# REALIST EVALUATION OF VIOLENCE PREVENTION EDUCATION IN BRITISH COLUMBIA HEALTHCARE: HOW DOES IT MAKE A DIFFERENCE?

by

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## Abstract

Psychological and physical violence from patients and visitors towards healthcare workers is an increasing problem internationally that negatively affects the wellbeing of workers and the care they deliver. The predominant intervention has been to educate workers in violence prevention (VP); however, the complexity of both the healthcare environment, the multiple reasons for violence, and a chronic underreporting of violent incidents makes it challenging to evaluate VP program effectiveness. To address these obstacles, this research used a lesser-known realist evaluation approach that asks for whom, how and in what contexts VP education makes a difference. Building upon theories developed from a realist literature review, the synthesis of data from interviews and focus group interviews conducted in British Columbia emergency departments resulted in 15 explanations of contexts that support participants to learn and apply VP education. Findings include how credible trainers and applicable content increases engagement as participants see the content as relevant; how teams with a shared mental model of VP apply knowledge and skills due to confidence in a team approach; and how workplaces that support physical safety increase application of VP knowledge and skills as individuals feel less physically vulnerable.

## Lay Summary

Violence by patients and visitors towards healthcare workers such as nurses and doctors, is a growing problem in many countries. Verbal threats and physical attacks affect the health and safety of healthcare workers and decrease their ability to give good care. The main action taken has been to teach healthcare workers how to prevent violence. As healthcare workers do not report most violence, and there are many reasons why patients and visitors become violent, it has been difficult to figure out if violence prevention education is working. To evaluate the violence prevention education program taught to British Columbia healthcare workers, this project used an approach from Great Britain that asks for whom, how, and in what contexts and circumstances does the education work? Information from interviews and focus groups in nine emergency departments was used to develop 15 explanations of what helps healthcare workers to learn and to use the violence prevention knowledge and skills.

## Preface

The author identified the research questions, designed all aspects of the research project, and led all parts of the research for both the review and evaluation. Two part time researchers assisted with 30 percent of the data collection and the initial coding of the review and evaluation data under the guidance of the author. The author analysed and synthesized the data, developed and documented the findings and recommendations, and operationalized the KT.

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Ethics approval for the evaluation was obtained (H18-01418) through a harmonized process between the three participating provincial health authorities and the university behavioural ethics board (BC AHSN, 2021).

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## List of Abbreviations

BC: British Columbia

C: Context

CMO: Context mechanism outcome

CMOC: Context mechanism outcome configuration

COM: Context outcome mechanism

HA: Health authority

KT: Knowledge translation

LPN: Licensed Practical Nurse

M: Mechanism

O: Outcome

OCB: Organizational citizenship behaviour

PVPC: Provincial Violence Prevention Curriculum (education specific to BC healthcare)

PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

RAMESES: Realist and Meta-narrative Evidence Synthesis: Evolving Standards.

RN: Registered Nurse

SCT: Social Cognitive Theory (Bandura)

UK: United Kingdom

VP: Violence Prevention

WHO: World Health Organization

## Glossary

CMO configuration (CMOC): a realist description of the context, mechanism and outcome combinations that are identified in realist review or evaluation data (Wong, Westhorp, Pawson, & Greenhalgh, 2013).

CMO explanation: A tested CMO statement that provides an explanation of how a program or policy is effective as part of a program or policy theory used in Pawson and Tilley's (1997) applied realism evaluation approach.

Context: "features affecting the implementation of programs" and policies (Wong, Westhorp, et al., 2013, p. 8) through influencing participants' volition, reasoning and behaviour, including. Contexts can include, but are not limited to, existing policies, practices, social rules, norms, beliefs, attitudes, material and social structures, interrelationships, and intervention content and method of implementation (Greenhalgh et al., 2017b). Social settings are open systems where contexts are not static and evolve over time. In addition to affecting individuals' attitudes and reasoning, contexts can also affect whether the required resources are available to implement action towards the intervention's objective (Greenhalgh et al., 2017b).

Formal theory: existing theories from particular disciplines which contribute to understanding human behaviour and reasoning. For example, social sciences theories regarding topics such as cognitive development or deviance control. (Wong, Westhorp, Pawson, & Greenhalgh, 2013). Synonym for substantive theory.

Mechanism: An underlying reasoning, belief system, or thought process or structure that operates in particular contexts to contribute to outcomes. Mechanisms are usually hidden, are

sensitive to variations in context, and generate outcomes when they are activated (Westhorp, 2018).

Normalization (of violence): an acceptance and excusing of violence as normal and an inevitable part of a job due to expectations of employers and high levels of patient-initiated violence that are not addressed (Virkki, 2007).

Outcome: the result of an intervention that is either observable, such as a behaviour, or less tangible such as increased confidence or knowledge. In this project, outcomes close in time and space to the intervention are "proximal," such as engagement in an education session. Downstream outcomes that are further in time and space from the intervention are "distal", for example program objectives such as preventing violence related injury (Indiana University, 2006).

Program theory: a theory about a program or intervention that explains for whom, how and why a program or intervention works based on the evidence and analysis from a realist review (secondary data) or evaluation (primary data) (Booth, Wright, & Briscoe, 2018). With realist methodology, a preliminary program theory is constructed a scoping of the literature and subject matter expertise. The preliminary program theory is refined through a realist review of the literature; further program theory refinement occurs through a realist evaluation using primary data.

RAMESES: stands for Realist and Meta-narrative Evidence Synthesis: Evolving Standards. Quality and publication standards and training materials for realist research approaches developed through projects funded by the UK National Institute of Health Research. ("RAMESES Proj.," 2013).

Realism: a philosophy regarding the nature of reality that proposes that a real-world exists, but our experience of reality is filtered through our senses, culture and language (G. Wong, Westhorp, Pawson, & Greenhalgh 2013).

Realist evaluation: evaluating a policy or program using an applied realist approach to identify how, why, when and for whom an intervention is effective (Pawson & Tilley, 1997).

Realist review or synthesis: a literature review using a realist approach (Wong, 2018).

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It takes a whole community of individuals to support a mature student through a PhD and I wish to sincerely thank them all.

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# Chapter 1: Introduction

Workplace violence in healthcare not only affects the physical and mental wellbeing of workers, but also the quality of care delivery and the financial and human resource sustainability of healthcare systems (Edward et al., 2016; International Council of Nurses, 2017; Wang, Hayes, & O'Brien-Pallas, 2008; World Health Organization, 2014). The main perpetrators of violence towards healthcare workers are patients, clients, and visitors (Jackson, Clare, & Mannix, 2002), and the primary intervention has been educating healthcare workers in violence prevention (VP) (Wassell, 2009). Evaluating the overall effectiveness of VP education has been difficult due to the complex nature of healthcare settings and factors related to violence and violence reporting (Beech & Leather, 2006; Gill, Fisher, & Bowie, 2012). This dissertation utilizes an innovative realist approach to evaluate the VP education program implemented in British Columbia (BC) healthcare. This introductory chapter establishes the background for the evaluation by summarizing the pernicious issue of workplace violence, how violence manifests in healthcare environments, and the common interventions such as education to address it. Challenges to evaluating VP education are identified, and the rationale for a realist evaluation approach is provided. The chapter concludes with an overview of the project and the research questions that guided the work.

## 1.1 Workplace violence across all sectors

Workplace violence includes "any act in which a person is abused, threatened, intimidated or assaulted in his or her employment" (Canadian Centre for Occupational Health and Safety, 2019, p. 1). Violence in the workplace can be physical or psychological, encompassing a continuum of behaviours from intimidation and verbal abuse to potentially lethal assault with or without a weapon (Gill et al., 2012; Workers Health & Safety Centre, n.d.). As different forms of

violence may overlap or interrelate the border between physical and psychological violence is not universally clear (Eurofound, 2013). Physical workplace violence generally refers to actual physical assaults against workers (Mueller & Tschan, 2011), such as hitting, kicking, biting, pushing, sexual assault, stabbing and shooting (ILO, ICN, WHO, & PSI, 2002). Psychological violence usually includes verbal or nonverbal threats of immediate or future physical force or attack, verbal abuse, or harassment, potentially affecting mental and physical health (ILO et al., 2002).

Worldwide there is evidence that workplace violence is pervasive and has increased in recent decades, resulting in psychological, physical, and sometimes fatal injuries to workers (ILO (International Labour Organization), 1998; Milczarek, 2010; WorkSafeBC, 2016). A survey conducted across 27 European countries reported that between 4% and 10% of workers had experienced violence or threats of violence (Milczarek, 2010). In the United States, violence has become the third highest cause of workplace fatality accounting for 16% of worker deaths (National Safety Council, 2019). In Canada, more than 12,000 claims for lost work time due to violence and harassment were accepted in 2018 (Association of Workers' Compensation Boards of Canada, 2019). In the decade leading up to 2015, BC saw a 45% increase in the number of worker compensation claims related to workplace violence (WorkSafeBC, 2016).

Although the risk of violence is present in any workplace, it is more heavily concentrated in specific sectors. Within Canada, high-risk occupations include healthcare, police and corrections, social service, and education (Canadian Centre for Occupational Health and Safety, 2018). In BC, healthcare and social service workers account for 61% of injury claims due to violence (WorkSafeBC, 2016).

Among European workers, those in healthcare and education experience the highest risk for verbal and physical violence (European Agency for Safety and Health at Work, 2010, p. 56). In the United States, although healthcare workers account for less than 20% of all workplace injuries, they suffer 50% of all assaults (Occupational Safety and Health Administration (OSHA), 2016, p. 3).

There are different sources of workplace violence, and this study uses a categorization developed in the United States (US) that differentiates between four types of workplace violence based on the relationship of the perpetrator to the victim(s) or the worksite (Table 1) (National Institute for Occupational Safety and Health, 2013).

**Table 1**

*Types of workplace violence*

| | |
|---|---|
| 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 | Employment relationship: violence from another current or former employee, supervisor, or manager |
| Type IV | A personal relationship: violence brought into the workplace by a worker's current or former partner, relative or friend (for example, domestic violence) |

(Adapted from National Institute for Occupational Safety and Health, 2013)

### 1.2 Violence in healthcare

In healthcare, type II violence is the most pervasive (Havaei, MacPhee, & Ma, 2020). This research project aims to evaluate healthcare worker education to prevent type II violence from patients, clients, and visitors. All further references to violence in this dissertation denote type II violence. Additionally, multiple labels describe healthcare service recipients, namely patients, clients, consumers, or residents (long-term care) (Costa, Mercieca-Bebber, Tesson, Seidler, &

Lopez, 2019). For simplicity, in this dissertation, the term *patient* refers to individuals receiving healthcare in any setting, and *visitor* refers to accompanying family or friends.

Violence in healthcare is a complex issue with multiple intersecting factors influencing why violence occurs, how workers experience violence, and whether they report violent behaviour (Hesketh et al., 2003; Lipscomb & London, 2015). Characteristics of healthcare settings, healthcare workers, and patients all influence the risk for violence. Examples of risk factors include physical environments, unit cultures, attributes of populations, disease conditions of individual patients, stress for visitors and healthcare workers, quality of patient/caregiver interactions and system issues, such as wait times or restrictive policies (Edward et al., 2016; Gates, Ross, & McQueen, 2006; Lipscomb & London, 2015; Pompeii et al., 2013; Wassell, 2009). Where risk factors for violence are highest – such as in emergency departments, psychiatry units, and residential (long-term care) facilities – healthcare workers are at the greatest risk for experiencing violence and related injury (Casey, 2019; Gerberich et al., 2005).

A significant challenge in quantifying violence is the failure of employees to report violent events (Arnetz et al., 2015); an estimated 70 percent of violence in healthcare goes unreported, even if minor injuries are sustained (Sato, Wakabayashi, Kiyoshi-Teo, & Fukahori, 2013). Several factors contribute to underreporting of violence. An individual worker's personal and professional knowledge and experience may influence how they interpret violent behaviour (Hesketh et al., 2003; Lipscomb & London, 2015). For example, when patient violence results from cognitive or behavioural conditions, such as dementia, head injuries or mental illness, healthcare workers often perceive aggression as unintentional behaviour versus an act of violence (Camerino, Estryn-Behar, Conway, van Der Heijden, & Hasselhorn, 2008; E. Cassidy et al., 2005). Violence underreporting is also attributed to time-consuming reporting processes, fear

of reprisal, lack of a severe injury or a belief that reporting will not affect change (Arnetz et al., 2015). In the absence of reliable incident and injury data, research estimating the prevalence of healthcare violence relies on reported deaths and severe injury claims, observation, or self-reporting surveys (The Joint Commission, 2018). A recent systematic review and meta-analysis of 253 studies reported that approximately 62 percent of healthcare workers had experienced some form of violence, and over 24 percent suffered physical violence (Liu et al., 2019). Numerous studies have concluded that for many healthcare workers, verbal abuse and physical violence from patients and visitors are so frequent they have become normalized as an expected aspect of healthcare work (Lipscomb & London, 2015; Wang et al., 2008).

### 1.3 Interventions to Address Violence

Strategies and interventions to address workplace violence operate at multiple levels: government/system, organization/facility, and work unit (Mcphaul et al., 2008) (Figure 1). While workplace VP legislation is at a governmental or societal system level, most VP interventions are administrative, physical, or educational and are operationalized at the organizational and work unit levels (Merchant & Lundell, 2001).

**Figure 1**

*Levels for violence prevention intervention*

Administrative actions primarily focus on healthcare worker staffing levels, systems for communication and reporting, and policies such as zero violence tolerance (Bond, Paniagua, & Thompson, 2009; Gross, Peek-Asa, Nocera, & Casteel, 2013; Kingma, 2001; Runyan, Zakocs, & Zwerling, 2000). Physical strategies aim to mitigate violence risk through environmental changes such as physical barriers, lighting, and security controls and personnel (Bryan, 2018; Lenaghan, Cirrincione, & Henrich, 2018). Violence prevention education for workers – the focus of this project – is the predominant intervention and varies widely in development, delivery, and content (Arbury et al., 2017). VP curricula have been developed by researchers seeking to study the phenomenon (Swain & Gale, 2014), by organizations trying to address high rates of violence (Ford, 2012) and regulatory requirements (Health Employers Association of BC, n.d.) and by commercial entities as a saleable product (Arbury et al., 2017).

