Research

Barriers and opportunities for workplace violence interventions in Australian paramedicine: A qualitative study

Brodie Thomas BHLthSc, MParaPrac, MACPara is a PhD candidate and paramedic¹; Peter O'Meara BHA, MPP, PhD, FACPara is Adjunct Professor²; Kristina Edvardsson RN, MSc, PhD is a Senior Lecturer³; Evelien Spelten MSc, PhD is a Senior Lecturer¹

Affiliations:

¹La Trobe Rural Health School, La Trobe University, Mildura, Victoria

²Department of Community Emergency Health & Paramedic Practice, Monash University, Frankston, Victoria

³School of Nursing and Midwifery, La Trobe University, Bundoora, Victoria

<https://doi.org/10.33151/ajp.17.817>

Abstract

Introduction

Workplace violence directed at paramedics by patients and bystanders is a persistent and pervasive issue. There is little available evidence supporting the effectiveness of current interventions in the paramedicine context. No studies have reported on potential barriers and there is little evidence supporting opportunities for more effective interventions. The objective of this study was to make an inventory of current workplace interventions and explore the barriers and opportunities for these interventions as perceived by paramedics.

Methods

Ten paramedics were interviewed about their experiences and insights into workplace violence. The interview data underwent thematic and narrative analysis.

Results

Seven interventions were highlighted, 10 barriers and 12 opportunities for current and future workplace violence interventions were discussed. The majority of the barriers related to culture in society, attitudes of staff, and lack of capacity for the ambulance service to take action following violent events. The opportunities raised included co-design of interventions, culture change for paramedics and communities, accountability for paramedics and perpetrators of violence, increased ambulance service options following violent events, and improving feedback to staff.

Conclusion

The findings of this study suggest that interventions are likely to be more effective and sustainable if they are evidence-based, co-designed, address all levels of healthcare, and evaluated. Important areas for future research include a focus on consequences and accountability for perpetrators and strategies for ambulance services and paramedics to participate in public health approaches to reducing violence in communities.

Keywords:

paramedicine; emergency medical services; workplace violence; occupational injuries; policy making

Corresponding Author: Brodie Thomas, 16513718@students.latrobe.edu.au

Introduction

Workplace violence from patients and bystanders is an unwarranted yet persistent and universal problem for paramedics and other healthcare workers. The consequences of workplace violence can have physical, psychological, social, organisational and societal effects (1-6). The true extent of the problem is difficult to accurately assess due to systemic issues with workplace incident reporting. Studies quantifying workplace violence indicate that somewhere between 10% and 95% of healthcare workers have experienced violence at work. While the issues of assessing workplace violence are consistent internationally, the general consensus is that workplace violence is one of the most common dangers healthcare workers face and is increasing in both frequency and severity (2-5). The definitions related to workplace violence used in this study are presented in Table 1.

Table 1. Definitions related to workplace violence (40)

Workplace violence
Incidents where staff are abused, threatened or assaulted in circumstances related to their work, including commuting to and from work, involving an explicit or implicit challenge to their safety, well-being or health
Physical violence
The use of physical force against another person or group that results in physical, sexual or psychological harm. It includes among others, beating, kicking, slapping, stabbing, shooting, pushing, biting and pinching
Psychological violence
Intentional use of power, including threat of physical force, against another person or group, that can result in harm to physical, mental, spiritual, moral or social development. It includes verbal abuse, bullying/mobbing, harassment and threats
Assault
Intentional behaviour that harms another person physically, including sexual assault
Abuse
Behaviour that humiliates, degrades or otherwise indicates a lack of respect for the dignity and worth of an individual
Threat
Promised use of physical force or power (ie. psychological force) resulting in fear of physical, sexual, psychological harm or other negative consequences to the targeted individuals or groups
Perpetrator
Any person who commits act(s) of violence or engages in violent behaviour(s) as described above

Paramedics work in uncontrolled and high-risk environments (4,7); they work with people in distress, at unsociable hours

and carry valuable items such as restricted medications. Characteristically, they have no designated workplace and operate either alone or in pairs (3,8,9). These characteristics place paramedics at high risk of violence from patients and bystanders (5,9). In Australia, studies have reported between 65% and 88% of paramedics had experienced violence at work within a 12-month period (4,9,10) and serious violence related injuries requiring at least 1 week off of work have tripled in recent years from 10 to 30 per year (3). The incidence of workplace violence is likely greater than what has been documented due to systemic underreporting (3,8).

