# Realist evaluation of violence prevention in BC healthcare

Final Report

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## Executive Summary

Violence towards healthcare workers from patients and visitors is a serious issue internationally that negatively affects the health and wellbeing of healthcare workers. Addressing this violence in British Columbia (BC) is a priority focus in WorkSafeBC's high risk strategy for healthcare. Similar to other jurisdictions, in BC the main intervention to prevent violence from patients and visitors has been to develop and implement a Provincial Violence Prevention Curriculum (PVPC) for healthcare workers. Assessing the effectiveness of the PVPC using traditional methods has been difficult. Therefore, this project used an innovative realist approach. Increasingly popular for evaluating interventions within complex health and social systems. A realist evaluation identifies explanations of how and why a program is effective, in what contexts and for whom.

Working with an advisory group, nine emergency departments across three health authorities participated as research sites. Building upon the findings from a realist literature review, data from 136 individuals was collected through interviews and focus groups. An iterative process of review and analysis of patterns across 3,000 pieces of data resulted in 15 explanations of how, why and for whom specific educational and workplace contexts influence how the education is both learned and applied.

Main findings of the evaluation include:

- Content specific to clinical areas and credible trainers using real stories increases engagement in learning, and knowledge retention
- Relevant clinical content and a prevention focus increases confidence and awareness of risk
- Workload that allows time with patients, support from mentors and role models, and a non-blaming culture increases use of prevention skills
- A work environment that promotes physical safety, a cohesive team approach, and support during violence increases confidence to prevent and manage violence
- Acknowledgment and emotional support after violence, and team debriefing after incidents decreases psychological injury
- User friendly processes and consistent non-blaming follow- up increases violence reporting

The findings informed a set of 32 recommendations accepted by the Advisory group as informative and practical. The research team worked with the Advisory group to create a comprehensive knowledge translation plan to guide the dissemination of the findings and recommendations.

## Funding and ethics

### Disclosure statement

None of the authors have any conflicting interests or professional associations with this study.

### Disclaimer

All inferences, opinions, and conclusions drawn in this report are those of the authors, and do not reflect the opinions or policies of WorkSafeBC or the participating health authorities.

### Acknowledgements

## Background

Occupational violence is an international problem that seriously affects the health and safety of workers (Cebrino & Portero de la Cruz, 2020; WHO, 2014). Workplace violence encompasses a broad spectrum of behaviour from intimidation, verbal and physical abuse, to lethal physical assault with or without a weapon (Gill et al., 2012; Workers Health & Safety Centre, n.d.). There are different types of violence in the workplace based on the nature of the relationship between those perpetrating and receiving the violence (Table 1) (National Institute for Occupational Safety and Health, 2013).

| Type I | Criminal intent, no legitimate relationship to the workplace or employees |
|---|---|
| Type II | Customer or client - current or past recipient of service provided by the workplace such as a patient, client, passenger, inmate |
| Type III | Worker on worker- employment relationship such as a current or former employee, supervisor, or manager. |
| Type IV | Personal relationship with a current employee that is brought into the workplace by a current or former partner, relative or friend (example domestic violence) |

Table 1 Types of workplace violence

Within healthcare, violence from patients, clients, residents and visitors (type II)  affects the health and wellbeing of healthcare workers, the quality of care they can deliver, and the sustainability of health human resources (Edward et al., 2016; International Council of Nurses, 2017; Wang, Hayes, & O'Brien-Pallas, 2008). Addressing type II violence is a key focus of WorkSafeBC' s 2018-2020 high risk strategy for healthcare (WorkSafeBC, 2019).

The predominant intervention to address type II violence in healthcare has been to provide workers with knowledge and skills in violence prevention (VP) (Arbury et al., 2017). In British Columbia (BC), a Provincial Violence Prevention Curriculum (PVPC) was developed in 2010 and updated in 2015 (Health Employers Association of BC, n.d.). The curriculum includes eight online learning modules, and a core classroom module (Health Employers Association of BC, n.d.). The principles of the program include communicating respectfully, being proactive, and taking responsibility for safety and the content focusses on recognizing risks and behaviours; assessing and planning; responding to risk and reporting and communicating after violence (Health Employers Association of BC, n.d.). Although developed centrally, the implementation

has been the responsibility of the BC health authorities and long-term care sector private employers.

The BC PVPC has not been formally evaluated since its introduction and there is an opportunity to identify how and in what ways it has been successful and how the program can be improved. The complex nature of the healthcare environment, the multiple factors that influence <u>why</u> violence occurs, and the chronic underreporting of incidents and injuries (Pompeii et al., 2013; Wassell, 2009) make evaluation challenging. Among the many types of evaluation, the realist approach chosen for this project, may provide the most insight on how education is both learned and applied due to its focus on explanations of how circumstances (contexts) affect how individuals reason and react (mechanisms) which in turn influences their behaviour (outcomes).

The research questions for this evaluation project are

- For whom is violence prevention education likely to be effective in decreasing violent incidents and related injuries?

- What are the underlying reasons that individuals do or do not learn and apply violence prevention knowledge and skills?

- In what contexts/circumstances does violence prevention education contribute to healthcare workers effective violence prevention and management practices?

## Methods

Before evaluating the PVPC, we conducted a comprehensive review of the relevant literature. From the review and consultations with content experts, we developed a program theory comprised of 11 statements that might explain how, and under what circumstances, a violence prevention program is likely to be effective. The 11 statements are relevant to different temporal stages of the violence prevention education process, from before the education takes place until the period following a violent incident (Figure 1).
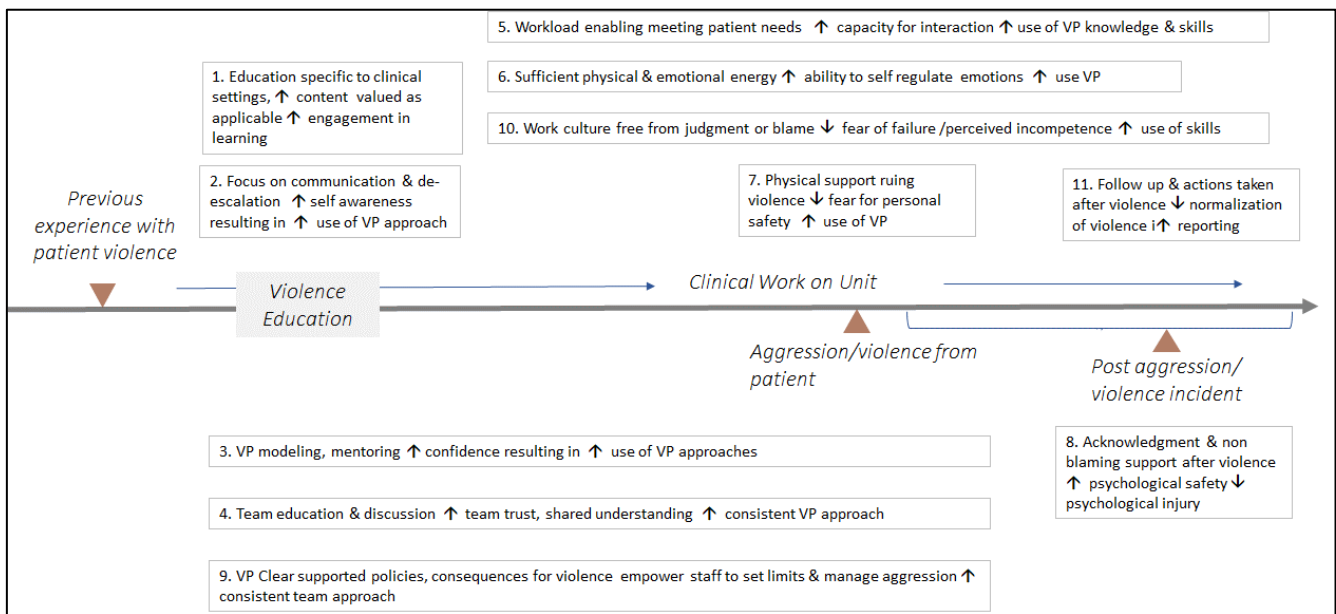