Within healthcare organizations, VP education is often part of an occupational safety strategy driven by violence injury rates (Health Employers Association of BC, n.d.; Robinson, 2019) and safety standards or legislation (ILO et al., 2002; Ridenour, Hendricks, Hartley, & Blando, 2017). Consequently, VP is frequently separate from other education that clinical healthcare workers receive (Björkdahl, Hansebo, & Palmstierna, 2013). VP education is delivered through online modules, classroom sessions or a hybrid of both, and can vary in length from one hour to multiple days (Beech & Leather, 2006; Forster, Petty, Schleiger, & Walters, 2005; Tölli, Partanen, Kontio, & Häggman-Laitila, 2017; Wassell, 2009). Although there is variation between VP programs, the content typically includes modules on preventing, managing and reporting violence (E. F. Morrison & Love, 2003; Tölli et al., 2017; Vladutiu, Casteel, Nocera, Harrison, & Peek-Asa, 2016; Wang et al., 2008; Wassell, 2009). Education to prevent violence most often focuses on communication skills and de-escalation of aggression, but

curricular content may also include defining and assessing the risk of violence, emotional self-management, and violence reporting (Forster et al., 2005; Health Employers Association of BC, n.d.; Kynoch, Wu, & Chang, 2011; Lipscomb & London, 2015). Education to manage violent incidents may include self-defence and restraint techniques (Wang et al., 2008). Workers who attend violent patient incidents as part of a response team may receive additional in-depth training (Brophy, Keith, & Hurley, 2018; Pestka et al., 2012).

### 1.4 Evaluating VP education

Evaluating VP education is challenging due to the complex nature of healthcare and violence and variety in the content and delivery of education programs. Healthcare environments are complex open systems with diverse physical settings, multiple interdependent and changing healthcare providers and recipients, complicated interactions and relationships, and high levels of unpredictability (Kannampallil, Schauer, Cohen, & Patel, 2011; World Health Organization, 2012). Violent behaviour from patients and visitors is also multifaceted, with wide ranges of who, how and why behaviour escalates to aggression and violence (Pompeii et al., 2013). Violence prevention education varies not only in the content taught, how and by whom (Arbury et al., 2017), but also in the different ways participants perceive the education, learn, and apply the knowledge and skills (Birgit Heckemann, Breimaier, Halfens, Schols, & Hahn, 2016). In the dynamic healthcare environment, isolating VP education outcomes is difficult as changes in workplace violence or injury rates may relate to the VP education, other organizational interventions, changes in patient characteristics, or a combination of factors (Pompeii et al., 2013).

Although some qualitative and quantitative evaluations of single VP education programs have reported favourable outcomes (Ball, Kurtz, & Reed, 2015; Calabro, Mackey, & Williams,

2002; B. Heckemann et al., 2015), their findings are limited in scope and methodological application beyond specific settings and programs. Systematic reviews of the VP evaluation literature have failed to find convincing evidence of VP education effectiveness (Halm, 2017; Pompeii et al., 2013; Tölli et al., 2017; Wassell, 2009).

## 1.5 The rationale for a realist approach

As programs are rarely uniformly effective, evaluations often capture an average or typical effect. The realist approach selected for this evaluation moves beyond the typical effect to identify evidence of the causal mechanisms that explain how and why the provincial VP education program is effective, in what contexts and for whom. The following sections provide a foundational introduction to realist methodology and terminology.

### 1.5.1 Realist methodology

Realist philosophy bridges positivist and constructivist understandings of reality: a world independent of human interpretation exists, but our experience of it is a result of filtering through our senses, culture and language (Wong, Westhorp, et al., 2013). This project utilizes the specific applied realist approach developed in the United Kingdom by Pawson and Tilley (1997) for evaluating health and social programs and policies. Descriptions and further references in this dissertation to a realist methodology, realist literature review, or realist evaluation refer to Pawson and Tilley's particular approach.

### 1.5.2 Theory in realist research

In realist research, the term *theory* is utilized at different stages and levels of understanding of how programs and policies work. Clarity around three fundamental kinds of theory – unified theory or law, *middle-range theory*, and *program theory* – is important in understanding how the review and evaluation in this project were conducted and reported (Marchal, Kegels, & Van

Belle, 2018). Table 2 summarizes the definition for the three kinds of theory and context-mechanism-outcome configurations (CMOCs) associated with realist program theory. Subsequent sections explain how they apply in this project.

**Table 2**

*Definitions of theory and CMO configurations in realist research*

| Theory | Definition | Level of application (abstraction) |
|---|---|---|
| Unified theory | Established theory that explains human behaviour under a broad range of contexts and circumstances | Human behaviour across a broad range of settings |
| Middle-range theory | A formal or substantive theory positioned between working hypotheses and a unified theory (Merton, 1968). | The behaviour of people in similar settings or similar people in different settings |
| Program theory | A coherent explanation outlining how and why and under what conditions an intervention is expected to reach its objectives (Marchal et al., 2018). | The response of similar people in similar settings in response to similar programs |
| Context-mechanism-outcome configurations (CMOC) | A heuristic used to identify the causal link between contexts, mechanisms and outcomes in a program theory (Marchal et al., 2018) | The response of individuals to a resource example particular program, policy or resource |

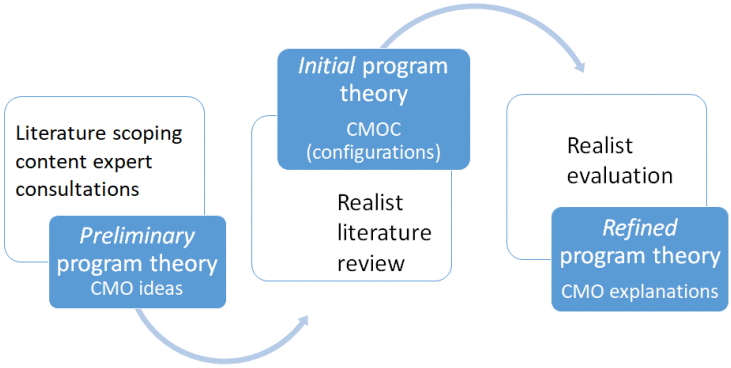
#### 1.5.2.1 Program theory

Educational programs such as VP aim to change participant attitudes and actions and are designed based on working theories of how participants will learn and apply the content (Pawson, Greenhalgh, Harvey, & Walshe, 2004). A realist approach is *theory-driven*: it begins with a theory of how a program is intended to work and then seeks information to support, refute and distil the initial theory into a refined program theory (Wong, Greenhalgh, Westhorp, & Pawson, 2014). As this project included both a realist review and evaluation, the starting theory for the review is labelled a *preliminary program theory of CMO ideas* to avoid confusion. As

illustrated in Figure 2, the review resulted in an *initial program theory of CMOCs* using secondary data that functioned as the foundation for the evaluation. The evaluation utilized evidence from primary data to further enhance an understanding of how and why individuals learn and apply VP education, resulting in a *refined program theory of CMO explanations*.

**Figure 2**

*Developing the realist program theory*




### 1.5.2.2 Middle range or substantive theory

When testing a realist program theory, existing formal theories of human behaviour can support or refute how mechanisms in particular contexts lead to specific outcomes (Astbury, 2018). RAMESES standards for constructing a realist program theory promote using existing formal or "substantive" (typically middle-range) theories to support the plausibility of the identified linkages between contexts, mechanisms and outcomes (Wong et al., 2014). Middle-range theories are commonly employed in realist approaches because they provide a reasonable level of generalizability of the human behaviour most likely to occur in given circumstances, providing a plausible understanding of how and why programs generate outcomes in particular contexts (Marchal et al., 2018).

### 1.5.2.3 Context mechanisms outcome configurations (CMOC)

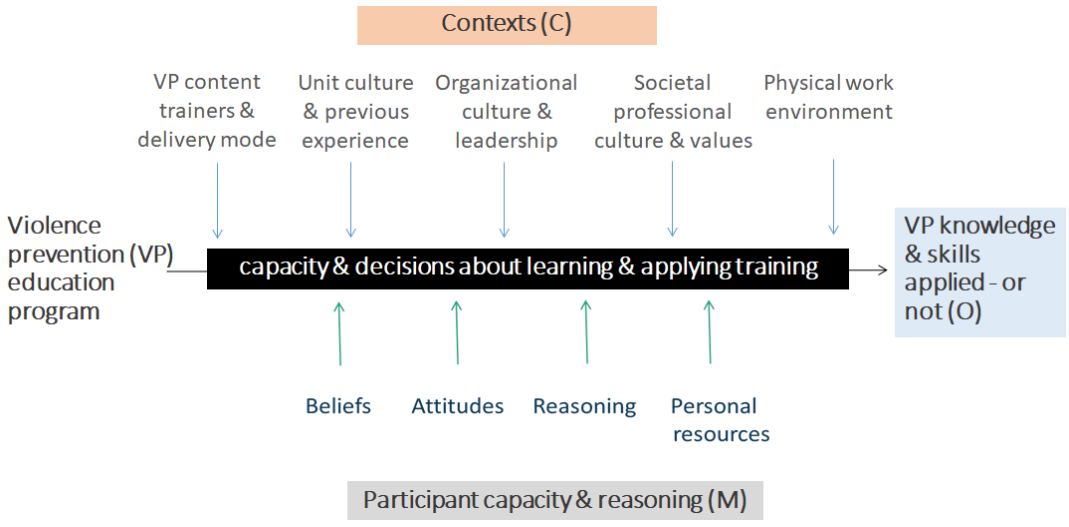
Pawson and Tilley's (1997) applied realism causally relates or links together contexts, mechanisms and outcomes, known as CMO configurations (CMOCs). The following section defines *contexts*, *mechanisms* and *outcomes* and describes how they are configured as CMOCs to explain how a program achieves its objectives.

*Contexts*

C*ontext* refers to characteristics of settings, interventions and individuals that can influence human reasoning in response to a health or social program or policy. Examples of contexts include – but are not limited to – policies, intervention implementation mode, social rules and norms, work culture, participants' previous experiences, professional values, physical and social structures, and relationships (Greenhalgh et al., 2017b). In addition to affecting individuals' attitudes and reasoning, contexts can also affect the availability of required resources to implement action towards the intervention's objective (Greenhalgh et al., 2017b) (Figure 3).

**Figure 3**

*Illustration of contexts, mechanisms and outcomes*



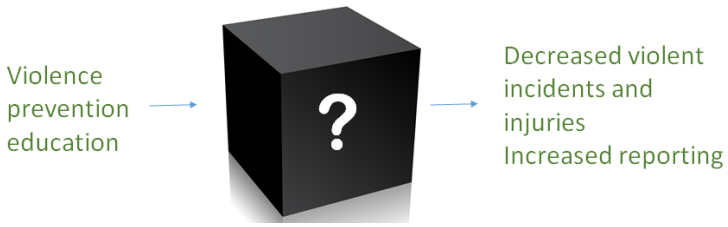
Examples of contexts in this project include educational content, characteristics of trainers, work unit culture, and physical environment.

*Mechanisms*

At the core of Pawson and Tilley's applied realism (1997) is science philosopher Roy Bhaskar's critical realist concept of a *generative mechanism* (Bhaskar, 2013) which explains how complex programs work to change behaviour. As Pawson (2013) describes, interventions do not directly change behaviour: "they work by providing some resource that persuades the subject to change, and this is the underlying generative mechanism" (p. 63). Generative causation provides a reasonable explanation of observable outcomes: how human psychological and behavioural mechanisms are activated in specific contexts, leading to a series of events and results. Astbury & Leeuw (2010) suggest that focusing on the role of mechanisms in causation offers a shift from assessing *whether* an intervention works to explicating *how and why* it results in particular outcomes. In other words, identifying causal mechanisms in program evaluation contributes a missing piece of the solution to the well-known black box conundrum. (Figure 4).

**Figure 4**

*Black box metaphor applied to VP education*




*Mechanism* in this project describes underlying human reasoning or belief systems that are usually unobservable, sensitive to variations in context, and generate outcomes only when activated (Westhorp, 2018). Examples of mechanisms in this project include valuing education

content, confidence to use VP skills, and feeling psychologically safe. Mechanisms may also be the ability or capacity to use a resource, such as the available time to apply a skill.

*Outcomes*

In realist research, *outcome* refers to the results after a program has been implemented and can be either close in time to the intervention (proximal) or later and closer to the end goals of the program (distal) (Kreindler, 2018). Outcomes may be observable, such as a behaviour, or internal to an individual, such as increased confidence or knowledge. Examples of outcomes in this project are engagement during the education session (proximal outcome) and prevention of violence (distal outcome).

*CMO configurations*

A distinguishing characteristic of Pawson and Tilley's (1997) applied realism is expressing a theory of how a program works as *context*, *mechanism* and *outcome configurations* (CMOCs). A configuration links the three elements in a causal relationship: if a context has certain characteristics (C), specific thoughts, reasoning or beliefs (M) are activated in individuals, resulting in particular outcomes (O) (Westhorp, 2018). A CMOC resulting from the realist review provides an example: When a workplace provides local mentoring and modelling of VP (C), it increases confidence in VP skills (M), resulting in increased use of VP knowledge and skills from the education (O).

*Patterns and regularities of configurations*

Although as individuals, we each have only a partial and imperfect understanding of reality, the number of different ways individuals interpret and respond to the same experiences is bounded, allowing evaluators to identify regularities or patterns of the contexts, outcomes and mechanisms involved (Wong, Westhorp, et al., 2013). Program or policy evaluations need to do

more than measure resulting behavioural patterns; they need to explain the underlying reasons for the behaviours (2018, p. 5). The earlier referenced black box becomes transparent by developing explanations of how and why participants respond to a program in particular contexts. Identifying patterns of explanations across individuals and groups provides practical information about critical contexts for program and policy development and improvement. A realist approach to reviews and evaluations has contributed considerable value to assessing complex real-world interventions in a variety of areas such as internet medical education (Wong, Greenhalgh, & Pawson, 2010), access to rural primary care (Ford, Wong, Jones, & Steel, 2016), poverty (L. Jackson et al., 2009), health service redesign (Greenhalgh et al., 2009) and crime prevention (Tilley, 1993).

## 1.6 Project and dissertation overview

The beginning sections of this chapter established background information about type II violence in healthcare and explained a realist methodology approach and the rationale for its use in this project. The following sections introduce the provincial VP education being evaluated, describe how the project was initiated and how the researchers engaged with stakeholders. The chapter concludes with an overview of the evaluation project and the dissertation chapters.

### 1.6.1 Provincial Violence Prevention Curriculum (PVPC)

The BC PVPC (Provincial Violence Prevention Curriculum) was developed in 2010 for workers in all healthcare settings across the province to prevent type II violence (Health Employers Association of BC, n.d.). The education involves both online modules and classroom education, and although it is a standard curriculum, the implementation of the education is the responsibility of each employer. Specific details about the PVPC are described in Chapter 3.

### 1.6.2 Project initiation

This realist evaluation project began with networking between the author and leaders for BC's six geographically determined health authorities, who identified type II violence as an occupational health priority. Three health authorities volunteered to collaborate on a formal evaluation of the PVPC with University of British Columbia (UBC) health services researchers who have a formalized research partnership with WorkSafeBC. A decision was made to focus on a high-priority area for type II violence--emergency departments.