Many interventions have been implemented to prevent and minimise workplace violence in healthcare and paramedicine, yet there is no definitive evidence to suggest that any are effective (6,11,12). This may partly be because workplace violence in healthcare is a complex phenomenon and its prevention and minimisation requires interventions to address potential barriers and opportunities at multiple levels. The levels suggested are innovation (intervention), individual, and social, organisational, and broader economic and political contexts (1,2,13,14). The model designed by Grol and Wensing (15) provides a method of organising data in a way that highlights potential gaps at each of the above described levels of the healthcare system and does justice to the complexity of the phenomenon. Addressing each level is necessary as the majority of interventions are aimed at one level while barriers may arise at multiple levels (15-17).

In this study, in-depth interviews were used to investigate paramedics' insights into the prevention of workplace violence and to report on both the barriers and opportunities for workplace violence prevention interventions at the identified levels leading to the following research questions:

1. What workplace violence interventions are the paramedics aware of?
2. What do paramedics perceive as barriers to the effectiveness of current workplace violence interventions?
3. What are the opportunities to design adequate interventions to prevent and minimise workplace violence in paramedicine?

Methods

Study design

A constructivist research paradigm was adopted to investigate the subjective and socially constructed reality of the participants (18).

The methodology used to explore the phenomenon of workplace violence was Interpretive Phenomenology, which aims to comprehend phenomena in context and gain a deep understanding of the phenomena. This methodology is particularly useful when exploring emotional and complex issues (19).

The theoretical model used to organise the results of this study was derived from Grol and Wensing (15) in response to the need for an approach at multiple levels of healthcare. Their theoretical model was developed from an analysis of 13 theories for implementing change in healthcare and proposes that factors be identified at six different levels of the healthcare system: innovation (intervention); individual professionals; patients; social context; organisational context; and economic and political context (15,16). In this study, the levels model was used to summarise the results of barriers and opportunities for workplace violence interventions based on at which level an intervention had a direct impact.

Setting

Ambulance Victoria employs over 5000 staff and is the sole provider of emergency medical response in Victoria. It has reported a significant change in culture in recent years prior to the interviews with a stronger focus on the health and wellbeing of their paramedics, including the introduction of strategies to prevent and minimise workplace violence. Several interventions to prevent and reduce violence were implemented by Ambulance Victoria after the interviews were conducted. These include a trial of body-worn cameras, virtual reality training for staff and collaborating with WorkSafe Victoria for a public awareness campaign (20,21). Ambulance Victoria's violence prevention program won the Australian Prime Minister's award for Excellence in Public Sector Management in 2018. It is claimed that this program has decreased assaults on paramedics by 49% between 2015 and 2018, although there is no information on how this information has been obtained (22).

Two of the authors are nationally registered paramedics (BT and PO). One of these authors is currently a full-time operational paramedic (BT) while the other is an academic and researcher (PO). The lead author (BT) interacted with some participants in a professional context prior to and during the project.

Population

A purposive sampling methodology was used in this study. The ambulance union, Ambulance Employees Australia Victoria (AEA VIC), contacted all members via email and invited paramedics who had experienced workplace violence to participate. Four participants were recruited through the union. Snowball sampling was then used to recruit six additional participants.

Instrument

Data collection occurred through individual interviews composed of both semi-structured and narrative components.

Procedures

The participants were asked to share their stories of workplace violence along with their experiences and perceptions of the problems with current interventions and what measures could prevent and minimise workplace violence. The interviews were

conducted between December 2016 and September 2017 at a La Trobe University campus in Mildura for six face-to-face interviews and at locations of the participant's choosing for four telephone interviews. The interviews were audio recorded and field notes were taken simultaneously with the interviews and directly after. The criteria used to determine data saturation was the point when no new themes emerged in the interviews (23). Data saturation occurred after eight interviews. The final two interviews provided further support for the themes highlighted in the first eight.