Figure 1 Review program theory of violence prevention

To build upon and test the program theory that was developed during the literature review, a project plan was developed to evaluate the PVPC. In consultation with the Occupational Health Directors for the BC health authorities where the PVPC had been implemented[1], a decision was made to focus the evaluation on emergency departments given documented exposure of emergency department workers to all types of patient violence. To capture geographic and resource variability, the research team decided to conduct research in one rural, one community, and one urban tertiary hospital in each of the three health authorities who

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[1] BC First Nations Health Authority was not involved in this evaluation as they did not have hospitals where the PVPC was implemented.

volunteered to participate: Fraser Health, Island Health, and Vancouver Coastal Health. To guide and champion the evaluation, a Project Advisory Group was established consisting of the Occupational Health Directors from the three participating health authorities, a representative from WorkSafeBC, and the research team. Each health authority Advisory Group member facilitated identification of their three sites and the research team obtained the required ethics and operational approvals to conduct the interviews and focus groups for all nine sites. Advisory Group members facilitated communication with local leaders and access to research sites.

## Recruitment

Data collection was accomplished through interviews and focus groups with individuals having some relationship to preventing violence: frontline workers who had attended the PVPC, violence prevention educators who teach the PVPC, emergency department leaders who follow up on incidents and provide staff with support, and Joint Occupational Health and Safety Committees who review incidents.

### Interviews

Six to ten interviews were conducted with frontline emergency workers at each site who interact with patients and their families related to the patient's care. Individuals who had completed the PVPC were invited via a recruitment poster to voluntarily contact the research team for a one-hour, confidential interview. Interviews were held outside of work time and participants were recognized with a $75 gift card.

### Focus groups

Separate focus groups were conducted with violence prevention educators, emergency department leaders, and members of the Joint Occupational Health and Safety Committees. Potential participants were emailed by an administrative assistant in their organization and individuals volunteering to participate contacted the research team. Focus groups were arranged and if individuals wished to participate but were unable to attend a scheduled focus group, individual interviews were arranged. The one-hour focus groups were usually conducted

during work time as most individuals did not require relief and participants were recognized with a $20 gift card. Individuals who participated in a focus group outside of work hours were recognized with a $75 gift card.

### Data collection

Two researchers individually conducted the interviews and focused groups using a standardized approach. The researcher shared background information about the goal of the project and showed the participant(s) a copy of the program theory timeline from the realist review on which the 11 explanations had been removed (Figure 1). A single question was posed: "thinking across this timeline, what do you think is most important to help people learn and apply violence prevention knowledge and skills?" The answers were probed for more detail and clarity through asking participants why or how particular aspects of the education or workplace made a difference, who it might be different for, what made something important, what would happen if it were another way and why the result would be different.  Additionally, to increase the research team's understanding, as time permitted the researcher sometimes asked the participant their thoughts about explanations from the review or about ideas mentioned in other interviews.

All participants signed consent forms and interviews and focus groups were recorded and then professionally transcribed.

A total of 136 individuals participated in the research: 58 frontline workers who self-selected for an interview, and 68 leaders, VP educators or JOSH committee members who volunteered for a focus group. Participation was evenly distributed across the health authorities and types of sites with the exception of fewer focus group participants at the smaller rural sites where there are fewer employees and administrative resources.

### Analysis and synthesis

The goal of analyzing and synthesizing the interview and focus group data was to refine the initial program theory for violence prevention education into one that best represents the specific context of the PVPC. The process of analysis and synthesis was iterative with cycles of reviewing, analyzing, synthesizing explanations, testing proposed explanations against the data,

and searching the literature for support of the findings (Figure 2). The goal of the realist approach was to iteratively refine an understanding of the educational and workplace contexts that influence learning and application of violence prevention education. By analyzing data from completed interviews and focus groups while further data continued to be collected, the research team was able to use later interviews and focus groups to probe and refine unclear explanations from earlier ones. Through continued cycles of review and researcher consensus-building, over 3,500 pieces of text were synthesized to 35 potential explanations. The 35 explanations were then refined to 15 key explanations of how educational and workplace contexts influence the effectiveness of the PVPC education.
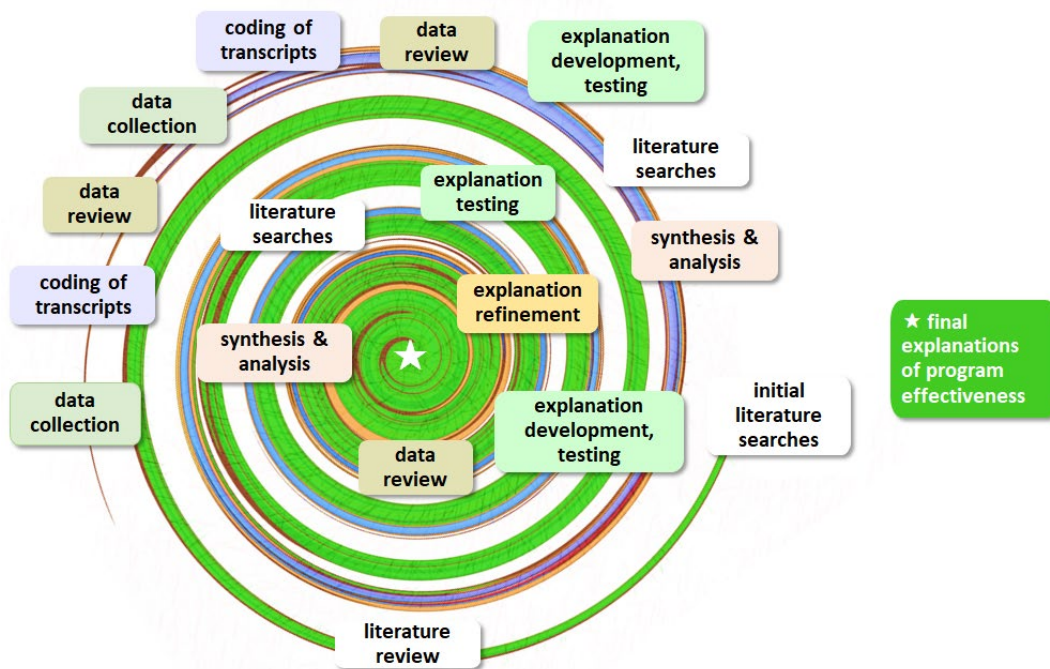


Figure 2 Realist evaluation analysis and synthesis process

## Evaluation Results

The results from the evaluation provide a program theory for the PVPC: 15 key explanations about how, why, when, and for whom the violence prevention education is most likely to be learned and applied. For ease of visualization, a framework has been used to present the findings within three areas: explanations related to formal education; to learning and applying

in the workplace; and to support, reporting and follow up (Figure 3). A summary table of explanations is available in Appendix A.

