), 2019). The coding in the VAED also conforms to the definitions in the National Health Data Dictionary (NHDD) (Australian Institute of Health and Welfare (AIHW), 2015).

A 'hospital admission for injury' is defined as an injury or poisoning that results in the person being admitted to an inpatient bed (a ward, short-stay observation unit, emergency medical unit, medical assessment and planning unit, intensive care bed, mental health bed or coronary care unit) and subsequently discharged alive either on the same day (after at least 4 hours from the time the patient management commences) or after one or more nights' stay in a hospital bed (Department of Health Victoria (DH), 2019).

The clinical details are recorded within forty diagnosis codes that include injury and external cause information coded according to the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM) (Australian Consortium for Classification Development (ACCD), 2019).

Transfers within and between hospitals were excluded to avoid over-counting injury incidence.

EMERGENCY DEPARTMENT PRESENTATIONS

Emergency Department presentations data were extracted from the Victorian Emergency Minimum Dataset (VEMD), which records all presentations to Victorian public hospitals with 24-hour emergency departments (currently 39 hospitals). The VEMD was supplied to VISU by the Victorian Department of Health. The VEMD records cases that are treated and discharged from the ED, and cases that are assessed in the ED and admitted to a ward for treatment.

An 'emergency department (ED) presentation for injury' is an injury or poisoning that results in a person presenting to a hospital emergency department for treatment who is triaged (assessed for urgency), including those patients who leave before treatment commences (Department of Health Victoria (DH), 2020).

OVERALL CASE SELECTION

It is important that injury records are extracted from each data set using the same criteria to ensure consistency in obtaining comparable subsets. General criteria are:

- Injuries occurring in the financial years: (2016/17–2020/21) for in-depth analysis of hospital admissions and ED presentations
- Adults of working age (18+ yrs)
- Community and incident type injuries only (exclude return and prearranged visits, repeat admissions, transfers between and within hospitals, statistical admissions)
- Activity codes: "working for income" or WorkCover compensable records
- Locations: hospitals, aged care residential institutions, other residential institutions (e.g., supported accommodation, disability services), psychiatric units and facilities, other healthcare settings such as GP clinics, outpatient clinics, day procedure centres, healthcare centres, dental services, hospital in the home (HITH); in addition, non-typical locations such as trade/service areas and roads were included if the incident involved a healthcare worker (e.g., ambulance worker/paramedic, disability support worker)
- Intentional (assault) injuries
- ED presentations/VEMD only: additional case selection using narrative search for potentially valid cases among all place of occurrence categories (from the subset of assault injury records with a 'working for income' or WorkSafe compensable flag)
- Hospital admissions or ED presentations resulting in death or cases subsequently admitted to hospital were included for analysis (VEMD)

VEMD CASE SELECTION BASED ON TEXT SEARCHES

These were selected if the 'Description of injury event' variable in the VEMD, which is a short narrative of the incident, mentioned terms relevant to specific topic areas of interest, as outlined below, and their variations and derivatives:

- Assault, argument, punch, headbutt, altercation, violence, abuse, strangulation, bash, spitting, scratch, push, patient, pt, nurs, grey, code black, order, hit, bite, ambulance, psych, paramedic, carer, hospital, strangul, violen, mh (mental health), hospital security, etc.

Cases selected with this method were checked manually for relevance. Based on information contained in the 'Description of injury event' variable, the VEMD-provided 'place of occurrence' variable was adjusted and expanded, while new variables were created to categorise the type of perpetrator involved in the OVA incident, hospital alert type, worker type and mechanism of injury (expanded cause of injury). In addition, four factor codes were created to flag any factors, situations, specialised health units and any other relevant information relating to the OVA incident that may be of interest. The variables created based on narrative text information and their categories are provided in Table 19.