Data analysis

The interviews were transcribed verbatim then entered into and analysed in qualitative data management software (24). Thematic analysis was used to identify, analyse and report themes within these data. The data were coded through a process of open, axial and selective coding. The themes were identified through both inductive and deductive analysis (25,26). The narrative components of each interview were analysed with both thematic and narrative analysis to allow the comparison of themes across narratives. Labov's framework for narrative analysis was used to analyse the narrative components (28).

To improve the dependability of the study, an audit trail was kept including the raw data such as interviews, observation notes and a reflexive journal. Several steps were taken to enhance the credibility of the study, including member checking, using a code-recode strategy for the first interview, and a stepwise replication strategy for all interviews. A reflexive journal was kept, assisting the confirmability of the study (28-30). To ensure the quality and transparency of reporting results, the Standards for Reporting Qualitative Research (SRQR) were followed (31).

Ethics

Ethical approval was obtained from the La Trobe University Human Ethics Committee (Approval No: S16/204.). Participants were provided with a participant information statement and completed a written consent form prior to their interview.

Results

Ten paramedics participated in the interviews, participant characteristics are illustrated in Table 2. The interviews ranged between 20 and 75 minutes with a mean of 43 minutes. During the in-depth interviews and data analysis process, themes related to the prevention and minimisation of workplace violence were sorted into three main categories based on the research questions: current interventions, barriers to interventions, and opportunities for violence prevention interventions. Seven current interventions, 10 barriers and 12 opportunities for violence prevention were highlighted and

discussed. Table 3 provides an overview of these themes applied to a model inspired by Grol and Wensing (15).

Innovation (interventions)

At the innovation (intervention) level, the participants did not offer any insights into how the interventions have been designed and no specific barriers were highlighted. As an opportunity, they supported the co-design of interventions, incorporating their experiences and perspectives with the knowledge of those designing the interventions.

“It would be nice if the people that have power to have things

changed or done are interested in listening to you.” (Participant 1)

Individual professionals

At the individual professional level, the only intervention raised was the education and training of paramedics. Two attitudes were highlighted that may act as barriers to education and training: hero mentality, and negotiating between de-escalation and control. The participants explained that a hero mentality is common in paramedic culture and many paramedics in this study were willing to sacrifice their personal safety to assist a patient or fulfil a role they believe was expected of them.

Table 2. Demographic characteristics of study participants

Participant No.	Experience (years)	Gender	Work role (Advanced Care Paramedic/Intensive Care Paramedic)	Level (operational staff/manager)	Area (urban/rural)
1.	16	F	ACP	Operational	Urban
2.	20	M	ACP	Manager	Urban
3.	36	M	ICP	Operational	Urban
4.	18	F	ACP	Operational	Urban
5.	5	M	ACP	Operational	Rural
6.	5	M	ACP	Operational	Rural
7.	17	M	ACP	Operational	Rural
8.	3	F	ACP	Operational	Rural
9.	<1	M	ACP	Operational	Rural
10.	30	M	ICP	Manager	Rural

Table 3. Barriers and opportunities for violence prevention interventions

Level	Current interventions	Barriers	Opportunities
Innovation of interventions			Co-design interventions
Individual Professional	Education and training	Hero mentality De-escalation vs control	Feedback and accountability for paramedics
Perpetrator	Sedation and restraint Mandatory sentencing	Lack of consequences	Accountability: Punitive vs. restorative
Social context		Normalisation Mental health, drugs and alcohol	Culture change Public education Rehabilitation
Organisational context	Reporting	Subjective motivation	Simple Worthwhile
	Follow-up	Lack of feedback Capacity to act	Course of action
	Zero-tolerance	Not supported	Appropriate action Policy and support
	Identifying repeat offenders	Alerts for places, not people	Share information Alerts on people
Economic and political context	Mandatory sentencing	Lack of consequences	Course of action

"The gung-ho 'we're going in to rescue everybody' and 'aren't we wonderful' ... that superman attitude has to change, we're probably going to get the same result, just in a different way."
(Participant 4)

The participants described a tension between de-escalating an aggressive person and controlling that person's behaviour through asserting authority. The more experienced participants described that at times, they did not want to de-escalate a perpetrator as they saw it as rewarding bad behaviour. Instead, they would attempt to assert themselves and control the perpetrator's behaviour. Conversely, the participants highlighted that junior paramedics were less likely to assert themselves and lacked control over a situation.