As described in the methods, results from the realist evaluation are patterns of how characteristics of education and workplace conditions (contexts) influence how people reason and react (mechanisms) influencing the degree to which they learn and use VP knowledge and skills (outcomes). In the following sections, each finding is described using realist identifiers for the context (C), outcome (O) and mechanism (M). The sample of quotes from the interviews and focus group transcripts provided for each explanation[2] are coded for anonymity with a unique number and two descriptors for the activity and type of hospital. "IV" and "FG" respectively indicate participation in an interview or a focus group activity, and "C", "R" and "T" represent community, rural, or urban tertiary hospital sites.[3]

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[2] Sample quotes have been edited for confidentiality of people or sites, and for ease of reading by removing duplicate or non-contributing words such as "like". Grammar has not been corrected and the substance and wording of the quotes are original to the participants.

[3] The health authority for each quote is purposefully not indicated to protect identification of individuals or teams, and it is worth noting that numbers close in numerical sequence do not indicate the same site or health authority.
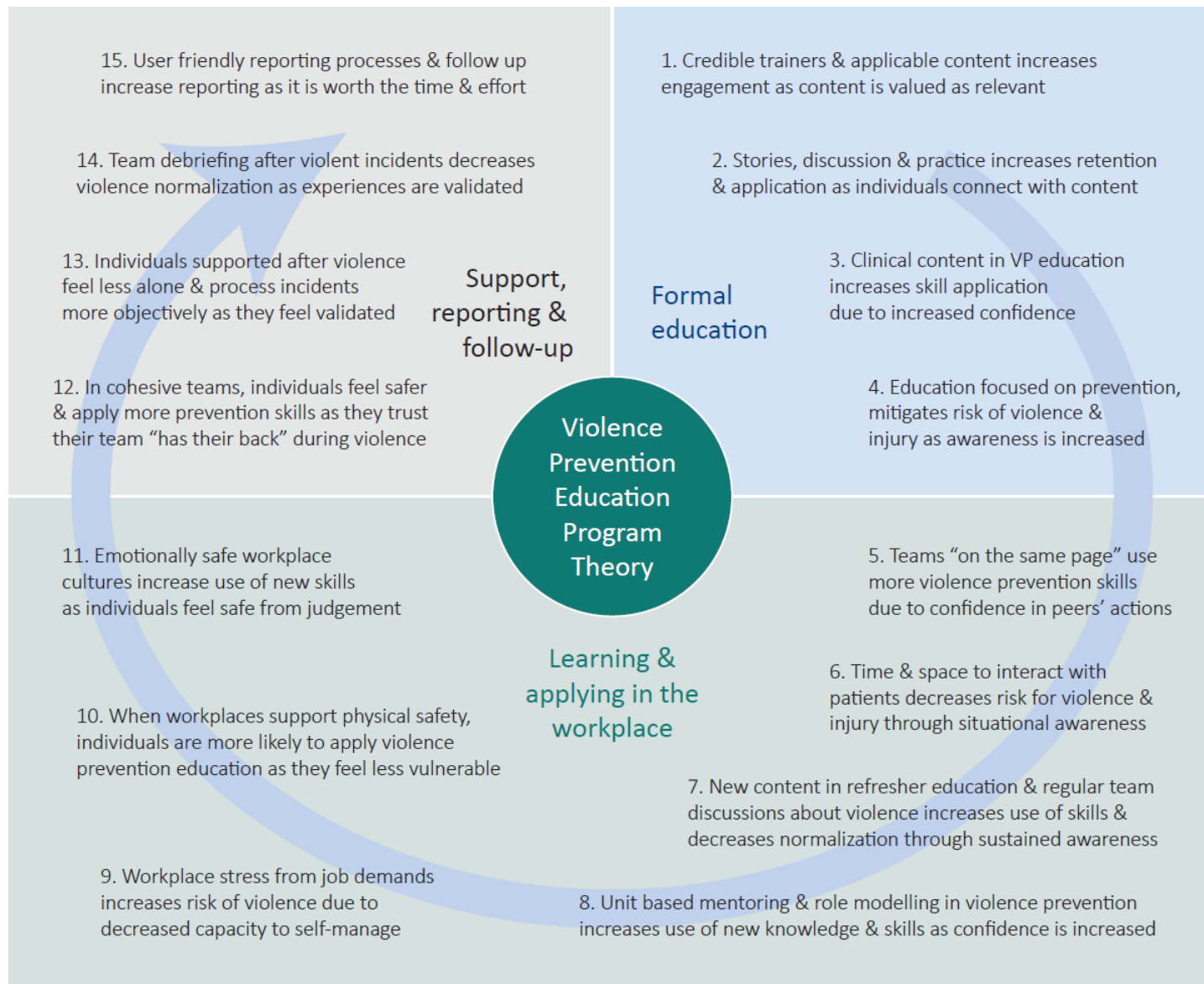
Figure 3 Evaluation of violence prevention education program theory

## 1 Formal education

As illustrated in Figure 3, there are four explanations specific to formal education. The explanations in this area relate to organized educational activities such as the PVPC program or refresher training sessions.

### 1.1 Credible trainers and applicable content

1. Credible trainers ($C_1$) and applicable content ($C_2$) increases engagement in learning (O) because content is more likely to be valued as relevant (M).

Individuals are more likely to learn the skills from VP education when the content is applicable, and the facilitator is seen as credible.

Participants perceived the education as applicable when the scenarios and education content are relevant to their clinical area and client/patient population, the violence they experienced, and the resource limitations of their work setting. Although a few individuals were less concerned about who conducted the training, most participants felt that engagement is increased when trainers are perceived as credible due to clinical and/or violence expertise, an ability to teach from experience, and if they understand participants' work setting and the violence experienced.

Sample quotes:

*Their confidence and experience was engaging... This is what they deal with on a day-to-day throughout their career. As expert in this area or seemed to be in terms of-- just-- there's a way to deal with people and still be human about it... they just weren't pointing to a board and explaining the formula of how to deescalate or explaining the formula of how to physically protect yourself. They were engaging, and it was action and acting. It wasn't just... This is what you should do... You could tell it was based on experience- that helped. IV_R_81*

*Having education that's specific to a unit. Being taught by people, ideally that are aware of what goes on in that unit. The pressures, the stresses, the limitations…. It's relevant. I mean, you can, you know, create all sorts of idealized situations, you know, perfect world environments. It's just not-- if it doesn't mesh with your appreciation for what you're dealing with on a day-to-day basis, it means nothing. IV_T_6*

## 1.2 Stories and discussion

> 2. Stories, discussion, and practice (C) increase knowledge retention and application (O) as individuals emotionally and cognitively connect with the content (M).

Explanation 2 describes the importance of real stories, interaction, discussion and practice in helping individuals connect with - and retain - the education content through relating it to their own experiences and making meaning. Participants identified that in-person, interactive methods of delivery which allowed for discussion, helped individuals to reflect on practice and retain the content. In contrast, many participants stated they did not remember content from the online modules, and often could not remember if they had completed them. The examples of situations of violence used in discussion and simulation in the education are also important as participants felt that 'made up' scenarios did not feel "real". In contrast, the use of authentic, first person stories and examples of situations of violence are more impactful and help information resonate emotionally as they provide an opportunity to discuss what happened, how individuals made decisions, and how they felt.