TABLE 19
VEMD NARRATIVE TEXT VARIABLES AND CATEGORIES CREATED FOR THIS ISSUE OF HAZARD

Codes	Variable & code labels
Place of occurrence *(confirmed by narrative)*	
1	Athletics or sports area
2	Industrial or construction area
3	Farm
4	Home
5	Residential institution NS
6	Medical hospital
7	Other specified place
8	Place for recreation
9	Mine or quarry
10	Road, street or highway
11	School, day care centre or public admin area
12	Trade or service area
13	Unspecified place
14	Aged care/nursing home
15	Youth supported accommodation/hostel
16	Supported accommodation/hostel NS
17	Disability supported accommodation
99	Missing
Perpetrator type	
1	Patient NS
2	Psych/mental health patient
3	Aged care/nursing home resident
4	Disability client/patient NS
5	Arrested/custodian/prison patient
6	Supported accommodation resident (not aged care)
7	Visitor or family member of patient
8	Co-worker
9	Client NS
10	Disability supported accommodation resident
11	Residential client NS
98	Other specified resident/patient
99	Not specified
Hospital alert type	
1	Code grey assault
2	Code black assault
3	Code blue assault
4	Not applicable
99	Not specified

Codes	Variable & code labels
Worker type	
1	Nurse
2	Psychiatric nurse (mental health nurse)
3	Ambulance worker/paramedic
4	Doctor, surgeon
5	Psychiatrist
6	Aged care worker
7	Orderly, porter
8	PSA (personal services or support assistant)
9	Police Officer on duty in hospital
10	Hospital security officer
11	Mental health or psych services worker
12	Ward clerk
13	Disability support worker
14	Child protection worker
15	Residential care/supported accommodation worker (not aged care)
16	Optometrist
17	Pathologist
18	Social worker
19	Staff member NS (at this facility)
20	Healthcare worker NS
21	Police Officer NS
98	Other specified worker
99	Not specified
Mechanism of injury	
1	Spat on: in mouth, eye or face
2	Bite, bitten
3	Struck: hit or slapped by person NFD
4	Struck: punched by person
5	Struck: head butted by person
6	Struck: hit by object
7	Scratched
8	Laceration
9	Kicked, kneed
10	Crushed by or between objects
11	Pushed, shoved
12	Strangled, choked, headlock, grabbed around neck
13	Pulled, grabbed, twisted: arm, hand, hair, other body parts

TABLE 19 (CONTINUED)
VEMD NARRATIVE TEXT VARIABLES AND CATEGORIES CREATED FOR THIS ISSUE OF HAZARD

Codes	Variable & code labels
Mechanism of injury (continued)	
14	Fingers: grabbed/twisted, bent back
15	Splash injury: bodily fluids, other fluids or substances
16	Stabbed
17	Cutting/piercing, needle stick
18	Held down, tackled
19	Burn, scald: hot water, hot substance
20	Eye gouged, poked
21	Fall NS
98	Other specified
99	Not specified
Factors 1 to 4	
1	Perpetrator infected with Hep B and/or C
2	Police involved
3	Elderly perpetrator
4	Delirious, confused, disoriented, demented
5	Restraining patient
6	Agitated, aggressive
7	Waiting room
8	Psychiatric unit in prison
9	Blood test/exposure kit used
10	ED – Emergency Department
11	ICU – Intensive Care Unit
12	Psychiatric unit/mental health ward in hospital
13	UR or name of perpetrator noted
14	Perpetrator was drunk/intoxicated
15	Perpetrator was drug affected
16	Safety goggles worn
17	Verbal abuse from perpetrator
18	Bodily fluid: blood
19	Bodily fluid: urine
20	Bodily fluid: spit, saliva
21	Bodily fluid: not specified
22	Capsicum spray exposure
23	Ward, IPU (inpatient unit not further specified)
24	Home visit
25	HDU: High dependency unit within Psychiatric Unit
26	Weapon: knife
27	Wheelchair
28	Victim: teary, shaky, upset

Codes	Variable & code labels
29	Section 351 patient
30	Bottle
31	Perpetrator arrested
32	Meal tray
33	Walking stick
34	Tetanus shot given
35	Chair
36	Razor, blade
37	Plate
38	Hot beverage: coffee, tea
39	Shoe
40	Glass, broken
41	Needle, needle stick
42	Cleaning sign, signage
43	Lanyard
44	Bin
45	Pot lid
46	Metal object (pole, etc.)
47	Nebuliser
48	Shirt collar
49	Hair
50	Mobile number noted
51	HLCNH (High level care nursing home)
52	Oxygen tank
53	Oxygen tank trolley
54	Door
55	Linen trolley
56	Urine container
57	Wall
58	Pencil
59	Low COVID risk comment
60	Psychogeriatric unit in hospital
61	Patient perpetrator COVID positive
62	COVID screen negative
63	Rock
64	AO (Assessment Order)
100 to 122	Codes 100 to 122 were applied to specifically named-acute inpatient psychiatric units and mental health services within the hospital as well as stand-alone mental health services. These named units have been suppressed for confidentiality purposes.