### 1.6.3 Stakeholder engagement

Stakeholder engagement throughout the research process is increasingly recognized as an important way to increase the impact of research findings (Boaz, Hanney, Borst, O'Shea, & Kok, 2018) and is an essential component of a realist approach (Pawson & Tilley, 2004). The evaluation Project Advisory Group, established at the beginning of the project, was composed of research team members, a representative from the funding organization and an occupational health leader from each of the three health authorities who volunteered research sites for the evaluation. These health authority representatives championed the project within their organizations, facilitated the selection of emergency departments and initiated contact between the research team and emergency department leadership. The research team used various communication strategies, including webinars, summary documents and conference calls to generate support for the project within the selected emergency department research sites. Ongoing research team engagement with the Project Advisory Group established transparency and trust in the research process, including a foundational understanding of the realist approach (Monaghan & Boaz, 2018, p. 178). To assist with broader knowledge translation, in addition to regular Project Advisory Group engagement, the research team developed a formal

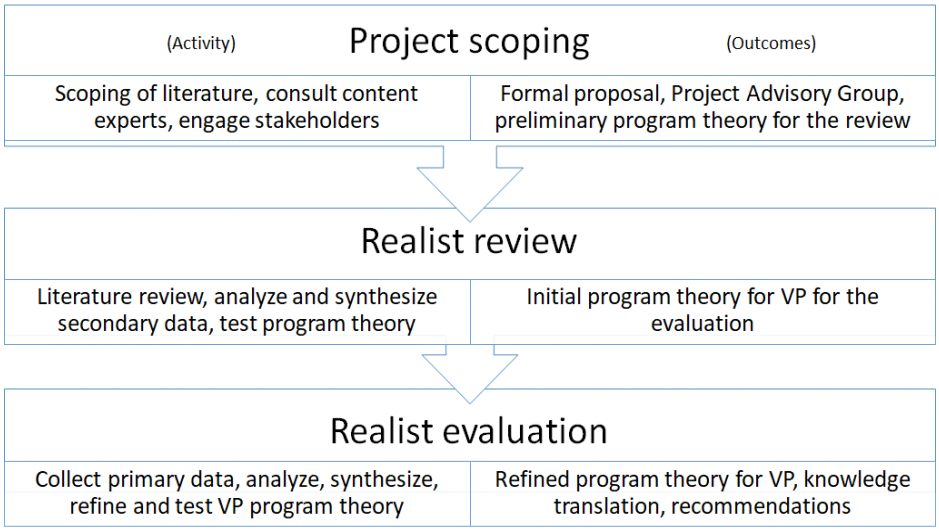
communication plan to share project details with a wide range of internal and external stakeholders, such as other health authorities and healthcare unions. A project webpage (www.pwhs.ubc.ca/prevent-violence) is a repository for accessible project information, including a summary of the research proposal and frequently asked questions (FAQ). The team regularly updated the project status on the webpage and included the URL link on all communications. The webpage currently houses short videos explaining the evaluation findings and recommendations in lay terms and the project's final academic report.

### 1.6.4 Evaluation project overview

While this overview highlights the high-level project activities, sections 2.1 (review) and 3.2 (evaluation) will elaborate on the realist methodology used to conduct them. The project was completed in three parts: project scoping, a realist literature review, and a realist evaluation (Figure 5).

**Figure 5**

*Project map*



Doctoral work began by establishing a Project Advisory Group of key stakeholders to assist with research proposal development (e.g., site selection). A preliminary program theory was created through a scoping review of the literature and content expert consultations. The realist review of secondary data of the literature resulted in an initial program theory and CMOCs. Data from interviews and focus group interviews were used to develop the refined program theory of CMO explanations that informed a final report and recommendations for the funder and Project Advisory Group.

The three research questions that guided the project were:

- *For whom* is VP education likely to be effective?
- *What are the underlying mechanisms* by which VP education results in the intended outcomes?
- What contextual factors are associated with healthcare workers' use of VP education in practice?

To the best of the author's knowledge, no previous review or evaluation of VP education in healthcare has used a realist approach to address the limitations of traditional approaches to program evaluation, allowing this project to make a unique contribution.

### 1.6.5 Dissertation chapter overview

Chapter 2 describes the realist review methodology and the construction of an initial VP education program theory and CMOCs. Chapter 3 details the realist evaluation methodology applied in the project, including the design, data collection and analysis. Chapter 4 presents the refined program theory and CMO explanations from the evaluation with exemplar quotes from the participant interviews and focus group interviews. Chapter 5 discusses the refined program

theory, highlights existing substantive theories that support the evaluation findings, and outlines the project recommendations. Chapter 6 concludes the dissertation by summarizing the overall project, discusses strengths and limitations, and identifies implications for future research.

# Chapter 2: Realist Review

This chapter describes the realist review conducted to support the subsequent realist evaluation of the BC PVPC. The realist review methods section describes how preliminary theories for VP education were identified, literature searches conducted, documents selected, and data extracted, organized and synthesized. Each review finding is presented and supported by excerpts of text from included documents, and the concluding discussion summarizes the review findings.

This realist literature review was published in the journal *Healthcare* in March of 2021 (Provost, MacPhee, Daniels, Naimi, & McLeod, 2021). Please see the preface for the author contribution statement.

## 2.1 Review methodology and methods

A realist review assesses relevant literature to identify how and why programs succeed or fail, offering insights into a program's effectiveness in ways that systematic or narrative reviews typically do not (Pawson, 2006). Realist methodology is theory-driven, using theories in different ways throughout the research process (Marchal et al., 2018). Prior to a review, a preliminary program theory is developed from existing theories of how similar programs are intended or assumed to work (Wong, 2018). A wide range of secondary data sources – studies, program and policy documents, and grey literature – are used to refine the preliminary theory iteratively (Wong, 2018). The plausibility of the refined program theory is tested by searching for existing formal theories of human behaviour that support or refute the proposed generative mechanisms (Greenhalgh et al., 2017b).

The process used to conduct the realist review in this project is reported using five steps consistent with RAMESES realist publication standards (Wong, Greenhalgh, Westhorp,

Buckingham, & Pawson, 2013): locating existing theories, searching for evidence, selecting documents, extracting and organizing data, and synthesizing the evidence and drawing conclusions. As a realist review draws from a wide range of published and grey literature, the terms *document*, *article*, and *record* represent data sources in the review.

### 2.1.1 Step 1: locating existing theories of VP education

A realist review starts by assuming that no program is an entirely new idea and that information and prior research on similar programs can inform an intervention's preliminary program theory (Pawson, 2013).

Three sources of information contributed to this review's preliminary program theory for VP education. First, the BC VP program (PVPC) training materials were reviewed to identify the learning objectives and any underlying assumptions about VP program effectiveness (Health Employers Association of BC, n.d.). Second, as described in the next section, a scoping of the literature provided key references and ideas for the preliminary theory (Booth et al., 2018). Finally, consultations with content experts elicited knowledge of how the PVPC education was designed to work (Wong et al., 2014). Content experts in this project included individuals involved in developing or implementing the PVPC education who were not associated with a planned evaluation research site. The resulting preliminary program theory for the review consisted of nine statements of how particular contexts trigger mechanisms (beliefs, reasoning) in individuals resulting in their learning and applying VP knowledge and skills (Appendix A.1). A second consultation with content experts and a review by the Project Advisory Group validated the preliminary program theory's plausibility (Wong, 2018).

### 2.1.2 Step 2: searching for evidence in the literature

A traditional systematic review attempts to identify and synthesize all the evidence meeting specific criteria and follows a precise methodology to assure high reliability and a reproducible comprehensive search (Lasserson, Thomas, & Higgins, 2019; Pawson et al., 2004). In contrast, although a realist review is conducted systematically and draws on a large amount of literature, it is less prescriptive, follows an iterative process and is not focused on finding all literature but rather literature that informs the development of the program theory (Pawson et al., 2004).

The review included three kinds of searches: scoping, formal, and iterative.

*Scoping search*

The scoping search to inform the research proposal and preliminary program theory (Booth et al., 2018; Pawson, 2006) was conducted through the UBC Library SUMMON and Google Scholar using the general terms of *violence prevention education, healthcare violence prevention*, and *type II violence in healthcare.* The search revealed a large body of academic literature on type II violence in healthcare predominantly focused on prevalence in different locations and settings, contributing factors for violence, and effects of violence (Hahn et al., 2010; Phillips, 2016; Pich, Hazelton, Sundin, & Kable, 2010; Richardson, 2017). A smaller but still significant number of academic and grey literature publications described healthcare workers' experiences and outcomes associated with type II violence (Marshall, Craig, & Meyer, 2017; Renker, Scribner, & Huff, 2015). Some documents described an individual VP intervention or program (Lanza, Schmidt, McMillan, Demaio, & Forester, 2011) and some reported results of an evaluation of a VP intervention (E. L. Cassidy et al., 2005; E. F. Morrison & Love, 2003; Peek-Asa et al., 2009). A small number of systematic reviews of VP interventions

and their effectiveness were located (Kynoch et al., 2011; Schalk, Bijl, Halfens, Hollands, & Cummings, 2010; Tölli et al., 2017; Wassell, 2009; Weiland, Ivory, & Hutton, 2017).

Despite targeted searching throughout the review process, the author found no realist reviews or evaluations of VP education. The scoping review further confirmed a knowledge gap in the evaluation literature for VP programs' effectiveness. Eleven identified documents informed the project proposal and the preliminary program theory for the formal literature search and review (Appendix A3).

While the scoping search contributed to a preliminary theory to inform the review, the following sections and steps describe the realist review processes.

*Formal literature search*

The formal search strategy for a realist review differs from that of a systematic review in its structure, timing and frequency, purpose, and sampling approach (Booth et al., 2018). Whereas a systematic review typically begins with structured inclusion criteria for a single comprehensive and exhaustive search, realist search criteria emerge as theories develop and are tested (Booth et al., 2018). Realist searches are conducted iteratively throughout the review, and the focus is on sampling literature to develop and refine a program theory (Pawson, 2006; Wong et al., 2014).

RAMESES realist review standards encourage a search strategy that deliberately seeks data from outside the program under study where the same mechanism(s) might also reasonably operate in programs or situations (Wong et al., 2014). Consultation with our university's information specialist resulted in searching four academic databases encompassing healthcare and social sector disciplines where type II violence is prevalent: CINAHL (nursing; healthcare), MEDLINE (medicine), ERIC (education), and PsychInfo (psychology and social work).

Three conceptual areas guided the formal search: workplace violence, healthcare, and violence prevention education, with limitors of English language with full text. Each database's electronic functionality was used to guide the selection of database-specific search terms (Appendix A.1). Publications related to health and social sector type II violence have increased over time (Ramacciati, Ceccagnoli, Addey, Lumini, & Rasero, 2017). Trial searches in one-year increments were conducted for publications over the past 10 to 20 years to identify timeframes for the initial formal searches. Based on diminishing increases in document numbers and a quick title scan of approximately 50 documents for relevance, a subjective decision for the timeframe for each database search was: 10 years (2008-2018) for MEDLINE, ERIC and PsychInfo, and 18 years (2000-2018) for CINAHL. In addition to database searching, additional activities in the search strategy were undertaken to increase confidence that relevant literature was not missed. The initial scoping review through SUMMON and Google Scholar identified several relevant documents not returned in the EBSCOHOST CINAHL search. As the last step of this initial search, the keywords from the missing documents were used in a snowball search within CINAHL (Appendix A2).

Further consultation with a university information specialist resulted in two additional searches using general phrases: 1) *violence prevention program in healthcare* and 2) *prevention of violence against healthcare workers*. The first was a follow-up Google Scholar search for the most recent publications, and the second was a Scopus search to access databases not available through EBSCOHOST. The first 200 records from each of the Google Scholar and Scopus searches were title and abstract screened online because, after the first 200 records, relevant documents diminished significantly. The returns from all searches resulted in 1656

records for duplicate removal and title screening. As part of the research process, the researchers documented notes and observations about the results of database search decisions.

*Iterative searches*

In keeping with a realist approach to a literature review, in addition to the formal search, subsequent and continuous searches were conducted for theory development as an understanding of the topic increased (Booth et al., 2018; Wong, Greenhalgh, et al., 2013). This iterative search process involved snowball searches related to concepts from the findings and reference lists of included documents during full article screening and analysis. Iterative searches were also conducted to identify substantive or formal theories associated with potential mechanisms. Ongoing Google Scholar and Mendeley publication alerts provided awareness of newly published documents and reference lists for further searches (Booth et al., 2018).

### 2.1.3 Step 3: selecting documents

Two researchers (SP, MN) used a succession of electronic tools to screen documents at three sequential levels: title, abstract and full text. RAMESES Quality Standard 6 for realist reviews states that sound judgements in document selection relate to how well it informs the research questions (relevance) and the credibility and trustworthiness of the research method used to arrive at the authors' conclusions (rigour) (Wong, 2018; Wong et al., 2014).

Two researchers (SP and MP) conducted a title screen of 1656 references in EBSCO host focused on relevance related to either a) type II violence in healthcare or other social sector or b) interventions to prevent type II violence. To ensure consistent use of the criteria, the two researchers screened the first ten documents together, and to prevent accidental exclusion, the second researcher audited any discarded records. The title screening excluded 1,173 records

based on relevance and duplication, and 483 documents were imported into Google Docs© for abstract screening.

Abstract screening focused on document with direct relevance to the topic in the healthcare sector or that may offer insights from topics related to VP education or from other sectors outside of healthcare. Documents were included that addressed at least two of three areas: type II violence in healthcare (main topic); managing or reporting of type II violence in any sector (related topics and may be similar across sectors); VP or other staff educational interventions in any sector. After jointly abstract screening ten documents, the two researchers each screened half of the remaining 473 records. Through abstract screening, 200 documents were excluded that addressed none or only one of the three criteria and 89 documents that addressed two of the three areas were not included but were retained for background information. The remaining 194 documents that addressed all three criteria were included for full article screening and were imported as PDFs into NVivo© qualitative data analysis software.