Sample quotes:

*it's asking have you seen violence in the workplace, have you experienced violence in the workplace, and …then giving people and the trainer to reflect…think back to that experience, what were the things that happened in it that you think could have changed. And then you can link that to here's what we're actually doing in the training that could make a real difference for you. I think the person-to-person contact part of that is so critical. I think online modules are fine as a grounding kind of starter point… you don't really make meaning of it when it's a screen. It's just I have to get through this information to pass the test. Versus if you can talk with someone who can actually help you make that emotional connection to… a time when you think any kind of training might have helped you.  IV_R_45*


*I think in terms of-- when it comes from a textbook or from an environment that's a little bit more sterile, that maybe it doesn't seem true. But when you actually have a nurse saying, like, this is what's happened, there's some emotional connection to it, physical connection to it, like, mental, you're right there and this nurse is explaining or you witnessed it as well and now you're debriefing it or things like that. IV_T_27*

## 1.3 Clinical content

> 3. Clinical content in VP education (C) increases skill application (O) due to increased confidence in own knowledge (M).

Participants identified the need for more in-depth clinical information regarding the causes, manifestations, and specific prevention and management techniques for violence, particularly in relation to patients with dementia, mental health and addictions, and victims of trauma.

As described in other research (Van Wissen & McBride-Henry, 2010) healthcare workers' confidence in their practice relates to both experience and possessing relevant clinical knowledge. To increase confidence in using VP skills, VP education needs to be part of or connected with clinical education. The clinical content for VP needs to be specific to the patient population and violence that participants experience, and the education length and depth needs to consider their role and experience level.

Sample quotes:

*It needs to be part of clinical training...Because people need to understand it's not just saying, oh, well, she's demented, you know, that's why she's aggressive. One does not necessarily follow another. So people need to tie the clinical picture to what do they bring to this conflict. Yes, there will be behaviour from the person that may be confused...But you also bring the other half of that conversation and whether that conflict is going to escalate or deescalate depends on your ability to control that. Because this person's not going to be able to control that. So to me that is a clinical skill. That's the art of nursing. FG_C_15*


*Clinical education for sure…. if you don't have those skills, you will not survive. Like, you literally-- your nursing career will be-- I don't want to be dire, but if you don't get violence education clinical skills to use at work, you will have a miserable time at work. You will get burnt out. You will probably quit nursing maybe, emerg definitely. It's like you need-- yeah, it's absolutely clinical. I mean, its occupational health as well, but being able to negotiate situations of violence at work is-- it's like being able to negotiate a difficult consultant or something, or a difficult N.G. insertion. It's something you need to do to be successful I think. IV_T_24*

## 1.4 Focus on prevention

> 4. Education focused on prevention (C), decreases risk of violence and injury (O) due to increased awareness of opportunities to prevent violence (M).

Participants identified that VP education needs to focus primarily on prevention, with less emphasis and time spent on physical violence management. When education focuses on preventing verbal and physical violence through risk assessment, communication skills, and de-escalation, participants have increased awareness that violence is not only physical, and not inevitable, and they are more likely to use knowledge and skills to prevent it. The awareness is both general as a belief (Heaton & Whitaker, 2012), and situational where individuals become aware of their environment, intuitively assess and comprehend situations, anticipate risk (Cohen, 2013) and see the opportunity to use skills. Participants also emphasized that prevention education should include how to decide when to stop trying prevention, and retreat and get assistance to manage violence to stay safe.

Participant perspectives on teaching of 'breakaway' or 'release' techniques to escape patient grabs echoed concerns in published literature (Lamont, Brunero, Bailey, Woods, & Hons, 2012). For example, although some less experienced participants felt more confident after being taught release techniques, participants who had more experience with violence identified it as a potentially dangerous, false confidence that can result in healthcare workers staying in unsafe situations instead of retreating. Although many participants remembered learning release techniques due to the active practice involved, consistent with several studies, very few individuals ever actually used them (Dickens, Rogers, Rooney, McGuinness, & Doyle, 2009), and some individuals felt their inclusion in the curriculum further contributed to a belief that violence was only physical and not preventable.

Sample quotes:

*I think from the coursework it appears that violence can only be physical in nature... Somebody's throwing things or something to that effect. But the aggression that we have in my workplace is-- there's a lot of verbal aggression, little motions and, like, just some body language aggression. So particularly those things that I've learned were not-- are not helpful....Although it (education) might have (addressed verbal violence), it obviously did not resonate enough with me to kind of change how I interact with patients. IV_T_17*

*I think that a lot of these violent outbursts can just be avoided altogether with appropriate de-escalation techniques. And so for me, I think that that would …be way more beneficial because I've seen it, co-workers that are actually making the situation worse with what they're saying. And that's when people ramp up. People don't come in wanting to swing at a nurse. That's-- people might come in, in pain or they might come in high on drugs, or they might come in, who knows, with police, arrested under The Mental Health Act. … they might come in angry. But they're not actually walking in the building with a plan to clock a nurse. …So we have to figure out kind of why they're here and how we can deescalate that situation so that we're not going to get injured. Or they're not going to physically, emotionally, mentally abuse us or be aggressive. So I just think it's more of an upstream technique …. I'd rather deal with it on this side rather than way down there. IV_R_82*

## 2 Learning and applying in the workplace

CMO findings 6 to 11 describe how particular contexts in the workplace support the continued learning and application of VP knowledge and skills.

### 2.1 Teams on the same page

> 5. Teams with a shared knowledge and understanding regarding violence  (C) use more violence prevention skills (O) due to confidence in peers' actions (M)

Participants identified that when teams are "on the same page" with a shared knowledge and understanding of violence prevention, team members have more confidence in how their peers will respond to prevent and manage violence incidents, resulting in safer situations and increased use of prevention skills. When teams train together, practice, and discuss and make decisions together they are better able to use a coordinated and safe approach to violence as

there is less uncertainty about how other team members will react. Participants also noted that a shared understanding is supported by clarity around roles in code white or behavioural emergency patient situations.

Sample quotes:

*For the most part nursing as a whole in emergency department, with the training available, has more times than not a very shared model. I think when you work with a bigger team, when you have the orderlies, the security guards, just porters, anybody who just happens to be in the room, that's where I find you end up having to just be mindful that they don't have that same training. You almost have to manage those people on top of the patient that's currently having a crisis. IV_C_6*


*I think it's beneficial to have the training done at the hospital that we work at, with the team that we work with-our actual colleagues... I feel like it just builds a better rapport with your team. -- It just gets you to work better together… When you're presented in a situation like that, you both have the same training, you've kind of done it, like, did the whole thing together. It's easier to be, okay, you remember how we did this? Let's do it together. …it's just a better way to do training with anything, really, even not just the violence prevention. I think training should be done with the people that you're going to be doing it with in a setting that you're going to be doing it. IV_T_14*

## 2.2 Time to interact with patients

> 6. Time and space to interact with patients (C) decreases risk for violence (O1) and injury (O2) through situational awareness (M).

Participants identified an increased risk for incidents and injuries from violence when workload and task assignment limited their time with patients, time to use skills, and when overcrowding resulted in chaos and lack of quiet space to communicate with patients. Participants explained that the lack of time and quiet space decreased their ability to be aware of the many things going on around them and how to manage risk. This description aligns with situational awareness; a term from aviation that means "knowing and understanding what's happening around you" (Cohen, 2013, p. 64) in order to anticipate risks and make critical decisions.