"I think a lot of it comes down to the attitude of the individual ... you're going to get some paramedics that are just as much of a loose cannon as some of the people that are abusing them. So, if someone is rude to them, they might fly off the handle and talk to them impolitely and that's what makes it escalate. But then you might also have some paramedics that are a bit more reserved and quiet and they probably need to assert a little bit more authority and not let themselves get walked over."
(Participant 6)

Some participants believed paramedics receiving feedback and being held accountable for their actions that facilitate a violent event may be an opportunity for violence prevention. They stressed this should not be a negative or punitive experience, but constructive.

"I definitely don't want anybody to get into trouble, that's not my intent, ... just to make people aware, to stop and think that there is a much safer alternative a lot of the time, we don't have to wrestle them on the bed."
(Participant 4)

Perpetrators

The interventions at the perpetrator level were sedation and restraint, and mandatory sentencing. While all participants approved of the sedation and restraint intervention, a barrier raised with the current interventions aimed at perpetrators was the lack of meaningful consequences for violent behaviour.

"Hopefully in the future he realises you can't just do that, you can't just get away with it. Nothing came out of that, we were told to just let it go and I found that really annoying."
(Participant 1)

All the participants believed an opportunity to reduce workplace violence is to hold the perpetrators appropriately accountable. However, there were conflicting descriptions of what this accountability should look like. Some of the participants believed there should be more pressure for perpetrators to face harsh consequences such as mandatory 6-month custodial sentences.

"The first thing is we have to be going to the community... and put pressure on the politicians within the community, that 'our paramedics are getting beaten up and what are those in the legal fraternity doing about it?' I mean Daniel Andrews [Victorian Premier] brought in mandatory sentencing and I don't think anyone's received a mandatory sentence yet."
(Participant 3)

Other participants argued that mandatory sentencing is not always appropriate, although they stressed that something is required to inform perpetrators that violent behaviour is unacceptable. The specific details of these potential interventions were undetermined; the interventions need not necessarily be punitive and could include the education of perpetrators. The goal of such interventions would be to make it clear that the perpetrator's behaviour was unacceptable and that there are consequences.

"To me I don't think it's appropriate because you have to look at the individual situation and mandatory sentencing just hamstrings judges into having one size fits all approach, which I don't think is appropriate. But I do think we need to look at people's accountability."
(Participant 1)

Social context

While no intervention was identified that addressed the social context, the participants described how the normalisation of violence in both healthcare and the communities they work in acts as a barrier to prevention efforts in general. The description of normalisation of violence in communities was coupled with other social issues such as a general lack of respect, narcissistic attitudes, and aversion to authority.

"It is becoming normal, the verbal side of it, because it's so, so common. The lack of respect shown by people nowadays is unbelievable."
(Participant 5)

The participants explained that a culture change is needed at a societal level, for example, through education of the public. There was some disparity between participants' views about whether public education would be effective in deterring perpetrators of violence. One participant was adamant that this would be completely ineffective. The majority of the participants believed that public education could be a valuable tool to reduce violence and some suggested that public education may create advocates for paramedic safety in the community.

"So rather than just us as an organisation trying to fight it, we need to have the community out there on our side, fighting for us."
(Participant 3)

"If they can raise awareness to it and try to encourage people to behave a certain way, that'd be great. Whether that would be effective or not, I don't know. But it's worth a try."
(Participant 8)

Another social barrier that all the participants noted was that the majority of the perpetrators they have encountered were experiencing a mental health condition or were affected by alcohol or other drugs. Some participants felt that they are dealing with the consequences of de-institutionalisation of mental health patients without adequate community-based services.