The 'description of injury event' text variable contained many abbreviations and shorthand terms commonly used by hospital staff that required additional deciphering. Examples of these included:

- "NH" or "nh" refers to nursing home
- "aa" refers to alleged assault
- "wr" refers to waiting room
- "pt" refers to patient
- "hlcnh" refers to high level care nursing home
- "pmh" refers to past medical history
- "hcw" refers to healthcare worker
- "ao" refers to an assessment order
- "BIBA" refers to brought in by ambulance
- "m/h in/pt" refers to mental health inpatient
- "lr cvd" refers to low risk of COVID.

HEALTHCARE/HEALTH SERVICE, RESIDENTIAL INSTITUTIONS (AGED CARE) LOCATION DEFINITIONS

The following describes how the VAED and VEMD datasets define the place of occurrence category equating to the relevant locations used in this report.

HOSPITAL ADMISSIONS (VAED)

ICD-10-AM manual definition: Place of occurrence codes Y92.22 (up to July 2017), Y92.23 and Y92.24 (from June 2017 to current) includes day procedure centres, health centres, hospices, hospitals, hospital in the home (HITH), outpatient clinics and other unspecified health service areas (Australian Consortium for Classification Development (ACCD), 2019). The health service area ICD-10-AM location code was redefined for admission data coded from July 2017 onwards allowing for a fifth character subdivision to indicate whether the incident occurred at the same facility that the patient was admitted to. The ICD-10-AM manual definition of "this facility" includes satellite units managed and staffed by the same healthcare provider. These units may be located on the hospital campus or off the hospital campus and treat movements of patients between sites as ward transfers (Australian Consortium for Classification Development (ACCD), 2019).

All types of residential institutions are represented by the ICD-10-AM location code Y92.1 which includes a fifth character subdivision to specifically select records coded to 'Aged care facilities' (Y92.14). This subdivision includes nursing homes, old people's home and retirement villages.

To summarise:

- Health Service Area: Y92.22 (for 2016/17 data)
- Health service area, not specified as this facility: Y92.23 (for 2017/18 data onwards)
- Health service area, this facility: Y92.24 (for 2017/18 data onwards)
- Aged Care Facility: Y92.14
- In addition to the above codes, all other locations were included if the activity code or compensable status criteria were met as described in the previous dot point

EMERGENCY DEPARTMENT PRESENTATIONS (VEMD)

VEMD manual definition: All locations were initially included as VEMD categories differ from VAED/ICD-10-AM categories in that they are broader (code "I", residential institutions category) for some location groups or very limited (code "M", medical hospital category). The residential institutions category includes: children's homes, orphanages, home for the sick, nursing home, old people's home, hospice, military camp, reform school, prison, pensioners home and dormitories while the medical hospital group just includes hospitals (Department of Health Victoria (DH), 2020). Therefore, cases were first selected by applying time, age, activity undertaken at the time of injury, intent and incident injury criteria and further refined by manual narrative analysis for relevant healthcare setting-related locations. If narrative text information was insufficient the location code was then used for case selection.

ACTIVITY UNDERTAKEN AT TIME OF INJURY DEFINITIONS

The following describes how the VAED and VEMD datasets define the activity of the injured person at time the injury event occurred.

HOSPITAL ADMISSIONS (VAED)

ICD-10-AM manual definition: Working for income activity codes vary in value from U73.00 to U73.09 and are defined as paid work (manual, professional), transportation (time) to and from such activities, work for salary, bonus and other types of income. The 'working for income' category includes 10 subcategories or industry types) identified through a fourth character subdivision representing specific employment industries (Australian Consortium for Classification Development (ACCD), 2019). These include:

- U73.00 – Agriculture, forestry and fishing
- U73.01 – Mining
- U73.02 – Manufacturing
- U73.03 – Construction
- U73.04 – Wholesale and retail trade
- U73.05 – Transport and storage
- U73.06 – Government administration and defence
- **U73.07 – Health services**
- U73.08 – Other specified working for income
- U73.09 – While working for income, unspecified.