Sample quotes:

*I'm thinking of their care. I'm thinking of what I need to do. I'm thinking of the tasks and multitasking. I've got a lot of patients. I have so many things going on. I already knew this person had a violence alert. I already knew the best way to approach that person. And yet I forgot in the time because I had so many other things on my mind. So did I have education on it? Yes, I certainly knew. But could I apply it in the moment? Why didn't I apply it in the moment? I think it was because I was really busy… 'Cause it's not that I'd forgotten. I didn't apply it in the moment …because I had other more important things, other than my own safety, on my mind. IV_R_54*

*Workload, space, time is very important. … I can have the knowledge from being educated- in the violence education we have the theory about what are the triggers, what to look for and all that stuff. Yes, we have that knowledge and we can apply that. But de-escalation takes time… and takes calm and that takes being present with this one person. When you have a lot of interruptions and a lot of chaos and a lot of noise and a lot of… work that's pressing on you. People want to rush. So people end up fighting the patients or the families…we ourselves end up escalating the violence by how we respond to it.  FGIV_C_15*

## 2.3 New content and discussions

| 7. New content in refresher education (C1) and regular team discussions about violence (C2) increases use of skills (O1) and decreases normalization (O2) as awareness is sustained (M). |
| --- |

The evaluation identified the importance of regular team discussions about violence prevention as a means of sustaining awareness of risk of violence and actions to prevent it.  Ongoing discussions about violence also decrease the risk of normalizing violence as something that is just part of the job. Individuals identified team discussions as both formal and informal including huddles, discussion of incidents at staff meetings and educational in-services. Additionally, refresher training sustains awareness and attention when it is relevant to participants' area and experience level, builds on previous knowledge and introduces new best practices.

Sample quotes:

*Frequent reviews within your own department. Simulation scenarios. Is there something that you can do in your department once a month where you're given a scenario and how would you react, to just as a group get …people to start thinking how would you handle a situation like that if that type of situation was to happen? And just kind of trying to continue that conversation. I don't think anybody reviews anything until a situation happens and then you talk about it…. and learning new ways, or what's the latest, greatest in education that's coming out? What's effective? What isn't working? What's new and what's old, right? And so keeping up with that gives us a better sense of self and confidence …to bring that back into your own practice and know what to do in all these everyday situations.  IV_C_48*


*Refreshers are always good. You always kind of slip back into maybe bad habits or, you know, it's always good to hear-- and there's always new things. There's always new ideas and when you sit with a group and you hear how different people will do it, you're always going to get, hey, yeah, that's a really great idea. Maybe we should implement that.  IV_C_36*

## 2.4 Mentoring and role-modelling

> 8. Unit based mentoring and role-modelling in violence prevention (C), increases use of new knowledge and skills (O) as confidence is increased (M).

Evidence from the evaluation supported results from other research (Adams, Knowles, Irons, Roddy, & Ashworth, 2017; Gillespie, Gates, Miller, & Howard, 2010; MacGabhann, Baker, & Dixon, 2002) that unit-based mentoring and modelling of a VP approach increases confidence to use VP knowledge and skills. Participants provided examples and ideas of how mentoring could be achieved through development of unit mentors, unit-based VP champions, and unit visits by VP trainers to follow up after education sessions.

Sample quotes:

*I really think the actual nitty gritty comes f people say, look, I'm willing to be a role model or a champion or a mentor on this particular topic. … if somebody identifies themselves as that and says feel free to watch, snoop, come to me, ask questions, I'm going to hang around make sure you're doing okay if that's cool. I think that type of mentorship is super valuable. More so than having a day where you go over theories of learning or something. IV_T_24*

*Even if it's someone that drops in and has their list of people that were on the course and they pop in in three months' time or a month's time and say how are you doing with this? Have you had any situations where you've had to use what we went over in the class? What are your thoughts on it? And give them the opportunity to talk through it, bounce some ideas off, maybe discuss-- 'cause …the course training is still fresh. …And having that instructor come back and touch base with them. …. you can train someone up all you want, send them into the world and if you-- how much stuck from that day. How much really did they retain. Probably a fair bit, but after a year or two without any reaffirmation of that training, what's there? IV_C_70*

## 2.5 Workplace stress

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|---|
| 9.  Workplace stress from job demands (C) increases risk of violence (O) due to decreased capacity to self-manage own emotions and reactions (M). |

An important part of VP prevention is the ability of workers to manage their own emotions and reactions. The participants identified that stress from job demands has the greatest influence on an individual's capacity to manage their own emotions, avoid being triggered by aggressive patient behaviour, and use prevention techniques to decrease risk. High workload and frequent violence without the required resources or support, missed breaks, fatigue and overcrowding, or being over census in patients were noted as contexts related to job demands.

Sample quotes:

*I already know how to deescalate. And sometimes my emotions for sure will get involved… and I get angry, and then that does worsen it. Sometimes I've had colleagues, - we've tagged each other out…. and sometimes even our stress level and my colleague's stress level is so high from the amount of work and expectations of us as well, that then when we have somebody ..being so rude or swearing at you and I'm just, like-- am I going to sit there and be the punching bag to be, like, oh, tell me how you're feeling? No. I'll call security... …working conditions are just getting worse and worse. …high expectations… but then… not the environment nor time to do our job properly. IV_T_55*

*I think it's this melting pot of not only the people coming in with aggressive tendencies to begin with. People frustrated, people having to wait. But it's also...the nurse and what's going on in their life and it all just comes together and sometimes it's this perfect storm where one aggressive person makes you just click something on in you and then you're upset. And then... it feels almost like it snowballs where you're on this train and you can't get off. And you might even sit and be there, like, why am I so rude? Why am I being so mad today? And you might realize it in the moment and still not be able to pull yourself out of that space... Is it violence education (not working) or is it overworked, overstressed nurses with too much on their plate also feeding into the violence in the departments. IV_C_66*

## 2.6 Physical safety

> 10. When workplaces support physical safety (C), individuals are more likely to apply violence prevention education (O) as they feel less vulnerable (M).

Participants identified that when workplace environments decrease feelings of physical vulnerability and fear they support application of violence prevention knowledge and skills from the education. Feeling vulnerable decreases when the risk of physical harm is addressed through workplace characteristics such lockable areas for egress, sight lines to others and to avoid blind corners, ready access to help, available alarms, presence of other staff and security, physical barriers, and controlled access. Feeling vulnerable is also influenced by how clear policies are regarding violence, whether staff feel supported when they enact them, and how clear and efficient processes are to access security, code white, and RCMP or police.

Sample quotes:

*We don't have a way to lock ourselves down and keep safe in those incidents. Anybody can enter and anybody can leave and we don't know what they have or why they're there (It makes me feel) ...horrible because there's been enough incidents that we need to be able to protect (ourselves) and the people that we have there. It makes me feel very unsafe. Every time somebody's going back there and I don't know why or if there's a victim that's back there, it just makes me feel like we have no control over anything to do with the safety. (Also) We don't have a lot of space and a bunch of times lately I've been like I cannot get out safely. So I have that awareness (and) I cut my interactions. If I could spend more time with somebody maybe you can communicate and let them feel heard. But I'm not going to be able to do that if I'm not feeling comfortable (I'm) not doing the best assessment on them. IV_T_53*

*If there was a policy that was clear as to what we would tolerate I would feel more empowered. I would feel like if I knew that there was this line, this is what we tolerate, then I could say that we don't tolerate this because this is what it says in our policy. Whereas I feel like because it's a bit watery and moving I don't quite know where to land. IV_C_5*

*…the best uptake …of violence prevention strategies is when there's enough nurses to implement them... all the training in the world is irrelevant when you're scared and you're panicked and you're alone and there's an aggressive patient who's trying to break down glass windows to get at you… just the physical presence of another person can diffuse a situation like that… To decrease your own personal panic and fear. You know that you have backup. When you have backup, I think you can be more calm and actually use those verbal tactics to diffuse situations versus panic and bolting. - I don't know that confidence is the right word. -you just have a bit more ability to diffuse patients when you know that there's somebody there with you. IV_R_30*

## 2.7 Emotionally safe culture

> 11. Emotionally safe workplace cultures (C) increase use of new skills (O) as individuals feel safe from judgement (M).