“It’s been continually getting worse ever since Jeff Kennett [former Victorian Premier] closed down actual mental health facilities. Threw them out on the road, on the streets, and started putting them in halfway houses and in communal homes.” (Participant 3)

Several participants suggested that an opportunity to prevent violence might be to provide more rehabilitation services to the community for those with severe mental health conditions or those abusing alcohol and other drugs.

“I think we have to start investing in drug rehabilitation centres so if people want to get off drugs or their family want to get them off, or they’re just somebody involved in crime, we have some places to help them.” (Participant 3)

Organisational context

Four interventions were highlighted at the organisational context level: incident reporting; organisational follow-up; zero-tolerance policy; and identifying repeat offenders. The barrier highlighted for reporting workplace violence in paramedicine was the subjective motivation for paramedics to report an incident. The variables that influenced the participants’ decisions to report violent incidents included the intention behind violence, the desire to achieve accountability or follow-up, potentially claiming compensation, providing accurate statistics, and following policies and processes.

“I think it comes back to the individuals, for me I was pretty annoyed and pretty frightened, so I figured reporting it was the best way. But I think that perhaps some paramedics are a little bit more stoic, sort of accept it as part of the job and ‘oh well he swore at me or he yelled, or he did a bit of damage so whatever, it happens’.” (Participant 8)

The participants highlighted that the opportunities to improve the consistency of reporting are to make the process simple and worthwhile. Simple reporting might be achieved by improving training and having a straightforward reporting process.

“Ah I think it could be better actually, I think the training could certainly be improved or perhaps we should do some refreshers on it.” (Participant 10)

The participants believed that ambulance services can make reporting worthwhile for paramedics by following up on the reports and providing feedback. They felt that ambulance services following up violent incidents will facilitate

accountability, is necessary for creating change, and provides support for staff.

“I wanted something done about it and again nothing was done. I feel like this is a pattern now with [the ambulance service] and pisses me off.” (Participant 1)

The two major barriers highlighted with organisational follow-up are the capacity for the ambulance service to take action and the lack of feedback to paramedics. The participants’ descriptions of their experiences with organisational follow-up revealed that when it is not appropriate to charge a perpetrator with a criminal offence, it appears to result in no action. In addition to the lack of action, some of the participants conveyed that the lack of feedback from the ambulance service led to frustration, resentment and reduced the likelihood of reporting incidents.

“We know at the moment they will get inadequate penalties but that’s out of our hands and our jurisdiction. As a service what we should be doing is at least following up the case. Priority A is to get back to the crews and tell them what the [perpetrator] got.” (Participant 3)

Some of the participants suggested that an opportunity for ambulance services to have a greater capacity to follow up on violent incidents is to have an appropriate course of action for incidents of violence that do not require criminal charges.

“Some consequence, and I feel like at the moment there’s no consequence to some of those ones.” (Participant 1)

The participants mentioned that the barrier to a zero-tolerance policy is when it is not supported with actions from both paramedics and their ambulance service. They described that historically their ambulance service did not support a zero-tolerance approach to violence in practice and appeared to coerce paramedics to enter dangerous scenes. They explained that their ambulance service has made several recent policy changes to support zero-tolerance and now has a clear zero-tolerance policy and felt they are no longer being coerced to enter potentially dangerous scenes and are supported in their decision to leave violent situations.

“We’ve got a change in culture going on where they say they will support us in any capacity, that’s in a decision we make to look after ourselves.” (Participant 3)

A location of interest system is used by the ambulance service to store patient details linked to their home address. This system is used to alert paramedics about important patient information and aid them in appropriately preparing to treat the patient. The barrier that many of the participants raised with the Location of Interest system was that it is limited to private addresses. It does not allow the identification of repeat

offenders if they are in a location other than their residence and they cannot place an alert on a public place. This results in many repeat offenders not being identified before the paramedics arrive.