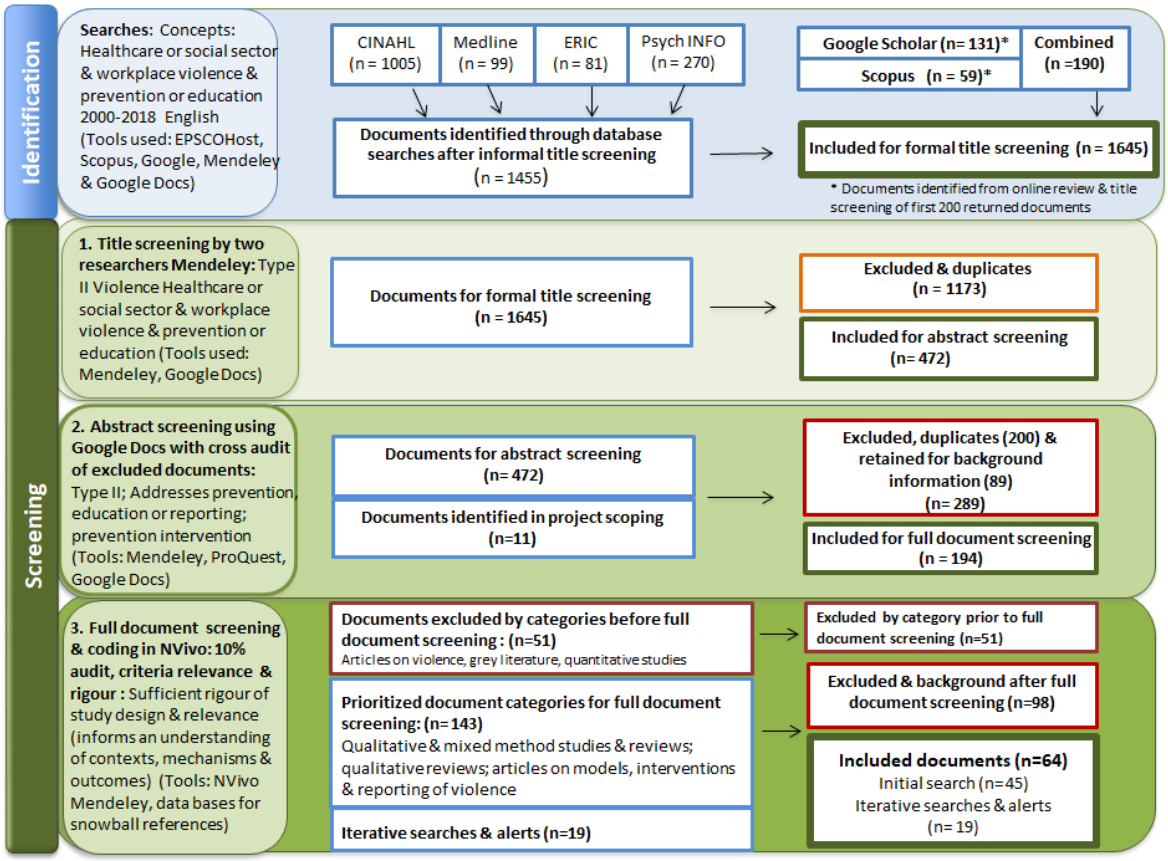
The significant number of documents (194) included for full article screening was primarily the result of broader initial search criteria than is typical for a realist review. To reduce the 194 documents to a more manageable number, the team consulted an expert realist methodologist who advised categorizing documents by type of research and then prioritizing categories for inclusion based on their likelihood of contributing to program theory development. As noted in the PRISMA[1] diagram in Figure 6, the decision to prioritize by research type resulted in the exclusion of three categories (a total of 51 documents) without screening:

[1] Literature reviews commonly use a PRISMA diagram (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) for documenting search and appraisal strategies (Moher, Liberati, Tetzlaff, & Altman, 2009). Although the PRISMA format is designed for the more linear approach of a systematic review or meta-analysis, it was adapted in Figure 6 to efficiently document the search used in this realist project.

*quantitative studies* (primarily focused on the prevalence of violence), *grey literature* (a range of editorials and news reports), and *articles on violence* (generally focused on risk factors).

**Figure 6**

*Adapted PRISMA diagram*




The categories included for full document screening included *reviews of qualitative and mixed-method studies and evaluations*, *reviews of quantitative studies*, *qualitative and mixed-method studies and evaluations*, *articles on interventions and models*, and *articles on violence reporting*. A total of 143 documents were retained for full document screening.

Full document screening in NVivo© was shared between two researchers (SP and MP), with the first ten documents screened together to ensure a consistent approach. The coding of text segments aided assessment of relevance to the research questions during the full document

review allowing the researchers to visualize which documents had few if any relevant text segments. The trustworthiness of each included document's data and conclusions was assessed by reviewing the documentation of methods used to collect and analyze data, and study aspects such as sample size (Wong, 2018). Full document screening resulted in 45 documents from the initial search that could inform the program theory development and were assessed as trustworthy (Figure 6). The majority of the 98 documents not retained after full document screening were excluded based on relevance to addressing the research questions, with very few excluded based on lack of trustworthiness.

Iterative searches and search engine alerts contributed an additional 19 documents for a total of 64 included documents. A list of all 64 included documents contributing to the review is in Appendix A4.

### 2.1.4 Step 4 extracting and organizing data

In qualitative research, words or short phrases are often used as *codes* to capture the essence or meaning of information (Saldana, 2009), functioning as building blocks linked and structured into meaningful data (Baur, 2019). As described by Dalkin and Forster (2015), in a realist review, complete or partial CMOCs identified in the literature are not coded as separate blocks of contexts, mechanisms and outcomes but kept together as one code.

Quality standards for extracting data in a realist review describe the process as ongoing, capturing additional relevant data as the research questions become more focused and the program theory more refined (Wong et al., 2014). As the coding progressed and new CMOCs were identified, additional codes were created. The expanding number of codes were iteratively sorted, compared and text segments expressing similar ideas were grouped as families under one code. New codes were also created when potentially supporting formal theories or models were

identified. Two researchers (SP and MN) shared the work of coding and an iterative cycle of discussion, writing memos, reorganizing data, and further literature searches facilitated continued understanding of the evidence.

### 2.1.5 Step 5: analyzing and synthesizing the evidence and drawing conclusions

The work in a realist review is to find and align evidence from across the literature to identify patterns of CMOCs that support, refute or add to the preliminary program theory. In this review, analyzing and synthesizing the data from the literature was guided by the research questions and involved iterative cycles of questioning, comparing, and contrasting the evidence between and across CMOCs (Pawson, 2006; Pawson, Greenhalgh, Harvey, & Walshe, 2005). The analysis and synthesis of evidence involved three areas of assessment: trustworthiness of data, coherence of individual CMOC arguments or explanations, and plausibility of the program theory as a whole (Wong, 2018) (Table 3).

**Table 3**

*Assessing the quality of evidence and findings*

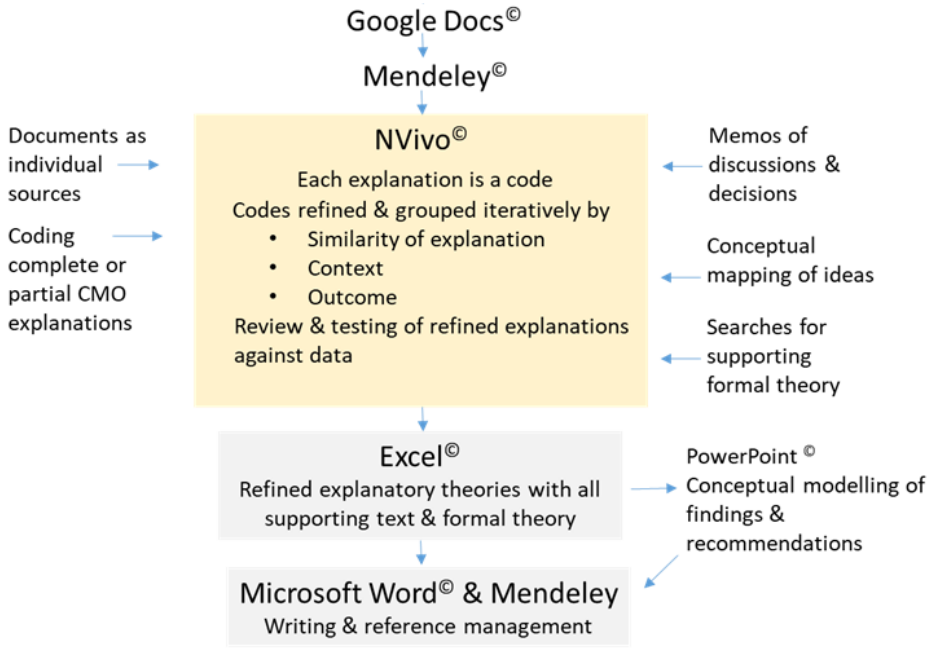
| Level | Assess | Considerations |
|---|---|---|
| Evidence in data | Trustworthiness | Does the evidence source clearly describe the methods used, and are findings reasonable given the data?<br>Does more than one source contribute similar data? |
| CMOCs | Coherence | Does the CMOC explain as much of the given data as possible? (consilience)<br>Does the CMOC offer a good and simple explanation for the given data? (parsimony)<br>Do the CMOCs fit with what is already known from formal theories? |
| Program theory | Plausibility | Does the program theory make logical sense and explain the data?<br>Does the program theory make sense to stakeholders or content experts?<br>Is the program theory supported by what is already known from formal theories? |

To test the coherence of the CMOCs, two researchers (SP and MN) identified and reviewed the CMOCs, alternating between examining them individually, as a whole program theory and then delving back into the detailed evidence. Transparency for analysis and sense-making was aided by visually depicting the evolving program theory and its CMOCs. Amendments to the program theory involved removing some hypothesized CMOCs that lacked sufficient evidence and amalgamating or splitting others if mechanisms were shared or involved different contexts or outcomes (Wong, Westhorp, et al., 2013). A final step for synthesis involved identifying existing middle-range theories from across different disciplines that supported the plausibility of underlying mechanisms (Wong et al., 2014).

The initial 35 CMOCs from the coded evidence were distilled down to 11 CMOCs that formed the review's VP education initial program theory of CMOCs. A key feature in responsible reporting of a realist review is transparency about processes and tools to enable others to assess the plausibility and coherence of the findings (Dalkin & Forster, 2015; Wong et al., 2014). Figure 7 depicts the analytic steps and software used throughout the steps of the review.

**Figure 7**

*Map of software tools*




## 2.2 Realist review findings

The initial program theory of 11 CMOCs (Table 4) is organized along a timeline of: *previous experience with patient violence, violence prevention education, violence from a patient and post violent incident* (i.e., follow-up after violence) (Figure 8). The sequence of the 11 CMOCs in Table 4 follows the timeline progression and separate columns delineate the contexts, mechanisms, and immediate (proximal) and program objectives (distal) outcomes.

**Figure 8**

*Initial program theory timeline for VP education*

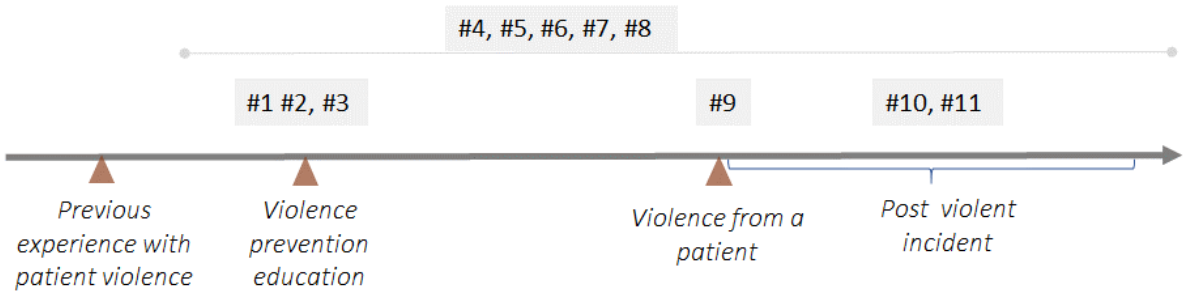


**Table 4**

*Initial program theory from the realist review*

| | Context | Mechanism | Proximal Outcome | Distal Outcome |
|---|---|---|---|---|
| #1 | Education specific to clinical settings (C1)<br>Credible trainers (C2) | Perceived as valuable | Learning engagement | Decrease violent incidents |
| #2 | VP versus violence management education | Self-awareness | VP knowledge & skills use | Decrease violent incidents |
| #3 | Team-based education | Shared understanding | Collective/team VP knowledge & skills use | Decrease violent incidents |
| #4. | Local mentorship/role modelling | Confidence | VP knowledge & skills use | Decrease violent incidents |
| #5 | Workload management | Time | VP knowledge & skills use | Decrease violent incidents |
| #6 | Physical and psychological resources | Self-regulation | VP knowledge & skills use | Decrease violent incidents |
| #7 | Clear, supported policies | Empowerment | VP knowledge & skills use | Decreased physical and psychological injury |
| #8 | Blame-free culture | Psychological safety | VP knowledge & skills use | Decreased physical and psychological injury |
| #9 | Physical support | Confidence | Perception of safety (O1)<br>VP knowledge & skills use (O2) | Decreased physical, psychological injury |
| #10 | Acknowledgement, non-blaming support | Self-blame and shame | Decreased psychological injury | Decreased psychological injury |
| #11 | Timely follow-through | Perceived as valuable | Decreased cynicism of organizational commitment (O1)<br>Decreased normalization of violence (O2) | Increased reporting |

The following sections describe the CMOCs introduced in Table 4 in more detail and are supported by exemplars of text from the included review documents.

### 2.2.1 #1 CMOC: Education specific to clinical settings with credible trainers

**Table 5**

*#1 CMOC Education specific to clinical settings with credible trainers*

| Context | Mechanism | Proximal Outcome | Distal Outcome |
|---|---|---|---|
| Education specific to clinical settings (C1)<br>Credible trainers (C2) | Perceived as valuable | Learning engagement | Decrease violent incidents |

The first CMOC refers to VP education content and facilitation and encapsulates two contexts: C1 Education specific to clinical settings and C2 Credible facilitators (Table 5). When educational content is specific to participants' clinical practice setting, and examples reflect the workplace violence they experience (C1), participants are more likely to engage in learning (proximal O) and apply VP education in their practice setting (distal O) because they value the education as applicable (M).

> Standards for the education of managing assaultive behaviour in the mental health sector…recommends that training programs should include, at minimum (i) the use of the overall treatment program and the therapeutic relationship as the overall context; (ii) behavioural theories and functional assessment. (Farrell & Cubit, 2005, p. 46)

> Ward specific training may address these limitations by facilitating the transfer of knowledge to practice, developing skills identifying problems and implementing prevention strategies. (Adams, Knowles, Irons, Roddy, & Ashworth, 2017, p. 7)

> Participants in the workplace violence program were taught information that was directly applicable to their work environment. The tabletop exercise provided contextual meaning by using video case studies that were both realistic and applicable to the environment in which the acquired knowledge would be applied. (Gillespie, Farra, & Gates, 2014, p. 471)

The trainer characteristics (C2) can also reinforce valuing of formal education (M), leading to greater learning engagement (proximal O) and VP application in practice (distal O).

Trainers are seen as credible when they have clinical expertise and general expertise in preventing and managing violence and provide examples of type II violence from their own experiences.

> "Someone who teaches aggression management should be on the wards to get the feel of what actually happens" (Ward security staff member)…"Have the trainer experience the ward environment and apply the program to the situations on the ward" (Nursing staff member). (Ilkiw-Lavalle, Grenyer, & Graham, 2002, p. 237)

> When staff were trained using a combined nursing and violence prevention model both staff and patients indicated that staff had a greater interest in understanding the reasons for violence. (Björkdahl et al., 2013, p. 401)

### 2.2.2 #2 CMOC: Education focused on prevention skills

**Table 6**

*#2 CMOC Education focused on prevention skills*

| Context | Mechanism | Proximal Outcome | Distal Outcome |
|---|---|---|---|
| Education focused on prevention skills | Self-awareness | VP knowledge & skills use | Decrease violent incidents |

The second CMOC (Table 6) identifies the importance of emphasizing prevention skills in the education content. When formal education focuses on teaching participants skills to prevent rather than manage violent behaviour (C), participants are more apt to apply the skills (proximal O) to prevent violent incidents (distal O).