Although not as prominent a theme as in the VP literature, the evaluation findings supported the importance of an emotionally or psychologically safe workplace  - where individuals do not fear being punished or humiliated for asking questions or making mistakes (Edmondson, 1999) - particularly for new and inexperienced staff eager to prove themselves to senior colleagues. An emotionally safe workplace encourages use of VP skills as individuals feel safe from judgement in all aspects of their practice. Participants stressed that the culture is influenced by a no-blaming or shaming approach by leaders and senior team members, not only to incidents of violence, but to all errors, safety accidents and critical events.

Sample quotes

*A safe learning environment and a safe place to ask questions. That no one ever gets isolated in their thoughts or their crisis. When people know that they're in a safe working environment and its okay to ask questions and no one, especially the new staff, don't end up being in the end of the hall… in a bad position, by themselves, mentally, physically, verbally assaulted.  IV_C_6*

*As a new employee you typically feel that you should be able to do things yourself. You're afraid that you'll be chastised for asking for assistance. I actually don't think that I have experienced that. I haven't gotten in trouble for asking for help. But as a new person you want to prove yourself to the others, to other staff members, that you don't need help to accomplish all the tasks that they're able to accomplish. But obviously that's not realistic.  IV_T_17*

## 3. Support, reporting and follow up

The last section of findings (COMS 12 to 15) focus on actions after violence has occurred: support provided formally and informally; and reporting, follow up, and debriefing of violent incidents.

### 3.1 Team support during violence

> 12. In cohesive teams (C), individuals feel safer (O1) and apply more prevention skills (O2) as they trust their team will be there to support them when violence occurs (M).

The evaluation identified how the presence and support of others during violence allows individuals to use violence prevention skills. Numerous individuals used the term "has my back" to describe how they trust that their team will physically back them up if patient or visitor behaviours escalate to violence. Examples of team supportive behaviour include verbally checking in when voices become raised, standing behind an individual who is dealing with an escalating situation, assessing and calling for security back up in case the situation becomes more serious, and intervening when a team member feels unable to act.

Sample quotes:

*I feel very confident…this guy's escalating out here and I can go into the waiting room and people are standing by. Somebody I know has already started calling security non-urgent to stand by. I think that's huge. … And everybody comes out and stands there. It gives you the ability to approach somebody and try to deescalate the situation without coming across too aggressively. …it's nice when you have a team of colleagues that are just there in a natural habitat, nobody's called them in and they're still standing around watching but they're able to stand back. And it just gives you the confidence that, okay, I can do this. Should anything happen, everybody's here. IV_T_14*

*For the most part everybody works as a team and they realize that if you work as a team things go better. And if everyone works together and everyone trusts that you have their back… I think for the most part everybody's aware of what's going on in the department. If someone's acting up, these people over here are going to be aware of that. And if something happened and you yelled or they heard a crash or something, people would respond because they're aware. IV_C_77*

## 3.2 Support after violence

> 13. Individuals supported after experiencing violence (C), feel less alone (O1) and process incidents more objectively (O2) as they feel validated (M)

When supported after violence, individuals feel less alone and are more able to emotionally process an event as they feel validated for having experienced something traumatic, and personally validated as worthy of being cared about. Support after violence includes checking in with an individual as to how they are doing emotionally, and acknowledging the violence the person experienced as unusual or unacceptable. Additionally, support to take a break after violence and a chance to talk privately about emotions helps individuals cope, process the event, and manage future violence.

Sample quotes:

*You just feel cared about as a member of your team, of being an employee of the hospital. I guess that's really it. You just want to feel cared for yourself as a caregiver. And being acknowledged is the first step that somebody is aware that you may not be doing okay. Or something took place that wasn't okay. I think acknowledgement means that that person doesn't have sole ownership of that experience. That that person has shared that experience with other people. So I think for me personally it …just helps dissipate a lot of the responsibility and ownership… it wasn't just something that happened to me. It happened to everybody. It's not just a change that I want to see happen, it's a change that (has a) part for everybody… something bad happened …everybody was part of it. And now everybody can… be part of making it better rather than just sitting squarely on someone's shoulders and not being shared with anybody else, IV_C_6*

*(After violence) it's always appreciated when your peers or management checks in. I think they're left with residual experiences that they haven't been able to process and so it's traumatic. So sharing is really important, and having that time to debrief and discuss and talk about is—if it's a major incident… debriefing in a formal setting. IV_R_81*

## 3.3 Debriefing incidents

> 14. Team debriefing after violent incidents (C) decreases violence normalization (O) as experiences are validated (M).

The evaluation identified that when debriefing of violent incidents is a regular part of the workplace context, healthcare workers are less likely to see violence as normal, inevitable, and "part of the job" (Lipscomb & London, 2015). Participants articulated that support after violence is appreciated, but they want to see incidents debriefed like other healthcare events such as code blue (cardiac or respiratory arrest). After code blue situations, for example, individuals discuss how they feel, how things went and what could be improved upon. Some participants expressed as desire for a routine debriefing of violent events that lead to follow-up recommendation and actions.

Sample quotes:

*It would have been nice to have my manager come up and say …this shouldn't have been tolerated, what can we do to make this better? No one ever asks us that. So what are our steps forward from this? I think it (would) validate that this isn't right and then they want to rectify the situation... Most of the time it's "I'm sorry this happened to you and I feel really bad for you and I'm here to support you". That's all great, but when you walk away from that informal debriefing you just feel like nothing's ever going to get done about it. I think that's probably the most difficult part. IV_T_12*

*Bringing in everybody who was involved, all services. So whether it's the doctor, the paramedic, the security guard, the nurse, everybody needs to get together and chat about it and sort their feelings out and be able to have a safe place to express how that felt. And whether that's for a violent incident or whether that's for a death that just happened, I think debriefing really brings the group and the sense of community within your department back together to be able to, in a healthy way, sort your feelings out. Talk about what went right, what went wrong, and how you can do better.  IV_C_48*

## 3.4 Reporting and follow up

> 15. User friendly reporting processes and follow up (C) increase reporting (O) as it is worth the time and effort (M)

Participants clearly articulated they would more likely report violence if it is easier, less time intensive, and they have sufficient time to complete reports during their shift. Participants also stated that it is important to have non-blaming discussions with their leader after reporting; and that reporting needs to result in actions that prevent violence.

Sample quotes:

*It's quite a long form to fill out and you often don't have time to do it in your shift so you have to stay after work to do it. And that puts people off 'cause people don't want to stay after work and fill out a form that's quite lengthy. (Also) I think it's because you never see the consequence of what happens when you report. So then you end up feeling, well, what's the point of reporting because nothing happens. It doesn't go anywhere. Even after a huge incident with a colleague, still nothing has changed. IV_C_5*


*I feel like right now there's not a lot of support telling us to call a phone number. Which they never answer and then they call you back at a bad time or a week later and you don't remember and - the violence hotline or whatever that you're supposed to report your incidences to.-We don't have time for it and you get nowhere with it. IV_T_53*


## 4 General Findings

In addition to the 15 key explanations specific to contexts that influenced learning and using violence prevention education, four additional general findings emerged: VP strategy; gender and experience, clinical education model and normalization of violence.