"I think the location of interest system has some holes. You put an LOI on an address, not on a person. You can't put it on Flinders Street Station [major railway station in Victoria's capital city] because nobody lives there." (Participant 2)

The participants were unsure about the opportunities to overcome this barrier. They suggested sharing information on repeat offenders between emergency services and placing alerts on people, not places, but they did not know how feasible this would be.

"I don't know how we get around that, but that's something that we could with technology, investigate further and improve on." (Participant 2)

The economic and political context

Mandatory sentencing was the only intervention highlighted in the economic and political context. There were no new themes raised in the discussion of barriers and opportunities at this level.

Discussion

The objective of this study was to make an inventory of current workplace interventions and to explore the barriers and opportunities for these interventions as perceived by paramedics. Interviews with paramedics revealed seven current workplace violence interventions, 10 barriers to the effectiveness of these interventions, and 12 opportunities for violence prevention across the range of levels relevant to the healthcare system. Using the Grol and Wensing (15) model for the inventory, it became clear that most of the interventions as well as the barriers identified were at the organisational level followed by the individual level. No interventions were identified at the social level. Despite this, the participants identified a number of potential barriers for violence prevention interventions at this level, including societal cultural issues, attitudes of paramedics and the capacity for action in the ambulance service. Opportunities were raised at all levels, the most prominent being the organisational and social levels. These opportunities related to addressing violence as a societal problem, improving incident reporting, following up incidents and taking action after an event.

The study of barriers and opportunities highlighted the following issues in relation to reducing violence and improving worker safety.

Violence as a public health issue

The use of the model highlighted the relevance of looking

at workplace violence as a societal and public health issue. Many of the participants expressed the view that the issue of workplace violence is greater than just paramedicine or healthcare, arguing that it is a pervasive societal issue. The World Health Organization (WHO) states that interpersonal violence can be prevented, whether it is a result of individual attitudes and behaviours or more general social, cultural or political conditions. They highlight that prevention requires comprehensive, multifaceted interventions (32,33). The participants' desire to be advocates for change in their communities and their support for primary prevention programs and policy interventions are consistent with a public health approach to violence prevention. This could be important as paramedics transition to professional status with the associated responsibility to take an active social role that benefits the community through advocacy and participating in public health approaches to protect and advance the wellbeing of communities (34). There is potential for paramedics to use their collective agency, the power of their public voice, as registered health professionals to take more of an active role in public discussion and debate. This could be supported by position statements from their professional college (35).

Accountability

All the participants in this study believed that there needs to be increased accountability for perpetrators of violence at a societal level, although they were not sure exactly what this accountability would look like. This view is similar to staff in hospital settings, who believe accountability and consequences for perpetrators of violence are a necessary component of violence prevention and social education (36). Some healthcare organisations have trialled non-punitive educational accountability interventions such as accountability letters and restorative justice processes (5,37). It appears there is an opportunity to develop interventions that may fill the gap in consequences for perpetrators and in turn potentially improve organisational follow-up, reporting and staff wellbeing.

Mental health issues in society

Participants in this study felt they were dealing with the unintended consequences of mental health de-institutionalisation without adequate community-based services. Better funding and support for community-based mental health services for the rehabilitation of perpetrators and acceptable and realistic legal solutions are required when punitive and educational interventions are not appropriate. In lieu of these resources, paramedics could potentially use their collective agency to take an active role and advocate for the required policy changes (32,33,38).

Improving future interventions

The design and successful implementation of interventions has shown to be a difficult prospect for violence prevention (2,3,6,8). The study suggests that there has not been a focus on the innovation level for workplace violence. Prevention needs to

begin at the innovation level through evidence-based research with consideration of all levels of healthcare, including individual, social, organisational, economic and political contexts (12,15). This will ideally involve co-design of interventions between organisations, healthcare workers and researchers (4,12,36,39). The results indicate that while incident reporting is inconsistent, there are opportunities for improvement. Accurate reporting and data collection are essential for the design and evaluation of interventions. Clear policies and procedures for reporting that are simple and time efficient may help improve the consistency of reporting. Staff must be motivated to report through organisations following up on reports, having an appropriate course of action to respond to violent perpetrators, and providing information back to staff (3,8,12,39). In addition to staff incident reporting, accurate economic data is needed to evaluate the full cost of workplace violence and facilitate cost-benefit analysis of prevention interventions (1,39).