> Training interventions that enhance staff communication skills do decrease violent incident rates. (Tölli et al., 2017, p. 2828)

The underlying mechanism is participants' greater self-awareness (M) of how their own attitudes and beliefs about violence, and communication approach and skills influences whether or not patient behaviour escalates to violence:

> Participants noticed increased levels of awareness among some staff about the quality staff–patient communication. Numerous comments were made about how staff attitudes

> could positively influence the quality of care provided and the primacy of communication skills in de- escalating aggression. (Gerdtz et al., 2013, p. 1443)

In the literature, VP education includes therapeutic communication, self- awareness and de-escalation skills to use with patients and visitors who are showing signs of anxiety, agitation or the precursors to aggressive behaviour.

> Direct skills teaching [provides] knowledge of behavioural skills and strategies for emotional regulation [leading to] increased confidence/self-efficacy [and] enhanced interpersonal style when managing aggressive behaviour [and] emotional regulation when faced with aggressive behaviour. (Price, Baker, Bee, & Lovell, 2015, p. 448)

> Qualities such as self-awareness and the ability to connect interpersonally with patients may have a more pivotal role in effective de-escalation. (Price et al., 2015, p. 453)

### 2.2.3 #3 CMOC: Team-based education

**Table 7**

*#3 CMOC Team-based education*

| Context | Mechanism | Proximal Outcome | Distal Outcome |
|---|---|---|---|
| Team-based education (C1)<br>Team-based discussions and decision-making (C2) | Shared understanding | Collective/team VP knowledge & skills use | Decrease violent incidents |

This CMOC focuses on the role of education and practices in the workplace that create a shared understanding among healthcare teams of how to prevent and respond to violence. Avoiding escalation of violence can depend upon how well healthcare workers within a unit respond as a team with a shared knowledge base and a shared understanding of roles and policies (Table 7).

> Wards adopting whole-team approach are more likely to reduce the risk of assault than individual advances in knowledge and skills…Clinical managers should…ensure…as many staff as possible are trained together at the same time, to foster such approaches. (Price et al., 2015, p. 453)

Training team members together (C1) and reinforcing learning through ongoing team-based discussions and decision-making (C2) increases team members' ability to use VP skills as a team or collective unit (proximal O), leading to more effective violence prevention (distal O).

> Structuring a collective learning process at the team or group level is a second critical element for effective organizational learning, and that a compelling goal is necessary for motivating this collective learning process. (Edmondson, 2008) p. 5

The underlying mechanism is the team's shared understanding (M) of how to safely and cohesively respond to potentially violent or violent situations.

> Interventions to support nurses and nursing teams in processing transgressive behaviour in care relationships should be implemented on a team level, incorporating the culture of the ward and the dynamics of teams. (Vandecasteele et al., 2017, p. 2381)

> It also encouraged decision making as a team. This meant our professionals' skills were used in full. (MacGabhann, Baker, & Dixon, 2002, p. 10)

> Participants in the intervention group of a structured program for regular discussion of workplace violent incidents reported an improved awareness and management skills. (Wang et al., 2008, p. 21)

### 2.2.4 #4 CMOC: Local mentorship and role modelling of VP

**Table 8**

*#4 CMOC Local mentorship and role modelling*

| Context | Mechanism | Proximal Outcome | Distal Outcome |
|---|---|---|---|
| Local mentorship/role modelling | Confidence | VP knowledge & skills use | Decrease violent incidents |

The fourth CMOC occurs within the workplace setting where the presence of VP mentors and role models are important contextual factors (Table 8) for education participants to have confidence to use VP knowledge and skills to decrease violent incidents.

> It is recommended that early contact is made with clinical experts when high-risk patients are first identified, rather than following an incident, and that key ward staff are trained

> and mentored to develop confidence in managing patients with a risk for violence/aggression. (Adams et al., 2017, p. 13)

Role modelling of VP behaviours and access to mentoring and expert advice (C) increases healthcare workers' application of VP skills (proximal O) to prevent violence (distal O), because of confidence (M) gained through support for continued learning and consolidation of knowledge and skills.

> Experienced workers can mentor and guide less experienced colleagues in communication and care delivery strategies that may calm patients and visitors, diffuse tense situations. (Gillespie, Gates, Miller, & Howard, 2010, pp. 182–183)

> The education intervention provided information and coaching by clinical experts, with the results suggesting that access to clinical expertise enhanced the development of skill managing violence and aggression. (Adams et al., 2017, p. 14)

> Because of the sometimes impromptu nature of violence, consequent debriefing and the sensitivities involved, a change agent from within the clinical team may have been more successful as an internal 'implementer' working with peers. (MacGabhann et al., 2002, p. 12)

### 2.2.5 #5 CMOC: Workload management

**Table 9**

*#5 CMOC Workload management*

| Context | Mechanism | Proximal Outcome | Distal Outcome |
|---|---|---|---|
| Workload management | Time | VP knowledge & skills use | Decrease violent incidents |

The fifth CMOC reflects how workload management influences the use of VP skills and knowledge. After individuals receive VP training, their workload can be a limiting factor in the time they have available to apply VP knowledge and skills (Table 9). A reasonable workload without multiple competing demands (C) increases' healthcare workers' use of knowledge and skills (proximal O) to prevent violent incidents (distal O).

> Training alone is not enough and staff need to be enabled to learn with adequate support and resources e.g. time to attend training, reasonable workload to apply skills and communicate with patients or residents. (Banerjee et al., 2008, p. 20)

> Staff members also identified barriers that sometimes prevented their managing behavior problems optimally. These included time pressure. (E. L. Cassidy et al., 2005, p. 38)

The underlying mechanism is sufficient time to interact with patients (M). Preventive strategies, such as therapeutic communications and de-escalation techniques, require time for unhurried interaction with patients and time to think about and critically apply knowledge and skills from formal education. Consequently, high workloads often result in healthcare workers' defaulting to less time-intensive (and less effective) responses and behaviours.

> Most ED RNs thought that the classes they were forced to take were not effective or had little efficacy in successfully de-escalating patient behaviors. Most ED RNs cited a lack of time to implement the tools taught in these classes. (Howerton Child & Sussman, 2017, p. 549)

> Inadequate time to complete tasks or to attend needs creates both frustration in patients who can then react violently and decreased ability for staff to respond appropriately to the violence. (Banerjee et al., 2008, p. 11)

### 2.2.6 #6 CMOC: Physical and psychological resources

**Table 10**

*#6 CMOC Physical and psychological energy resources*

| Context | Mechanism | Proximal Outcome | Distal Outcome |
|---|---|---|---|
| Physical and psychological resources | Self-regulation | VP knowledge & skills use | Decrease violent incidents |

A second capacity-related workplace context influencing the application of knowledge and skills (proximal O) to prevent violence (distal O) involves an individual healthcare worker's physical and emotional state. When a healthcare worker has sufficient personal physical and emotional resources (C), they are more able to self-regulate their emotions (M) and use VP

approaches (e.g. communication and de-escalation skills) with patients and visitors (proximal O) to decrease the likelihood of violent incidents (distal O) (Table 10).

> Participants are more able to apply skills when they are fresh and have energy early in their shift but when they are tired and nerves are frayed they resort to previous behaviour. (Howerton Child & Sussman, 2017, p. 550)

> Training helped them control their temperament in a challenging environment and also enabled them to effectively practice active listening and empathy.(Baig et al., 2018, p. 297)

Although often influenced by workload and time, individual's ability to self-regulate their emotions and responses may also be affected by frequent experiences of violence:

> The high levels of physical, verbal and sexual violence combined with the structural violence of caring in an under-staffed and under-resourced environment stretches workers to the limit. (Banerjee et al., 2008, p. 21)

### 2.2.7 #7 CMOC: Clear, supported policies

**Table 11**

*#7 CMOC Clear, supported policies*

| Context | Mechanism | Proximal Outcome | Distal Outcome |
|---|---|---|---|
| Clear, supported policies | Empowerment | VP knowledge and skill use | Decreased physical and psychological injury |

Violence-related policies and how they are supported can influence the use of VP knowledge and skills. When violence policies are clear, include consequences such as removal from the department, and enactment is supported (C), healthcare workers feel empowered (M) to enact policies such as setting limits with patients to manage aggression (Table 11).

> An organization that positively addresses violence through the themes of consistency, consequences, and collaboration potentially mitigates development of cynicism and conflict as maladaptive reactions of staff. (Renker et al., 2015, p. 15)

Consequently, healthcare workers are more likely to use VP education knowledge and skills (proximal O) decreasing the risk of psychological or physical injury (distal O).

> Zero tolerance policy enforcement is thought to be constructive in terms of supporting and empowering staff to have confidence in managing problematic patients and hostile situations. (Bourgeault, 2010)

> Organizational factors like clear expectations for patient behaviour and consequences empower management and staff members to feel less frustrated and more equipped to deal with violence. (Howerton Child & Sussman, 2017, p. 549)

### 2.2.8 #8 CMOC: Blame-free culture

**Table 12**

*#8 CMOC Blame-free culture*

| Context | Mechanism | Proximal Outcome | Distal Outcome |
|---|---|---|---|
| Blame-free culture | Psychological safety | VP application (O1)<br>Reporting (O2) | Decreased physical and psychological injury |

In work cultures free from judgement for incidents or errors (C), individuals are more likely to use VP skills (proximal O1) to prevent physical and psychological injury (distal O) because they do not fear being blamed or shamed for violent incidents (psychologically safe) (M) (Table 12).

> When admitting (or simply calling attention to) mistakes, asking for help, or accepting the high probability of failure that comes with experimenting, people risk being seen as incompetent… Reluctance to take such interpersonal risks can create physical risks in high-risk industries. (Edmondson, 2008, p. 256)

> That form of questioning comes to me as so blame-driven. "You just were assaulted, you just were hurt", now suddenly you're asking "what could have you done differently". Not "what could the system have done differently." (Stevenson, Jack, O'Mara, & LeGris, 2015, p. 7)

When individuals feel psychologically safe (M), they are less likely to fear looking incompetent or being punished if violence occurs and more are likely to report violence (proximal O2).

> Nurses are reluctant to report violence in the workplace and may not seek support after incidents of violence because they think asking for help may be interpreted as personal weakness or professional failure. (Allen, de Nesnera, Cummings, & Darling, 2011, p. 45)

> Organizations need to be open to the exploration of the phenomenon of violence and embrace an open, blame-free environment for nurses to feel comfortable reporting patient violence. (Stevenson et al., 2015, p. 9)

> Health care professionals who have been attacked may not report further client violence because of adverse judgments from peers and managers, leading to passivity from the victim's perspective and underreporting. (Jussab & Muiphy, 2015, p. 293)

### 2.2.9 #9 CMOC: Physical support

**Table 13**

*#9 CMOC Physical support*

| Context | Mechanism | Proximal Outcome | Distal Outcome |
|---|---|---|---|
| Physical support | Confidence | Perception of safety (O1)<br>VP knowledge & skills use (O2) | Decreased physical, psychological injury |

Experiencing verbal and physical violence from patients and visitors can be psychologically traumatic for healthcare workers who may fear for their physical safety. When workers feel they can rely on the physical presence and support of peers and supervisors if a situation escalates to violence (C), they feel more confident that violence can be prevented and managed (M1), resulting in an increased perception of safety (proximal O1) (Table 13).

> It feels great to have support at times like these. It helps me feel like I am not alone when these situations occur and that someone has my back. (Henderson, Kamp, Niedbalski, Abraham, & Gillum, 2018, p. 125)

> The RN who steps in and either takes over for an RN who is experiencing a challenging patient or intervenes for another nurse who might be newer or more timid…"We have a couple of nurses who just stand up, you know, for the weaker nurses who can get picked on by certain patients. They will just slip in and take over the assignment or whatever they can do to help, but in a positive way." (Howerton Child & Sussman, 2017, p. 552)

Individuals who have increased perceptions of support for physical safety are also more likely to use VP knowledge and skills (O2) as they feel less alone and at less risk for physical and psychological injury from violence (distal O).

> A sense of abandonment underlay accounts where a physical absence of support staff and managers on the wards meant that staff "often felt totally alone in a difficult and dangerous situation." (Ashton, Morris, & Smith, 2017, p. 5)

### 2.2.10 #10 CMOC: Acknowledgement and non-blaming support

**Table 14**

*#10 CMOC Acknowledgement and non-blaming support*

| Context | Mechanism | Proximal Outcome | Distal Outcome |
|---|---|---|---|
| Acknowledgement and non-blaming support | Self-blame and shame | Decreased psychological injury (immediate) | Decreased psychological injury (long term) |

The tenth CMOC identifies how support after a violent incident influences how individuals emotionally process a violent experience. When individuals do not receive anticipated support from peers and supervisors after a violent incident (C) they can feel alone in the experience, blame themselves for the violence occurring, and feel shame (M) (Table 14). Support involves non-blaming acknowledgment that the individual experienced a violent event, a demonstration of empathic concern, and an offer of assistance (C).

> More importantly nurses in the study felt most supported when the manager acknowledge the event as explained by this RN, "just having the event recognized as something that was critical and you know, it was traumatic and …they weren't minimizing it and actually embracing it as something that was not acceptable." (Stevenson et al., 2015, p. 7)

Failure to receive expected support after an incident of violence (C) can leave victims of the violence feeling isolated with their own perceptions of the event and possible feelings of shame and blame for the violence occurring (M), resulting in a second kind of psychological trauma (O).

> Many staff report organisational responses in which the attribution of blame is a priority agenda and which fail to recognise the psychological impact this can have on staff in reinforcing and intensifying such reactions. (Paterson, Leadbetter, & Bowie, 1999, p. 481)

> Participants actively looked toward their colleagues and managers for support and acknowledgment following client violence in the workplace, and indeed having supportive peers and supervisors can significantly improve a victim's sense of coping and lessen their fear of further attacks. (Jussab & Muiphy, 2015, p. 293)

This is consistent with literature for victims of violent crime outside of occupational safety, where a second psychological injury can result when a victim of violence feels rejected and perceives a "lack of expected support from the community, agencies, treating personnel, society in general, as well as, family or friends." (Symonds, 2010, p. 37).

Mitigating feelings of shame and blame (M) through support from peers and supervisors (C) not only mitigates the psychological trauma and isolation immediately after a violent incident (O proximal), it can influence how individuals process the event and move on to longer-term psychological recovery (O distal) (Symonds, 2010).