## 4.1 Violence prevention strategy

The findings confirmed that how individuals learn, retain and apply VP knowledge and skills is influenced by more than education, and a strategic, multifaceted approach to patient violence is required (Wang et al., 2008; Whitman, 2016). VP education is important but is unlikely to be

effective in the absence of an overall strategy that identifies and addresses the risk factors contributing to violence such as those related to laws, organizational factors, and patient characteristics (Lipscomb & London, 2015). As a stand-alone intervention, VP education may unintentionally increase skepticism that organizations are genuinely concerned with workers safety and not just "ticking a box" for compliance. A sample quote representing this finding is:

*I feel like (Health authority) or management just think okay, if we tick off that box that will address the violence. Instead of actually being, like, what causes all that violence? Let's address that. IV_T_55*

## 4.2 Gender and experience

That women and girls have an increased risk for intimate partner violence and sexual violence is well established (World Health Organization, 2017). In regards to violence from patients in healthcare and consistent with other literature, gender was not identified as a factor in the likelihood of experiencing violence or using VP knowledge and skills in this evaluation (Lawoko, Soares, & Nolan, 2004; Lippel, 2016; Wei, Chiou, Chien, & Huang, 2015).

Consistent with the acknowledged increased risk injury for young workers (WorkSafeBC, 2017), and with findings from other healthcare violence research (Adedokun, 2020; Hahn et al., 2013; Wei et al., 2015), participants did identify that newer staff were less experienced and confident in using VP skills, and at greater risk for violence and injury. A sample quote representing this finding is:

*Maybe the more experience you get in this situation maybe the more things that we can actually learn now. So when you start off as a brand new nurse, never been in a violent situation in emergency or something, you need to know just the bare basics. But now that I'm in this for 10 years and I've got that stuff down pat, I try my best to deescalate and I've got a lot of tools to do that -- because I've seen it done a million times and I've learned from those people as well. Like, on the job, the senior nurses how they deescalate things. IV_T_12*

## 4.3 Clinical education model

As described in explanation 3, healthcare professionals gain confidence through a sound clinical knowledge base that enables them to appropriately care for patients. Like most VP programs the PVPC is delivered as occupational health and safety education, separate from clinical education. Healthcare professionals are used to workplace learning in two formats: short educational "in-services" that link new clinical information to practice (Bluestone et al., 2013); and for critical and time sensitive skills, practice drills conducted, and debriefed to inform learning and actions in future events (K.-L. Williams et al., 2016). Multiple participants referred to this established two prong approach to learning and practice and questioned why this same clinical education model was not applied to violence prevention. A sample quote representing this finding is:

*If you don't get violence education clinical skills to use at work, you will have a miserable time at work. You will get burnt out. … It's absolutely clinical, it's occupational health as well, but being able to negotiate situations of violence at work is-- it's like being able to negotiate a difficult consultant or something, or a difficult N.G. insertion. It's something you need to do to be successful. IV_T_24*

## Recommendations

The evaluation of violence prevention education in BC healthcare was conducted to provide stakeholders with actionable evidence to inform decisions to address violence from patients and visitors.

The recommendations in this report are presented in two sections: specific recommendations related to each of the 15 findings, and suggestions for two areas of focus to enable action in a broader strategic plan.

### Specific recommendations for each of the 15 explanations

Recommendations for each of the 15 specific explanations are summarized in Figure 4 and organized as a checklist with numbers that correspond to their respective explanation.

The first section of the checklist (#1-4) corresponds to findings related to the education and would be optimally addressed at a provincial level by a curriculum working group and at the health authority level related to implementation

| | | | |
|---|---|---|---|
| **Formal education** | 1 | ☐ | Content and examples specific to participants' clinical area, role, experience level and site/unit resources. |
| | | ☐ | Trainers teach from experience and understand participants' work setting and the violence they face. |
| | 2 | ☐ | Interactive sessions with discussion. |
| | | ☐ | Actual lived stories of incidents as examples. |
| | | ☐ | Psychologically safe practice of actual previous events. |
| | 3 | ☐ | Clinical education specific to patient population cared for and violence experienced e.g. MHA, dementia, trauma informed care. |
| | | ☐ | Appropriate to role and experience level. |
| | 4 | ☐ | Focus on prevention: communication, de-escalation, decision making for safety. Do not include release/defense techniques. |
| **Learning & applying in the workplace** | 5 | ☐ | Train as a team, at worksite where possible. |
| | | ☐ | Practice like other codes, team discussions and incident reviews. |
| | 6 | ☐ | Employ strategies to address workload and decrease task focus. |
| | | ☐ | Review physical spaces for privacy/quiet to de-escalate violence. |
| | | ☐ | Identify contributing factors for violence through debriefing. |
| | 7 | ☐ | Refresher sessions like clinical in-services: interactive and includes new information. |
| | | ☐ | Discuss safety as part of culture: e.g. huddles, staff meetings, incident reviews. |
| | 8 | ☐ | Unit/site violence prevention support: formal mentors, Violence Prevention Champions, accessible site or unit instructors. |
| | | ☐ | Support for young less experienced staff and role modelling by supervisors and senior staff. |
| | | ☐ | Non-blaming incident review to identify contribution of fatigue and stress. |
| | 9 | ☐ | Consistent support to take breaks especially post violence; review workload and overtime hours. |
| | | ☐ | Preventative personal and life coaching and access to employee counselling services. |
| | 10 | ☐ | Explore/address what makes staff feel physically vulnerable e.g. controllable access. |
| | | ☐ | Ensure safe egress, escape space, clear reliable protocols to access help (security, code white, RCMP). |
| | 11 | ☐ | Non-blaming role modelling and response by leaders to all events including errors, violence, critical incidents, staff injuries. |
| | | ☐ | Non-blaming discussions about violence and purposeful support for new and less experienced staff for new skills. |
| **Support & follow up** | 12 | ☐ | Education/refresher training focuses on team response and support during violence. |
| | | ☐ | Team approach to violence protocol and role modelling role modelling by supervisors and senior staff. |
| | 13 | ☐ | Education for managers/supervisors on support after violence: acknowledging without blame; emotional check-in and support. |
| | | ☐ | Team inclusion in discussions and debriefs, offer employee support services. |
| | 14 | ☐ | Standard violence debriefing process like other codes; document debriefs and recommendations. |
| | | ☐ | Focus debriefs on support, sharing , learning and prevention. |
| | 15 | ☐ | Accessible efficient reporting: single place, minimal time and effort required, support to complete during work hours. |
| | | ☐ | Timely response, consistent communication and follow-up preventative actions to individual/team/organization. |

Figure 4 Recommendation checklist from the evaluation of violence prevention education

As each health authority, site, and work unit has individual strengths and gaps, the workplace, and support-follow up sections of the checklist (#5-15) provide a tool that can be used in an approach similar to the commonly used healthcare quality improvement PDSA process (Taylor et al., 2014)  (Figure 5)
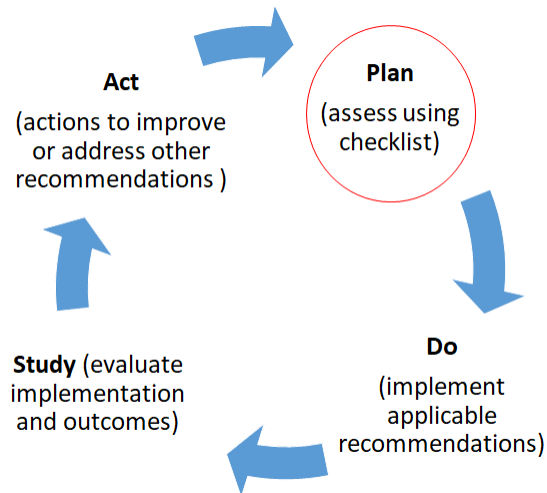
**Act**
(actions to improve or address other recommendations )

**Plan**
(assess using checklist)

**Do**
(implement applicable recommendations)

**Study** (evaluate implementation and outcomes)

Figure 5 PDSA cycle for recommendations for explanations #5-15

**Considerations for implementation**

In addition to the specific recommendations presented above, the research team identified two areas of focus to guide an implementation strategy: decreasing vulnerability and decreasing normalization.