Limitations

Purposive sampling was selected to find information rich cases and included varying characteristics in relation to age, gender, experience, skill level and geographical area. The limitation of this sampling method is that it may introduce bias in the sample, and it is unknown how well the sample represents the larger population of paramedics in this state. Another limitation is that the sample included paramedics from one ambulance service and the transferability may be limited to similar settings. An attempt has been made to provide an adequate context for the reader to make an assessment of the transferability of the results to their situation.

Conclusion

To improve interventions for workplace violence, ambulance services have opportunities to promote a safety culture among paramedics through education and accountability, improve incident reporting and organisational follow-up, and work with researchers and staff for the innovation of interventions. Interventions are likely to be more effective and sustainable if they are evidence based, co-designed, address all levels of healthcare and are rigorously evaluated. Workplace violence in healthcare needs to be recognised and addressed as a societal and public health problem. Important areas for future research include a focus on consequences and accountability for perpetrators and strategies for ambulance services and paramedics to participate in public health approaches to reduce violence in communities.

Competing interests

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

References

1. Hassard J, Teoh K, Cox T. Estimating the economic burden posed by work related violence to society: a systematic review of cost-of-illness studies. *Saf Sci* 2019;116:208-21.
2. Longo D, Phillips J. Workplace violence against health care workers in the United States. *N Engl J Med* 2016;374:1661-9.
3. Maguire BJ, O'Meara P, O'Neill BJ, Brightwell R. Violence against emergency medical services personnel: a systematic review of the literature. *Am J Ind Med* 2017;61. doi:10.1002/ajim.22797
4. Maguire B, Browne M, O'Neill B, et al. International survey of violence against EMS personnel: physical violence report. *Prehosp Disaster Med* 2018;33:526-31.
5. Spelten E, Thomas B, O'Meara PF, et al. Organisational interventions for preventing and minimising aggression directed towards healthcare workers by patients and patient advocates. *Cochrane Database Syst Rev* 2020(4).
6. Spelten E, Thomas B, O'Meara P, van Vuuren J, McGillion A. Violence against emergency department nurses: can we identify the perpetrators? *PLoS ONE* 2020;15:e0230793. doi.org/10.1371/journal.pone.0230793
7. Thomas B, O'Meara P, Spelten E. Everyday dangers - the impact infectious disease has on the health of paramedics: a scoping review. *Prehosp Disaster Med* 2017;32:217-23.
8. Pourshaikhian M, Abolghasem Gorji H, Aryankhesal A, Khorasani-Zavareh D, Barati A. A systematic literature review: workplace violence against emergency medical services personnel. *Arch Trauma Res* 2016;5(1).
9. Koritsas S, Boyle M, Coles J. Factors associated with workplace violence in paramedics. *Prehosp Disaster Med* 2009;24:417-21.
10. Boyle M, Koritsas S, Coles J, Stanley J. A pilot study of workplace violence towards paramedics. *Emerg Med J* 2007;24:760-3. doi:10.1136/emj.2007
11. Wassell JT. Workplace violence intervention effectiveness: a systematic literature review. *Saf Sci* 2009;47:1049-55. doi:10.1016/j.ssci.2008.12.001
12. Maguire BJ, O'Neill BJ, O'Meara P, Browne M, Dealy MT. Preventing EMS workplace violence: a mixed-methods analysis of insights from assaulted medics. *Injury* 2018;49:1258-65. doi:10.1016/j.injury.2018.05.007
13. Chappell D, Di Martino V. Violence at work. 3rd edn. Geneva: International Labour Office; 2006.
14. Krug E, Dahlberg L, Mercy J, Zwi A, Lozano R. World report on violence and health. Geneva: World Health Organization; 2002.
15. Grol R, Wensing M. What drives change? Barriers to and incentives for achieving evidence-based practice. *Med J Aust* 2004;180:S57-60.
16. Edvardsson K, Garvare R, Ivarsson A, et al. Sustainable practice change: Professionals' experiences with a multisectoral child health promotion programme in Sweden. *BMC Health Serv Res* 2011;11:61.