> The nature of the organisational response to the traumatised staff member can therefore play a pivotal role in the process of recovery and, where the organisational response fails to understand or consider the needs of the victim(s) can itself constitute a source of secondary injury or trauma. (Paterson et al., 1999, p. 481)

### 2.2.11 #11 CMOC: Timely follow-through

**Table 15**

*#11 CMOC Timely follow-through*

| Context | Mechanism | Proximal Outcome | Distal Outcome |
|---|---|---|---|
| Timely follow-up after reporting violence | Perceived as valuable | Decreased cynicism of organizational commitment (O1)<br>Decreased normalization of violence (O2) | Increased reporting |

The final CMOC (#11) relates to the influence of leaders' actions after violence on whether individuals formally report future violence. After a significant event or incident in healthcare, follow-up (frequently referred to as a debrief) is a formal or informal discussion after

a reported violent incident that helps individuals process emotions and review what had occurred for learning and future prevention of violence or injury (MacGabhann et al., 2002). When a leader consistently follows up with individuals or teams after violent incidents and communicates action through timely follow-through (C), individuals are less likely to feel cynical about their organizations commitment to address violence (proximal O1), are less likely to normalize violence as an inevitable part of their job (proximal O2) and are more likely to report violence (distal O) (Table 15).

> Narratives conveyed a sense that staff had resigned themselves to the inevitability of violence and aggression in the ED due to the frequency of incidents and a lack of perceived preventative measures and consequences from the organisation. (Ashton et al., 2017, p. 2)

> Developing a culture of safety through managers following up directly and personally with staff on each and every violent situation. (Scott Blouin, 2017, p. 78)

> When staff do not see any result or change as a consequence of reporting violence when experience violence they feel hopeless and resigned that reporting is of no benefit and will not report. (Pich et al., 2010, p. 271)

> Registration of violent incidents without regularly scheduled, structured feedback discussions may have increased frustration in the control group, leading to less likelihood of reporting. (Arnetz & Arnetz, 2000, p. 674)

### 2.3 Discussion of findings

This realist review began by gleaning ideas through scoping the literature and consulting with content experts to develop a working hypothesis: a preliminary program theory to guide the literature search (Dalkin & Forster, 2015). The preliminary VP education program theory was refined through iterative cycles of reviewing, synthesizing, and analyzing evidence from the literature (Pawson & Tilley, 1997), resulting in an initial program theory of 11 CMOCs.

This discussion section explores formal theories that support the proposed mechanisms' plausibility and discusses the review's strengths and limitations. The chapter concludes with a summary of the review and an introduction to Chapter 3.

### 2.3.1 Engagement with formal theories

This review of VP education literature was conducted to provide an initial program theory for further refinement through the subsequent realist evaluation. As such, engagement with existing formal theories that support the final program theory from the evaluation are explored in Chapter 5.

### 2.3.2 Strengths and Limitations

This section is limited to strengths and limitations specific to the realist literature review conducted to inform the evaluation. Strengths and limitations of the entire dissertation are addressed in Chapter 5.

*Strengths*

The realist approach used in this review was appropriate to the research questions and purpose of the project. Although realist methodology was new to some research team members and all stakeholders, this review benefited from guidance by an expert realist methodologist who assisted the team to meet realist quality standards. The author’s healthcare background and knowledge of the practice contexts provided a foundation for understanding the complexity of violence described in the literature and potential CMOCs, while the inclusion of a second non-healthcare researcher contributed a different perspective. Similarly, the author's two co-supervisors' diverse disciplines and research expertise enriched the rigour applied to the analysis and findings.

*Limitations*

A realist approach to review is methodical, but unlike a systematic review, it does not seek to identify all possible relevant literature and is not replicable. Due to the research team's methodological learning curve, the search strategy was broader than is typical for a realist review, resulting in the initial inclusion of many references that did not contribute to addressing the review questions. To manage the large volume of documents a prioritization process was used and whole categories of documents less likely to contribute to the program theory – such as prevalence studies – were excluded without further screening. Although the majority of these documents would not have been identified in a more realist search strategy, it is possible that small amounts of evidence was discarded in the process.

As this review utilized secondary data from non-realist studies with different methodologies that asked different kinds of questions, identifying the configurations of contexts, mechanisms and outcomes from the findings and discussions was challenging and the review may not have identified all of the relevant explanations of VP program effectiveness. As the search criteria included only English language documents, the findings excluded evidence reported in other languages and may be less applicable to VP education in non-English speaking countries or cultures. Additionally, although there is confidence in the realist process used and the validity of the review's refined program theory based on the available evidence in the English literature, researchers situated in other countries, cultures and healthcare systems using a different lens to interpret the same evidence might identify and prioritize CMOCs differently.

## 2.4 Conclusion

As preparation for the evaluation of VP education in BC healthcare, this chapter substantiated the selection of a realist approach and established an understanding of how the

philosophy of realism is applied in research. The realist review processes used to develop and refine the initial program theory have been described to provide transparency of the analysis and synthesis of the evidence. These findings answer the research questions regarding the contexts that contribute to VP program effectiveness and the mechanisms that explain those effects. The review identified 11 configurations of contexts, mechanisms and outcomes that elucidate how (e.g., through shared understanding) and under what circumstances (e.g., team based education, discussions and teams decision making) that VP education is effective. The evidence was less clear, however, regarding the question of for whom the education is most effective, which may relate to the complex nature of violence and heterogeneity of VP programs.

A realist approach to literature review informs real-world decisions regarding the creation or revision of social or health programs or policies (Pawson, 2006). This review's focus on explanations of how and why education is learned and utilized, allows the findings to be applied to violence prevention education across healthcare settings with contexts similar to those identified in the explanations (Jagosh, 2019). The initial program theory of 11 CMOCs from this review serve as a foundation for future testing and refinement, providing the starting point for the realist evaluation of VP education in BC healthcare, which is the focus of Chapters 3 to 5.

# Chapter 3: Realist Evaluation – Approach and Methods

This chapter focuses on the approach and methods used in the evaluation, following realist reporting standards (Wong et al., 2016), The evaluation findings, discussion and recommendations are, respectively, the focus of Chapters 4 and 5.

## 3.1 Introduction

A realist approach builds upon existing ideas from earlier research and content experts to develop an initial understanding – or initial program theory – of how and why particular contexts influence program and policy outcomes (Pawson, 2013). In realist research, the initial program theory is refined through analyzing and synthesizing primary (evaluation) or secondary (review) data (Greenhalgh et al., 2017b). The resulting refined program theory of CMO explanations is tested for coherence through comparison against the study data and for plausibility through identifying supporting formal theories of human behaviour (Wong, 2018).

The following introductory sections explain the rationale for selecting a realist evaluation approach, provide the initial program theory and evaluation questions and focus, and describe the ethical approval obtained to conduct the research.

### 3.1.1 Evaluation rationale

Violence against healthcare workers is an international concern (ILO et al., 2002; International Council of Nurses, 2017; WHO, 2018). This evaluation was conducted in British Columbia, which has the highest rates of patient violence towards nurses of all Canadian provinces (Havaei, Astivia, & MacPhee, 2020; Hesketh et al., 2003). The predominant intervention to address violence from patients and visitors in BC healthcare settings has been VP education for healthcare workers. Although implemented on a large scale across the province, no

formal evaluation of the BC VP program (PVPC) had been conducted, leaving stakeholders without required information to guide ongoing program decisions.

### 3.1.2 Initial program theory

Prior to the evaluation, as reported in Chapter 2, a literature review of VP education was conducted using a realist approach. The review refined a preliminary program theory of VP education into an initial program theory that provided a starting point for the evaluation (Figure 8 and Table 4, p.54).

### 3.1.3 Evaluation focus and questions

This realist evaluation focused on the effectiveness of a formal, provincial VP education curriculum implemented in emergency department settings. Evaluating the effectiveness of formal VP education required looking beyond the curriculum and training approach to identify explanations of how workplace characteristics influence healthcare workers' ability to learn and apply VP knowledge and skills. As presented in Chapter 1, three research questions guided the review and evaluation:

- For whom is VP education likely to be effective?
- What contextual factors are associated with healthcare workers' use of VP education in practice?
- What are the underlying mechanisms by which VP education results in the intended outcomes?

### 3.1.4 Ethical approval

Ethics approval for the evaluation was obtained (H18-01418) through a harmonized process between the three participating provincial health authorities and the university behavioural ethics board (BC AHSN, 2021). In addition to university ethics approval, to ensure

the project would not negatively impact care delivery or hospital resources, formal operational approval was required and obtained from each research site's respective health authority.

## 3.2 Methods

To understand how the evaluation was conducted, this section presents the rationale for using a realist methodology, describes characteristics of the environment surrounding the project and overviews the evaluated BC education program. The evaluation design, data collection methods, sampling and recruitment strategy are outlined, and the processes used for data extraction, analysis and synthesis are documented.

### 3.2.1 The rationale for the use of realist evaluation methodology

A realist approach was selected for the review and evaluation for its ability to provide insights into the effectiveness of programs implemented in complex environments in a way that other approaches typically cannot (Marchal et al., 2018). Similar to the RAMESES standards applied to the realist review in Chapter 2, the methodology applied in the evaluation follows RAMESES quality standards for realist evaluation (Greenhalgh et al., 2017a). A fundamental difference in the methodology and application of RAMESES standards is that while realist reviews use secondary data from published sources, realist evaluations use primary data collected by researchers (Greenhalgh et al., 2017b). The realist review resulted in an initial program theory for VP education based on secondary data. The realist evaluation based on primary data was used to refine the initial program theory specific to the BC emergency departments (Greenhalgh et al., 2017b).

### 3.2.2 The environment surrounding the evaluation

Describing the settings in which an evaluation is conducted is a component of realist evaluation reporting standards (Wong et al., 2016). Descriptive information about the settings of the evaluation included the structure of the BC healthcare system and stakeholder engagement.

This evaluation was carried out in BC, Canada, where healthcare is publicly funded and administered through a provincial ministry of health (Government of British Columbia, 2021). The province of BC covers a geographic area of almost one million square kilometres – more than Germany and France combined – with a population of just over 5.1 million (Government of British Columbia, 2018). The entire continuum of health services in BC, including all acute care hospitals, is managed and delivered through seven health authorities: five geographic authorities, a provincial authority for tertiary services, and a First Nations Health Authority (Government of British Columbia, 2021). Each of the three geographical health authorities participating in this evaluation provides care in urban tertiary, community, and rural hospitals. Combined, the three health authorities serve more than 78 percent of the BC population (BC Stats, 2020).

The research team for this project included the doctoral candidate author (SP), a part-time research coordinator (MN), a part-time data coder (AV), two doctoral supervisors (MM and CM) and a third Ph.D. committee member (MD). The author developed and managed all aspects of the project and collected all data with assistance from MN. The author coded the data with assistance from AV and conducted analysis and synthesis with involvement by MN and guidance by MM. SP wrote the dissertation under the guidance of MM, CM and MD.

Stakeholder engagement is a key part of the realist evaluation (Pawson & Tilley, 2004) and accordingly the project began with networking between the author and occupational health

leaders from six BC health authorities[2]. These occupational health leaders identified evaluating the provincial VP education curriculum as a top priority and helped identify the evaluation focus: emergency departments from three health authorities. Established at the beginning of the project, the Project Advisory Group included a representative from the funding organization and the occupational health leader for each of the three participating health authorities, the author, and two doctoral supervisors (CM and MM). The Project Advisory Group members championed the project within their organizations, facilitated identifying the research sites, and introduced the research team to the emergency department site leaders. Communication tools such as presentations, conference calls, and summary documents were provided as requested to assist Advisory Group members in gaining support for the project within their respective organizations. Ongoing engagement with the Advisory Group throughout the project established transparency and trust in the research process, a foundational understanding of the realist approach, and built ownership and "pre-knowledge" of what the evaluation findings would say (Monaghan & Boaz, 2018, p. 178).

To ensure transparency and begin the process for broader knowledge translation, in addition to engaging with the Project Advisory Group, a formal communication plan was developed to engage and inform a range of internal and external stakeholders, such as other health authorities and healthcare unions. A project webpage (www.pwhs.ubc.ca/prevent-violence) provided project information, including a summary of the research proposal and a series of questions and answers.

[2] The six health authorities included Vancouver Coastal (including Providence Health), Island Health, Fraser Health, Northern Health, Interior Health and Provincial Health Services. First Nations Health was not included in this study, as they did not have care sites that would have implemented the violence prevention education.

The BC PVPC (Provincial Violence Prevention Curriculum) for healthcare was developed in 2010 and updated in 2015 by 15 stakeholder organizations in BC, including all health authorities and the main healthcare unions. The intent was to provide a provincially recognized, standard VP education program for BC healthcare workers employed[3] across all healthcare sectors, including acute care, community, mental health, and residential care (Health Employers Association of BC, n.d.). The curriculum design includes eight e-learning modules, a core classroom module, and an optional advanced team response classroom module (HEABC). The intent of the combined e-learning and in-person approach is for knowledge from the online modules to be applied and reinforced in the classroom session(s). (Health Employers Association of BC, n.d.)

The content and teaching methods of the PVPC are in keeping with the standard course elements identified as best practices in the literature (Arbury et al., 2017). Four principles underlie the PVPC curriculum: a shared responsibility for a culture of safety and prevention, the importance of respectful communication, the need to be proactive and aware of the risk for violence, and that individual responsibility for their safety and the safety of others (Health Employers Association of BC, n.d.). Additionally, the PVPC framework focuses on four behavioural responsibilities: recognizing risks and behaviours, assessing and planning to prevent violence and injury, responding to the risk of violence, and reporting and communicating about the violent incident in a timely fashion after its occurrence (Health Employers Association of BC, n.d.).

[3] At the time of this evaluation, Physicians were not included in the PVPC implementation, as a separate VP education curriculum for Physicians was being developed.

Although the curriculum of the PVPC is provincial with standard teaching guides and tools such as video scenarios, each health authority or organization is responsible for implementation. In 2016 the PVPC education was negotiated as mandatory in the nurses' union collective agreement for all nurses across BC with an obligation for employers to provide paid time off work to attend (BCNU, 2017; Health Employers Association of BC and the Nurses' Bargaining Association, 2016).

### 3.2.3 Evaluation design

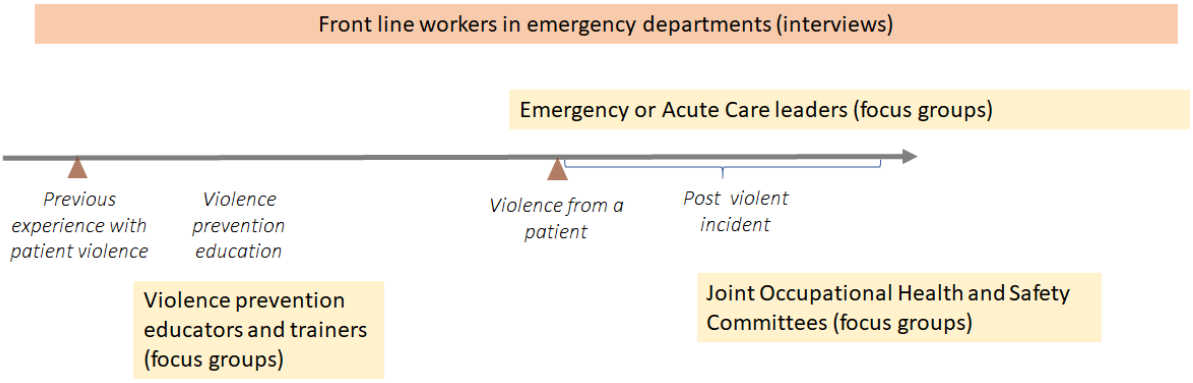
The research questions guided the evaluation study design and the choice of methods and tools for data collection and analysis (Marchal, van Belle, & Westhorp, 2016). As the realist evaluation approach is non-prescriptive (Marchal et al., 2016), this allows researchers to select from a variety of qualitative and quantitative methods (Posavac, 2016). For this evaluation, qualitative methods (interviews and focus group interviews) offered the opportunity to probe for a clearer understanding of relevant contexts and outcomes and the underlying mechanisms critical to program theory and CMOC refinement (Greenhalgh et al., 2017b).