Vulnerability

At the time of writing this report, the unprecedented worldwide challenge of COVID 19 is adding additional stress and feelings of physical vulnerability for healthcare workers (Kinman, Teoh, & Harriss, 2020). Despite public support for healthcare workers there are indications that violence from patients and visitors may be increasing (Forgione, 2020).

As one participant articulated, a healthcare worker's level of confidence and how vulnerable they feel influences whether they use an "army" (call security, code white, take down) versus the "diplomacy" approach (prevention, negotiation, de-escalation) taught in the PVPC (IV_T_21). Particularly at this time, focusing on recommendations that address feelings of

vulnerability can support healthcare workers' increased use of VP knowledge and skills while demonstrating a commitment to their safety and health.

## Normalization

Chronic underreporting of violence and the resulting lack of reliable data is a major issue in evaluating actions to address violence such as the recommendations in this report. As this evaluation confirmed, how an organization responds to incidents of violence communicates whether it is something noteworthy to be reported and addressed, or just part of the job. A focus on recommendations that influence normalization of violence can begin to address reporting and lack of data.

As many of the evaluation recommendations that address vulnerability also influence how violence is perceived as normal, by way of summary, they are illustrated together in Figure 6 in which the ecological model from the WHO framework for violence prevention (WHO, 2011) has been adapted for violence against healthcare workers.
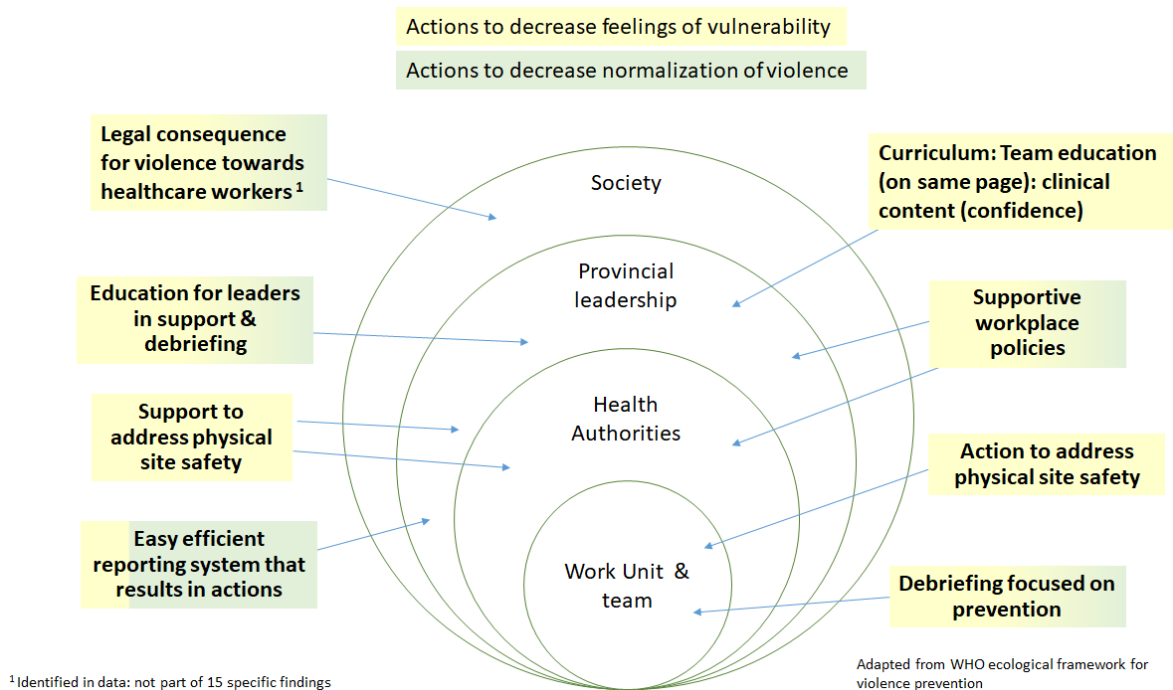


Figure 6 Framework for recommendations addressing vulnerability and normalization

## Conclusions

The evaluation of the PVPC built upon existing knowledge from the literature through the collection, analysis and synthesis of data from 136 interview and focus group participants in nine emergency departments across three BC health authorities. The practical nature of the evaluation's realist approach resulted in 15 explanations of how, why, for whom educational and workplace contexts influence how participants learn and apply the PVPC content. From the findings 32 specific and four general recommendations were identified that provide decisions makers with evidence to inform the development of strategies and concrete action plans to address type II violence in BC healthcare.

## Recommendations for future evaluation

The focus of this evaluation was limited to acute care emergency departments in BC hospitals, and the findings have the greatest relevance to programs, healthcare workers, and settings that share similar characteristics to the evaluation participants and research sites. The applicability of these findings to other sectors, therefore, should be assessed and recommendations applied with caution.

Additionally, as the evaluation recommendations are implemented and the PVPC program evolves, the opportunity exists for an ongoing use of the realist approach to evaluate program effectiveness as part of the regular PDSA cycle for quality improvement.

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## **Appendix A**: Evaluation of violence prevention education program theory

| |
|---|
| 1. Credible trainers ($C_1$) and applicable content ($C_2$) increases engagement in learning (O) because content is more likely to be valued as relevant (M). |
| 2. Stories, discussion, and practice (C) increase knowledge retention and application (O) as individuals emotionally and cognitively connect with the content (M). |
| 3. Clinical content in VP education (C) increases skill application (O) due to increased confidence in own knowledge (M). |
| 4. Education focused on prevention (C), decreases risk of violence and injury (O) due to increased awareness of opportunities to prevent violence (M). |
| 5. Teams with a shared knowledge and understanding regarding violence  (C) use more violence prevention skills (O) due to confidence in peers' actions (M) |
| 6. Time and space to interact with patients (C) decreases risk for violence (O1) and injury (O2) through situational awareness (M). |
| 7. New content in refresher education (C1) and regular team discussions about violence (C2) increases use of skills (O1) & decreases normalization (O2) as awareness is sustained (M). |
| 8. Unit based mentoring and role modelling in violence prevention (C), increases use of new knowledge & skills (O) as confidence is increased (M). |
| 9. Workplace stress from job demands (C) increases risk of violence (O) due to decreased capacity to self-manage own emotions and reactions (M). |
| 10. When workplaces support physical safety (C), individuals are more likely to apply violence prevention education (O) as they feel less vulnerable (M). |
| 11. Emotionally safe workplace cultures (C) increase use of new skills (O) as individuals feel safe from judgement (M). |
| 12. In cohesive teams (C), individuals feel safer (O1) and apply more prevention skills (O2) as they trust their team will be there to support them when violence occurs (M). |

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| 13. Individuals supported after experiencing violence (C), feel less alone (O1) and process incidents more objectively (O2) as they feel validated (M) |
| 14. Team debriefing after violent incidents (C) decreases violence normalization (O) as experiences are validated (M). |
| 15. User friendly reporting processes and follow up (C) increase reporting (O) as it is worth the time and effort (M) |