References (continued)

17. Koh S, Manias E, Hutchinson A, Donath S, Johnston L. Nurses' perceived barriers to the implementation of a fall prevention clinical practice guideline in Singapore hospitals. *ibid.* 2008;8:105.
18. Creswell J. *Qualitative inquiry & research design: choosing among five approaches*. 3rd edn. Thousand Oaks: SAGE Publications; 2013.
19. Kafle NP. Hermeneutic phenomenological research method simplified. *Bodhi: An Interdisciplinary Journal* 2011;5:181-200.
20. Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field methods* 2006;18:58-82. doi:10.1177/1525822X05279903
21. QSR International. NVivo qualitative data analysis software. Version 11, 2015.
22. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3:77-101.
23. Corbin J, Strauss M. Grounded theory research: procedures, canons, and evaluative criteria. *Qual Sociol* 1990;13:3-21.
24. Labov W. Speech actions and reactions in personal narrative. In: Tannen D, editor. *Analyzing discourse: text and talk*. Washington DC: Georgetown University Press; 1982.
25. Anney VN. Ensuring the quality of the findings of qualitative research: looking at trustworthiness criteria. *Journal of Emerging Trends in Education Research and Policy Studies* 2014;5:272-81.
26. Guba EG, Lincoln YS. Epistemological and methodological bases of naturalistic inquiry. *Educational Communication and Technology* 1982;30(4).
27. Wallendorf M, Belk RW. Assessing trustworthiness in naturalistic consumer research. In: Hirschman E, editor. *Interpretive Consumer Research* (pp. 69-84). Provo, UT: Association for Consumer Research; 1989.
28. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook D. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med* 2014;89:1245-51.
29. Ambulance Victoria. 2017-2018 annual report. 2019. Available at: www.ambulance.vic.gov.au/wp-content/uploads/2019/10/J37607_AV-Annual-Report-2019_Web.pdf [Accessed 18 October 2019].
30. Ambulance reform. Victoria State Government. Available at: www2.health.vic.gov.au/searchresults?q=ambulance%20victoria%20reform [Accessed 12 October 2019].
31. Public sector award for ambulance initiative. Victoria State Government. Available at: www.health.vic.gov.au/healthvictoria/dec18/award.htm [Accessed 12 October 2019].
32. WHO. *Violence prevention: the evidence*. Geneva: World Health Organization; 2010.
33. WHO. *Global plan of action to strengthen the role of the health system within a national multisectoral response to address interpersonal violence, in particular against women and girls, and against children*. Geneva: World Health Organization; 2016.
34. Code of conduct for registered health practitioners. Paramedicine Board of Australia. Available at: www.paramedicineboard.gov.au/Professional-standards/Codes-guidelines-and-policies/Code-of-conduct.aspx [Accessed 10 October 2019].
35. Stirling C, Bull R. Collective agency for service volunteers: a critical realist study of identity representation. *AAS Open Res* 2011;43:193-215.
36. Renker P, Scribner S, Huff P. Staff perspectives of violence in the emergency department: appeals for consequences, collaboration, and consistency. *Work* 2015;51:5-18.
37. Public Services Health & Safety Association. *Engaging patients and families in workplace violence prevention: a handbook for organizational leaders in healthcare*. Ontario, Canada: Public Services Health & Safety Association; 2017.
38. Blando J, Ridenour M, Hartley D, Casteel C. Barriers to effective implementation of programs for the prevention of workplace violence in hospitals. *Online J Issues Nurs* 2015;20:5.
39. NIOSH. *Workplace violence prevention strategies and research needs*. Cincinnati, OH: NIOSH Publications Dissemination; 2006.
40. ILO/ICN/WHO/PSI. *Framework guidelines for addressing workplace violence in the health sector*. Geneva: ILO/ICN/WHO/PSI Joint Programme on Workplace Violence in the Health Sector; 2002. p.31.