Stakeholders contributed to defining the project scope as emergency departments across three health authorities. Emergency departments were selected as high-risk areas for workplace violence and research sites across three health authorities provided representativeness of emergency departments across the province. The realist review identified the importance of resource-related contexts, such as the availability of support from other workers. As resources generally decrease with smaller hospital size, research sites included one urban, community, and rural site within each of the three health authorities. The program theory timeline developed in the literature review highlighted a basic chronology of stages in VP education: formal education attendance, workplace applications of VP education, post-incident workplace applications of VP

education, and post-incident reporting. The stages helped identify four separate groups of participants who could contribute to refining the program theory: frontline workers in emergency departments who attended the VP education, VP educators who taught the education, leaders with responsibilities for violence prevention and follow-up, and Joint Occupational Health and Safety (JOHSC) Committee members who review violent incidents (Figure 9).

**Figure 9**

*Evaluation initial program theory timeline with participant groups*




Front line emergency department workers were identified as the participants most likely to have direct experience with learning and applying VP education. The evaluation, therefore, was designed to collect a significant amount of data from confidential interviews with frontline workers.

Focus group interviews with VP educators, leaders, and JOHSC Committee members augmented the interview data by providing other perspectives from positions along the initial program theory timeline. At each site separate focus group interviews were held for VP educators, leaders, and JOHSC Committee members as the similarity in roles and pre-existing relationships were more likely to generate a free flow of information within a single one-hour session (Morgan, 2014). The focus group interview invitation offered an alternative option of an

individual interview to accommodate individuals eligible for a focus group who wished to participate but were concerned about confidentiality in a group setting. Ten individuals eligible for a focus group requested an individual interview to accommodate a scheduling conflict.

To ensure participants' confidentiality and minimize workplace disruption, individual interviews with frontline workers were scheduled for one hour outside the participant's working time. Researchers allowed participants to suggest preferred interview dates, times, and locations within reasonable parameters to facilitate recruitment. Where possible, focus group interviews were scheduled at the end or beginning of existing forums, such as JOHSC Committee meetings, to decrease inconveniences for participants (Howatson-Jones, 2007). In appreciation for participation in interviews or focus group interviews outside of work time, individuals received a $75 gift card and signed an acknowledgment of receipt (Appendix B4). To show appreciation for participating in a focus group during working hours, individuals received a $20 gift card and signed an acknowledgment of receipt.

A target of six to ten interviews at each of the nine sites was established as the maximum number feasible. By the end of the planned data collection period, 58 frontline worker interviews had been conducted. Of the 25 focus group interviews planned with VP educators, leaders, and JOHSC Committee members across the nine sites, 25 focus group interview activities were conducted including the ten individual focus group interviews. The number of groups was smaller than anticipated for two reasons. First, as VP educators were centralized in some health authorities, one focus group interview covered three sites instead of separate groups for each site. Second, in some rural sites, the same individuals fulfilled multiple roles negating the need for separate leader and JOHSC Committee focus group interviews. (Table 16). The number of participants per focus group interview ranged from two to 11 individuals.

**Table 16**

*Evaluation design*

| Activity | Planned | Actual |
|---|---|---|
| # Interviews frontline emergency workers | 54-60 | 58 |
| # Focus group interviews | 25 | 15 |
| # Individual Focus group participant interviews | - | 10 |
| Total # of participants | 150 | 136 |

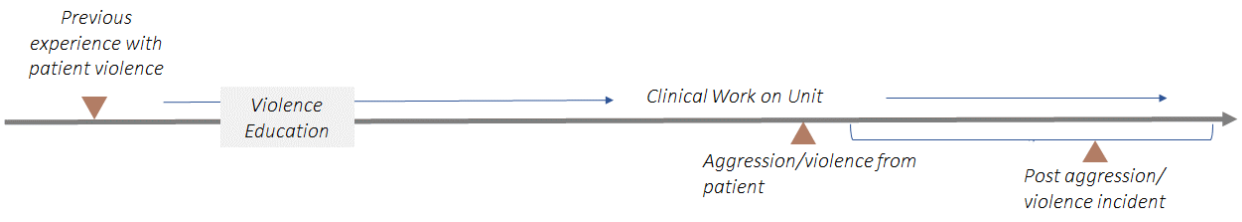
To aid in recruitment, data collection was planned to be conducted over six months outside of peak vacation times for healthcare workers such as Christmas, spring break, and the last six weeks of summer. Delays in ethics approval shifted the timeline into summer months, extending the overall data collection period to nine months, between January and October 2019.

### 3.2.4 Data collection methods

An essential part of successful interviewing is preparing and practicing in advance (Manzano, 2016). Interview practice between two researchers (SP and MN) led to adopting a less structured and more conversational interview approach. One open-ended question with probing questions was piloted with two individuals from non-research sites. The transparent and open approach included explaining the research scope and intent, sharing a copy of the program theory timeline (without the CMOCs), and asking one initial question: *Thinking across this timeline, what do you think is most important to help individuals to learn and apply violence prevention knowledge and skills?* (Figure 10).

**Figure 10**

*Timeline shared in interviews and focus groups*



With a few exceptions at rural sites, interviews were arranged in advance, and participants received an advance copy of the consent form. At the beginning of all interviews, participants signed a consent form for participation and audio recording. A primary and secondary backup audio recorder were used to allow the researchers to listen instead of taking active notes. At the beginning of the recorded interviews, participants were asked about their years of experience, VP education attendance, and experience with violence (Appendix B6).

Whereas a more traditional interview approach may explore participant experiences from which to develop themes, a realist interview intentionally focuses on developing an understanding of explanations of program effectiveness (Greenhalgh et al., 2017b). After the initial question, the researchers stayed present, actively listened to understand participant responses, and used probing questions to elicit more in-depth information on the mechanisms activated in specific contexts that influenced outcomes (Table 17).

**Table 17**

*Interview and focus group interview probing examples*

| | |
|---|---|
| 1 | What is it about ____ that is important and why? |
| 2 | What does ____ do that ____doesn't? |
| 3 | What do you think individuals are thinking when ____? |
| 4 | Why do you think it is different for others? |
| 5 | Who might that be important for? |
| 6 | What do you suppose someone is thinking in that situation?<br>What do you think you were thinking about in that situation? |
| 7 | If you had a magic wand, what would you change?<br>Why or how would that make a difference? |

When appropriate to the interview tone and flow, researchers asked participants for thoughts about initial program theory explanations that had not been mentioned. On several occasions, the researchers were able to ask participants about ideas from earlier interviews or focus group interviews that required further clarification and probing (Manzano, 2016).

Both researchers (SP and MN) attended the first two interviews to ensure a similar interview approach. Although participants were not asked to recount violent experiences, the interviewers were sensitive to participants' emotions and their possible need to share feelings about their experiences. When participants were unable to move past recounting negative experiences, if appropriate, researchers offered an imaginary *magic wand* for participants to envision an alternative future positive experience, which created an avenue for additional probing (Table 17, question 7).

If participants exhibited any level of distress, the researchers acknowledged the content and emotion being expressed, offered to end the interview, and provided the appropriate employee assistant contact information. Although no participant demonstrated significant distress or chose to end the interview early, numerous individuals willingly accepted employee assistance contact information.

The researchers used the same approach in the focus group interviews as in the individual interviews. Both researchers were present for the first two focus group interviews. Each focus group interview format included the consent process, followed by the initial question with subsequent probing questions. An added challenge was managing multiple participants' simultaneous contributions. Instead of verbally asking questions regarding years or experience, VP education attendance, and experience with violence, focus group interview participants completed a short questionnaire at the same time as the consent form. Focus group interviews

were also audio recorded using two devices; however, unlike the individual interviews where no notes were taken, flip charts were often used in the focus group interviews to capture thoughts and focus the conversation.

At the end of both the individual interviews and focus group interviews, each participant was thanked with a gift card commensurate with their participation during or outside of paid work time, for which they signed an acknowledgement receipt.

### 3.2.5 Sampling strategy and recruitment

A realist evaluation sampling strategy does not attempt to recruit a representative population or a random sample; instead, it aims to include the individuals who are most likely to provide evidence to help test and refine the initial program theory (Emmel, 2013; Westhorp, 2017). The selection of research sites and the participant inclusion criteria focus on finding the individuals or groups most likely to contribute knowledge from different perspectives to answer the research questions (Emmel, 2013; Westhorp, 2017). In realist evaluation there is no set numbers of interviews assumed to achieve theoretical saturation (Manzano, 2016). To the degree project resources allow (Emmel, 2013), an optimal sample size in realist research is sufficiently expansive to obtain large amounts of evidence from different settings, contexts and subgroups (Greenhalgh et al., 2017b).

Sampling decisions for the evaluation occurred at three levels: selecting research sites, identifying the sample population, and the inclusion criteria, and recruiting participants. The nine research sites were from three different health authorities with varying organizational cultures and approaches to VP education and refresher training, providing a diverse sample. The inclusion of equal numbers of large urban hospitals providing advanced (tertiary) care, medium-sized community hospitals, and smaller rural hospitals provided a diversity of site-specific

cultures, availability of resources, and patient populations served.

The interview inclusion criteria focused on who could best inform the program theory of how the BC VP education is learned and applied. The focus group interview populations provided three additional perspectives about the effectiveness of VP education. The sampling and recruitment strategy for individual interviews and focus group interviews is summarized in Table 18. Appendix B contains examples of the recruiting tools (e.g., poster, email).

**Table 18**

*Interview and focus group interview sampling and recruitment*

| | Participants | Purpose | Recruitment | Criteria for inclusion |
|---|---|---|---|---|
| **Interviews** | Front line staff who work in emergency | Individuals who experienced the PVPC education and can reflect on type II violence | Poster in each emergency department.<br>Participants contacted the research team directly | Worked in emergency for at least one year<br>Interacts with patients related to care<br>Experience/exposure to type II violence<br>Attended the PVPC within the past five years |
| **Focus Groups** | VP Educators | Educators/ trainers for the PVPC | A blind copy email from a site administrative assistant to individuals eligible for focus groups<br>Participants contacted the research team directly | Currently in a role identified for a focus group (as identified under *Participants*) |
| | Emergency or Acute leaders | Follow-up of incidents & actions to address violence | | |
| | JOHSC Committees | Reviews & investigates incidents | | |

The recruitment approach for both interviews and focus group interviews ensured that the research team had only the names and contact information provided by participants and that health employers would not know who volunteered to participate. Each participant received a consent form by email in advance (Appendix B3) and signed a paper consent form at the beginning of the interview or focus group interview. Participants' contact information and arrangements for the interviews were kept confidential in a password-protected file on a secure computer server. As individuals confirmed participation, they were assigned a code comprised of a unique number, a *C, R or T* (community, rural, or tertiary) and *IV* or *FG,* (interview or focus group interview).

The data collection activities resulted in 83 hours of recorded data – 58 interviews with frontline emergency workers, 25 focus group interviews (group and individual), representing the contribution and perspectives of 136 participants.

### 3.2.6 Data extraction, analysis and synthesis

Interview and focus group interview audio recordings were labelled with unique identifiers uploaded to a secure computer server and professionally transcribed. Participant characteristics information was collected verbally at the beginning of each interview and entered into NVivo© during transcript coding. Focus group interview participant information was collected on short written forms at the beginning of focus group interviews and manually entered into a password-protected Microsoft Excel© workbook.

As they were received, transcripts were imported into NVivo© qualitative data software for coding while further data collection continued. Due to the volume of transcripts and the overlap of analysis with data collection activities, the two researchers (SP and MN) conducted the data collection, and a third researcher (AV) initiated transcript coding. To audit coding

accuracy, 10% of the transcripts were independently coded by two researchers with frequent consistency checks.

The CMOCs from the realist review provided the initial coding framework with text from the transcripts coded to one of the 11 realist review CMOCs: Additional codes or potential new CMOCs were created when text did not fit existing CMOCs (Dalkin & Forster, 2015). Similar to the coding process used for the review, coding focused on whole explanations without separately identifying contexts, mechanisms, and outcomes (Dalkin & Forster, 2015). Identifying complete CMOCs in the evaluation data was aided by the ability to probe for details and gain clarity about the contexts, mechanisms, and outcomes.

As realist data analysis seeks to find evidence to support, refute or contradict the initial program theory CMOCs and identify new ones, the coding framework evolved as new evidence was identified. Four research team members (MM, SP, MN, and AV) met every two weeks to review coding status, discuss patterns of explanations, and achieve consensus on revisions to the coding framework. Team thoughts, ideas, and decisions from the meetings were documented in memos and meeting notes. The discussions also generated a list of contexts and outcomes with unclear mechanisms, which the researchers refined in the remaining interviews and focus group interviews.