The category representing 'health services' (U73.07) was used to identify relevant cases of OVA in healthcare settings for this issue of *Hazard*.

EMERGENCY DEPARTMENT PRESENTATIONS (VEMD)

VEMD manual definition: The activity variable in the VEMD is limited to 9 broad categories similar to the VAED but without sub-categories to further define activities such as sport or working for income (Department of Health Victoria (DH), 2020). These activity codes are represented by individual alphabetical letters and the code and corresponding category representing the working for income group was selected. 'W' – Working for income includes paid work for salary (manual) (professional), bonus and other types of income, transportation (time) to/from such activities while it excludes voluntary work and sports.

WORKING FOR INCOME AND WORKCOVER COMPENSABLE PATIENT DEFINITIONS

The following describes how the VAED and VEMD datasets define the activity at time of injury category equating to 'working for income' and the separation account patient type 'W' category representing a compensable episode of care by the Victorian WorkCover Authority/WorkSafe. These variables are used in combination to select work-related injury cases in both datasets.

HOSPITAL ADMISSIONS (VAED)

ICD-10-AM manual definition: Activity at the time of injury code U73.0 (working for income) includes paid work (manual, professional), transportation (time) to and from such activities, work for salary, bonus and other types of income (Australian Consortium for Classification Development (ACCD), 2019). The U73.0 ICD-10-AM activity code

In addition, cases were included if their episode of care included the separation account patient type code "W" which represents the Victorian WorkCover Authority (WorkSafe). This is the agency chargeable for the associated episode of care (Department of Health Victoria (DH), 2019). Not all WorkCover compensable admissions are allocated the 'working for income' activity code in the VAED for various reasons.

EMERGENCY DEPARTMENT PRESENTATIONS (VEMD)

VEMD manual definition: "working for income" includes paid work for salary (manual (professional), bonus and other types of income; transportation (time) to and from such activities; excludes voluntary work, sports (Department of Health Victoria (DH), 2020). In addition, cases were included if their episode of care included the Compensable Status code "3" or "W" which represent the Victorian WorkCover Authority (WorkSafe). This is the agency chargeable for the associated episode of care. For various reasons, not all WorkCover compensable ED presentations are allocated the 'working for income' activity code in the VEMD.

APPENDIX B: STATISTICAL ANALYSIS

Injury rates per 100,000 healthcare industry employed persons were calculated for each financial year (2016/17 to 2020/21) and averaged over the 5-year period for both hospital admissions and ED presentation data. The denominators used for these rates were based on Australian Bureau of Statistics Labour Force data for Victorian persons aged 15 years and over specifically employed in the healthcare and social assistance industry (Australian Bureau of Statistics (ABS), 2022).

ABS Labour Force healthcare and social assistance industry-specific data were supplied as quarterly figures. This required quarterly denominator data to be averaged across each financial year to obtain the average number of employed persons for that year in order to calculate annual injury rates. Injury rates for all employed persons were also calculated for comparison purposes using monthly ABS Labour Force data for Victoria which was averaged by financial year (Australian Bureau of Statistics (ABS), 2022).

The healthcare and social assistance industry category is coded according to the Australian and New Zealand Standard Industrial Classification coding (ANZSIC) and includes sectors mainly engaged in providing human healthcare services (Australian Bureau of Statistics, 2006). This category includes hospitals (all types), psychiatric hospitals, medical services (GPs, specialist services), pathology and imaging services, allied health services (dental, optometry, physiotherapy, etc.), other healthcare services (ambulance, blood bank), as well as residential care services (aged care, hospices, respite care).

HAZARD EDITION INDEX

VISU GENERAL INFORMATION AND RESOURCES

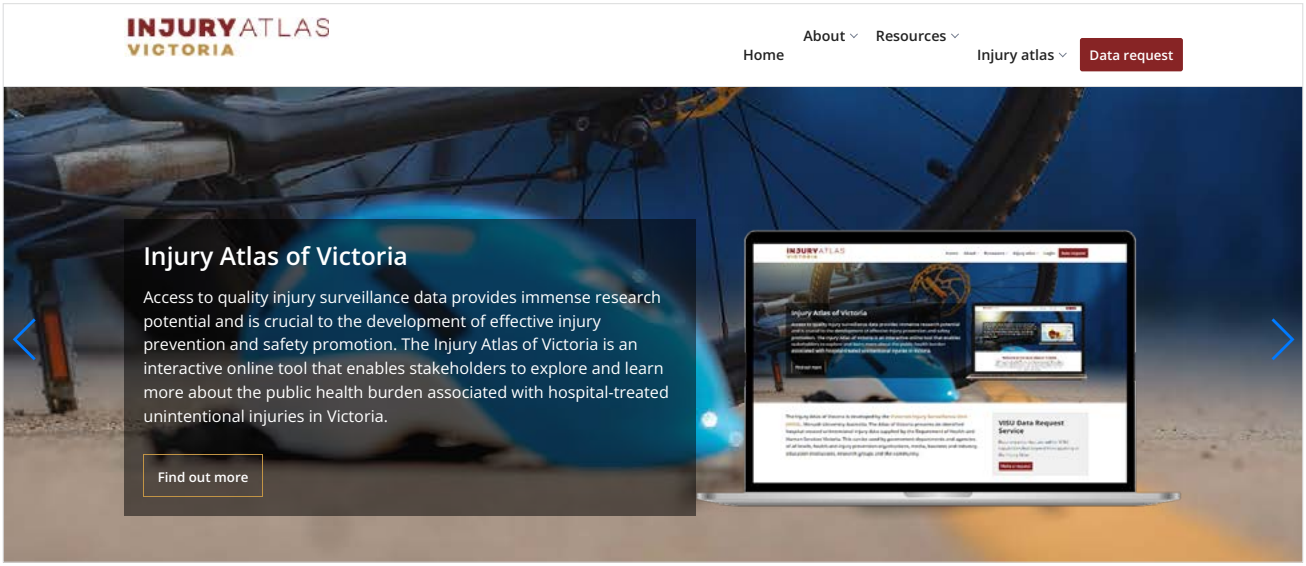
VAED INCLUDES ALL VICTORIAN PUBLIC AND PRIVATE HOSPITALS

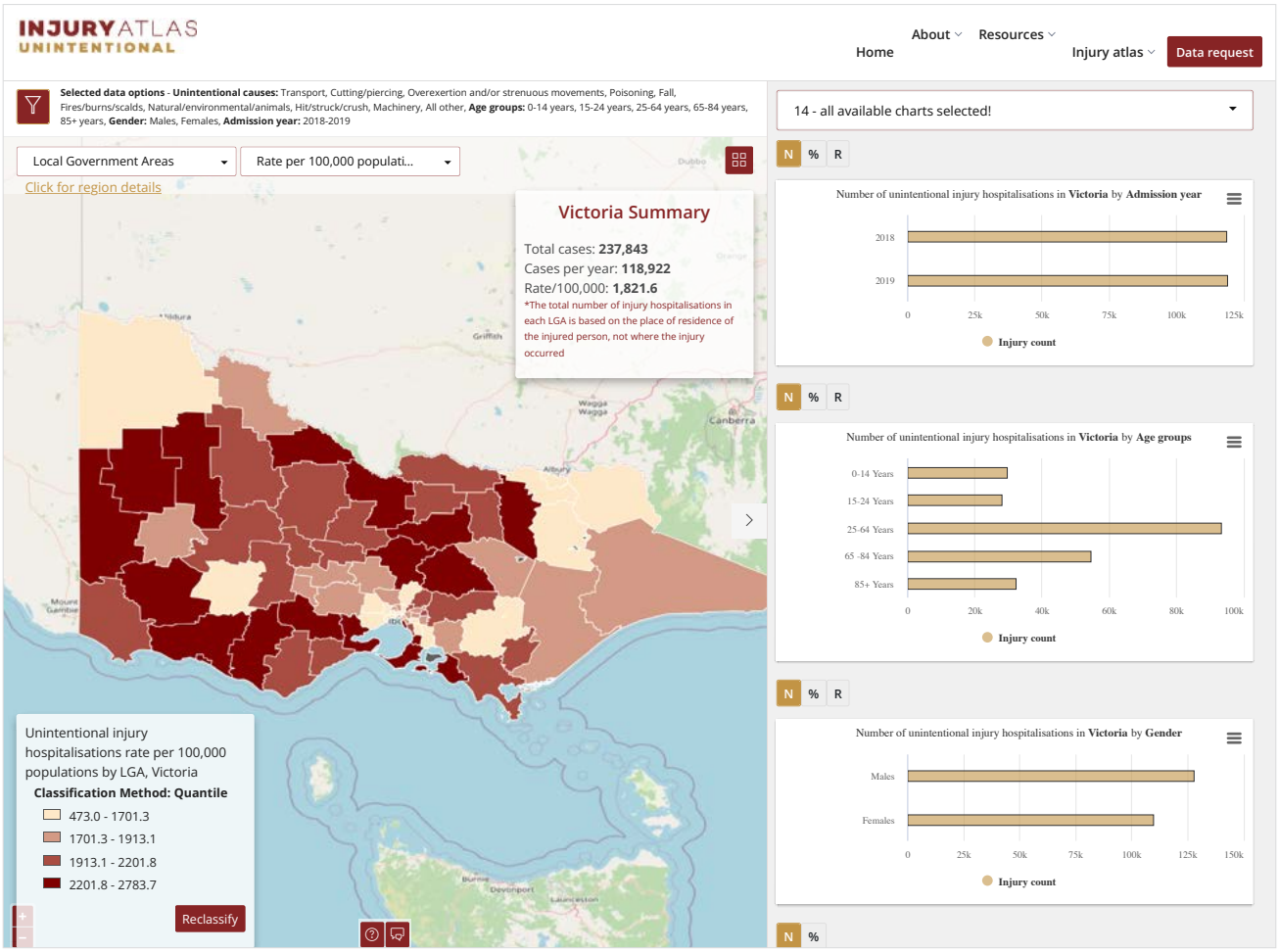
VEMD participating hospitals (Revised December 2022)	
From October 1995 Austin Hospital Ballarat Base Hospital Bendigo Hospital Box Hill Hospital Echuca Regional Health Footscray Hospital Geelong Hospital, The Goulburn Valley Health (Shepparton) Maroondah Hospital Mildura Base Hospital Northeast Health Wangaratta Northern Hospital, The (Epping) Royal Children's Hospital, The (Melbourne) St Vincent's Hospital Melbourne Warrnambool Base Hospital Williamstown Hospital Wimmera Base Hospital (Horsham) **From December 1995** Frankston Hospital Royal Victorian Eye & Ear Hospital, The **From January 1996** Latrobe Regional Hospital **From July 1996** Alfred Hospital, The Monash Medical Centre (Clayton)	**From September 1996** Angliss Hospital **From January 1997** Royal Melbourne Hospital **From January 1999** Dandenong Hospital Sunshine Hospital Werribee Mercy Hospital **From December 2000** Rosebud Hospital **From January 2004** Bairnsdale Regional Health Service Central Gippsland Health Service (Sale Hospital) Hamilton Base Hospital Royal Women's Hospital, The Sandringham Hospital Swan Hill District Health West Gippsland Healthcare Group (Warragul) Wodonga Hospital **From January 2005** Mercy Hospital for Women (Heidelberg) **From April 2005** Casey Hospital **From July 2011** Bass Coast Regional Health

INJURY ATLAS OF VICTORIA

The *Injury Atlas of Victoria* is a new web-based tool that allows the exploration of hospital-treated unintentional injury, transport injury, sports injury and fall injury in Victoria and further enhances the services that VISU provides. It was developed by VISU at Monash University and presents de-identified hospital-treated unintentional injury data supplied by the Victorian Department of Health. This can be used by government departments and agencies of all levels, health and injury prevention organisations, media, business and industry, education institutions, research groups and the community.

The Injury Atlas of Victoria web-based application can be accessed at this address: **https://vicinjuryatlas.org.au/**





How to Access VISU Data

VISU collects and analyses information on injury problems to underpin the development of prevention strategies and their implementation. VISU analyses are publicly available for teaching, research and prevention purposes. Requests for information can be lodged via the data request form on the VISU website or by contacting the VISU office by phone.

Contact VISU at

MUARC – Monash University Accident Research Centre
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Clayton Campus
Victoria, 3800
Phone: (03) 9905 1805
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All issues of *Hazard* and other information and publications of the Monash University Accident Research Centre can be found on our internet home page:

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