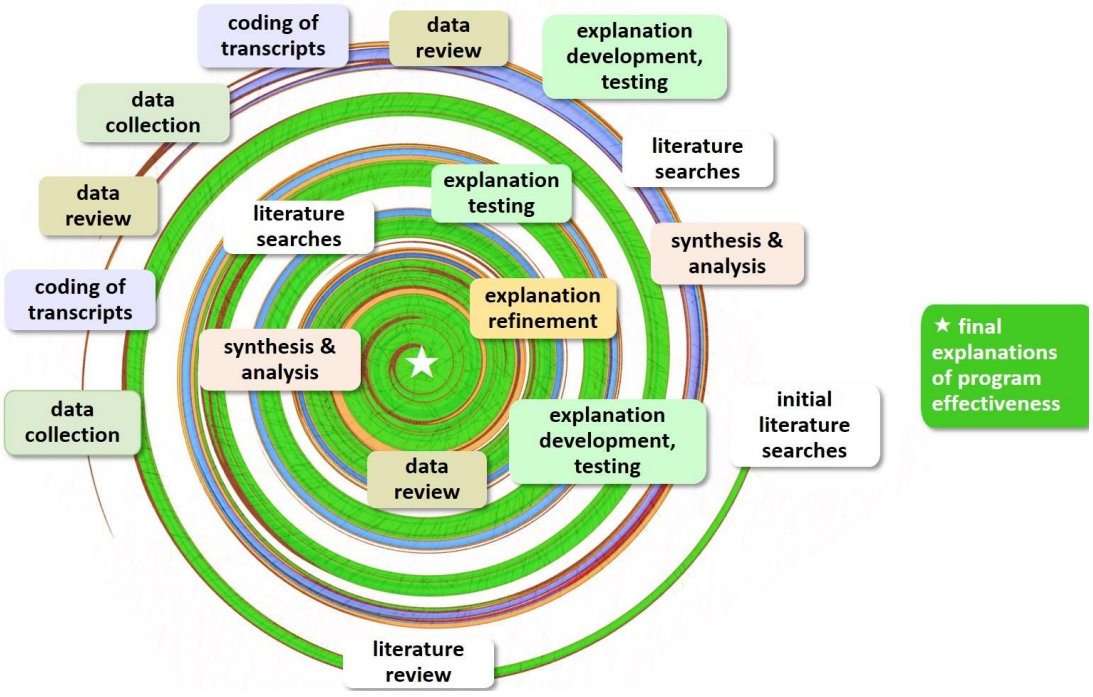
### 3.2.7 Data analysis and synthesis

After coding approximately 50 transcripts, the number of new ideas in the data reached theoretical saturation (Pawson et al., 2004). As data was synthesized, a clear pattern of potential CMO explanations emerged within the coding framework. The focus of the biweekly research team meeting shifted from data organization and analysis to CMO explanation synthesis and refinement. The cyclical process – which the team referred to as *being in the weeds* then taking

*an eagle's eye view* – involved iteratively testing data text segments against the CMO explanations and then comparing and contrasting across the data and across the CMO explanations to ensure the best fit between data and explanations (Figure 11).

**Figure 11**

*Iterative process of a realist evaluation*




The team exported 35 potential CMO explanations and 3100 pieces of text coded from NVivo© to a Microsoft Excel© workbook. A separate tab was created for each CMO explanation with separate columns for the contexts, mechanisms, outcomes, supporting text segments, and supporting substantive theories. Further refinement of CMO explanations into a refined program theory involved additional literature searches for human behavioural (substantive) theories that supported or refuted the proposed generative mechanisms.

Through cycles of review and testing against the data, the initial 35 CMO explanations were refined and consolidated to 15 CMO explanations that emerged as having the greatest ability to address the research questions. Three researchers with different disciplinary backgrounds (SP, MN, and AV) involved in data collection, coding, analysis, and synthesis, independently listed the CMO explanations they felt most represented evidence in the data – their lists were close to identical. Finally, to ensure no relevant evidence or CMO explanations had been lost or ignored, all 3100 pieces of coded data were reviewed again by SP and compared against the final explanations.

### 3.3 Summary

The evaluation of the BC VP education for healthcare workers was conducted to meet a stakeholder need for evidence to inform program decisions. This chapter has described the environment surrounding the evaluation, the design, and methods used for data collection, as well as the data analysis and synthesis processes. The evaluation findings and discussion are the focus of Chapters 4 and 5.

# Chapter 4: Evaluation Results

The results of the realist evaluation are presented in three sections. The first section provides information about the research participants. The second section introduces and illustrates the 15 CMO explanations of the refined program theory. The final section contrasts each of the 15 CMO explanations with the corresponding review finding and provides exemplars of evidence from the interview and focus group interview data.

## 4.1 Description of participants

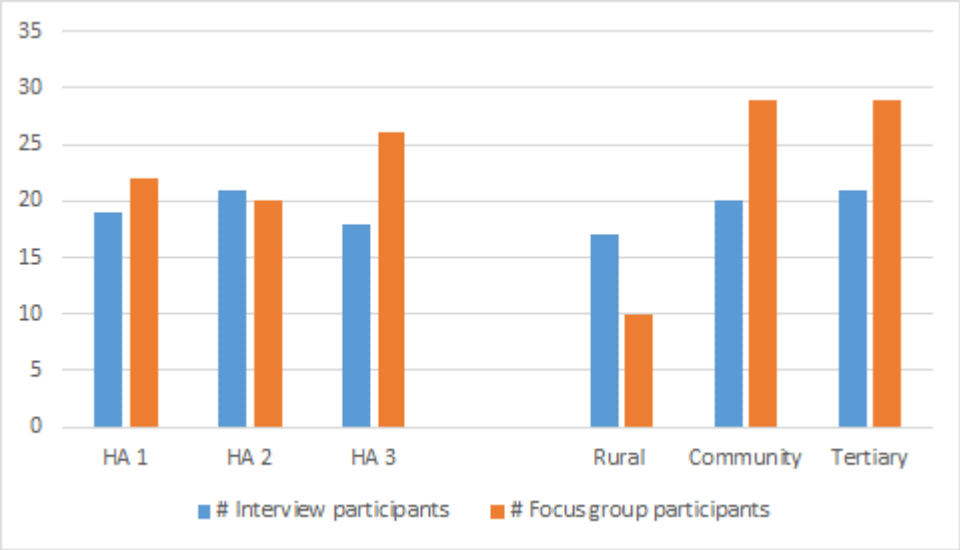
In a realist evaluation, descriptions of participants provide information about who took part in the research and their contribution to the data used to refine the program theory (Wong et al., 2016). The following sections provide transparency of participation in the interviews and focus group interviews by health authority, site size (rural, community, urban tertiary), and exposure to type II violence and the VP education being evaluated. Greater attention is given to interview participant characteristics given the importance of their first-person perspective in understanding how VP education knowledge and skills are learned and applied.

### 4.1.1 Participation by health authority and type of site

A total of 136 individuals volunteered to participate in the evaluation: 58 frontline workers were interviewed; and 68 leaders, VP educators, or JOHSC committee members participated in one of 25 focus group interviews. Participation across the three health authorities (HA) and the tertiary and community research sites was fairly equitable, with slightly fewer participants in the smaller rural sites due to their smaller size, with fewer employees (Figure 12).

**Figure 12**

*Participation by health authority and size of site*

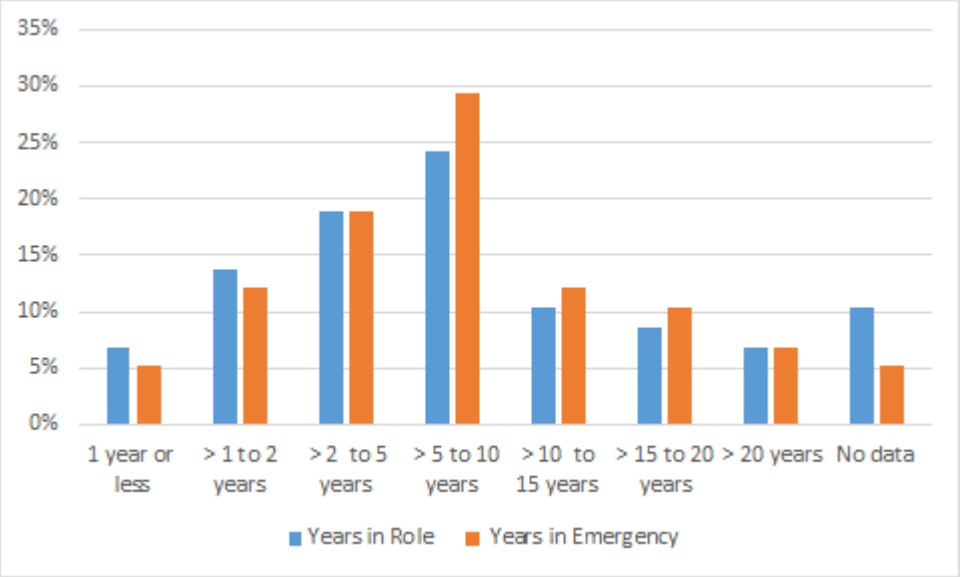



### 4.1.2 Interview participants characteristics

Inclusion criteria for the interviews included experience or exposure to violence in an emergency department while interacting with patients related to care. The majority of interview participants were Registered Nurses (RNs) or Licenced Practical Nurses (LPNs) (44; 76%). Other participant roles included frontline leaders or unit-based educators (6; 10%), para-medicals such as social workers (5; 9%), and clerical staff such as admitting or unit clerks (3; 5%). While years of experience in a role or profession followed a normal distribution, a higher number of interview participants had worked in an emergency department for only 1-2 years. This may be due to the requirement for emergency nurses to have previous acute care nursing experience and additional specialty education (Figure 13).

**Figure 13**

*Interview participant years of experience*



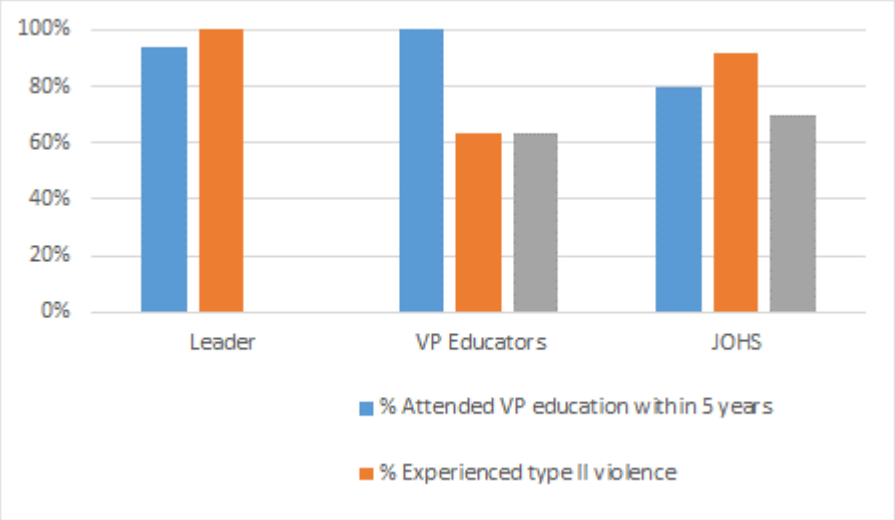

Interview recruitment focused on individuals who had attended the VP education, preferably within the last five years after the curriculum was revised. Ninety percent of interview participants had attended the new curriculum (past five years), nine percent had participated prior to the new curriculum, and one person could not recall the exact year of their education.

### 4.1.3 Focus group interview participants characteristics

Focus group interview participant characteristic information was collected to provide more context about their perspective. Participants were asked if they had experienced or been exposed to type II violence, if they had attended the VP education, and length of time in their roles. This information provided the research team with a general sense of focus group interview participants' first-hand knowledge and exposure to type II violence when analyzing focus group interview data (Figure 14).

**Figure 14**

*Focus group interview participant characteristics*




## 4.2 Overview of Main findings

The literature review identified an initial program theory of configurations of contexts, mechanisms, and outcomes for testing and refining in the evaluation into explanations of how, why, and for whom violence prevention education is effective in contexts similar to those of the BC research sites. The evaluation supported and refined the 11 configurations identified in the literature review and contributed an additional four explanations, resulting in a refined program theory of 15 explanations (Table 19). In addition to increasing the number of explanations, the evaluation findings provided more specificity of the causal mechanisms and clarity of the relationship between explanations.

**Table 19**

*Refined program theory COM explanations*[4]

| | Context | Outcome (Proximal) | Mechanism |
|---|---|---|---|
| 1. | Applicable content (C1) and credible trainers (C2) | Engagement in learning | Valued as relevant |
| 2. | Stories (C1), discussion (C2), and practice (C3) | Retention (O1) and application (O2) of VP education content | Connect with content |
| 3. | Clinical content in VP education | Application of VP education | Self-efficacy |
| 4. | Education focusing on prevention | Decreases risk of violence and injury | General awareness (M1) Situational awareness (M2) |
| 5. | Teams on the same page about VP | Application of VP skills | Confidence in team members' actions |
| 6. | Time (C1) and space (C2) to interact with patients | Decreases risk of violence (O1) and injury (O2) | Situational awareness |
| 7. | New content in refresher education (C1) and regular team discussions (C2) | Application of VP education (O1) and decrease violence normalization (O2) | Sustained awareness |
| 8. | Workplace mentoring and role modelling of VP | Use of VP knowledge and skills | Self-efficacy |
| 9. | Excessive job demands | Decreases capacity to self-regulate emotions (O1) and self-manage behaviours (O2) | Feeling stressed |
| 10. | Workplaces supporting physical safety | Application of VP education | Feel less physically vulnerable |
| 11. | Psychologically safe workplace cultures | Application of VP skills | Feel safe from judgement |
| 12. | Cohesive teams | Feel physically safer (O1) and application of VP education (O2) | Trust in physical team support during violence |
| 13. | Individuals receiving blame-free support after violence | Feel less alone (O1) and process incidents more objectively (O2) | Feel validated |
| 14. | Team debriefing after violent incidents | Decreases violence normalization | Experiences are validated |
| 15. | User-friendly violence reporting processes (C1) and follow-up (C2) | Increases reporting | Judged worthwhile |

[4] All 11 explanations from the initial program theory were refined, with four new COM explanations (2, 3, 7, 14). In Table 19 new COM explanations identified through the evaluation are shaded in grey.

Although in the review both proximal outcomes (e.g., VP knowledge and skill use) and distal outcomes (project objectives; e.g., prevention of violence) were evident in the data and reported in the findings, participants focused on proximal outcomes and providing limited data related to the review's distal outcomes. Consequently, the evaluation findings and the comparison between the review and evaluation findings in sections 4.3 to 4.5 focus only on proximal outcomes.

Upon the advice of an experienced realist researcher, the final program theory explanations and the contrasting review configurations are written as *context-outcome-mechanism (COM)* to follow more closely how participants structured their answers and to facilitate a more intuitive knowledge translation for stakeholders.

While the initial program theory was structured chronologically, the evaluation identified the relationship between explanations as interdependent and less linear, resulting in a refined program theory with three domains: *formal education*: *learning and applying in the workplace*; and *support, reporting, and follow-up*. Within the following three sections aligned with the domains each evaluation COM explanation is presented, contrasted with the initial program theory COMC from the realist review, and supported by exemplar participant quotes[5] from the data.

### 4.3 Formal education

There are four COM explanations associated with the formal VP education program.

[5] Grammar and the wording of participant quotes are original with minor edits (e.g., "ums" removed). A unique transcript number and set of letters identify the source of each exemplar; *IV* for an individual interview or *FG* for a focus group interview and *C*, *R* or *T* representing a community, rural, or urban tertiary hospital site.

### 4.3.1 COM explanation 1. Credible trainers and applicable content

**Table 20**

*COM Explanation 1. Credible trainers and applicable content*

| Review initial program theory COMC | Evaluation refined program theory explanation |
|---|---|
| #1 Education specific to clinical settings (C1) and credible trainers (C2) increases learning and engagement (O) as content is perceived as valuable (M) | 1. Applicable content (C1) and credible trainers (C2) increases engagement in learning (O) as the content is valued as relevant (M) |

Evidence from the evaluation supported the initial COM with refinements to each component (i.e., C1, C2, M, proximal O) (Table 20). The review context (review C1) *education specific to clinical settings* was refined in the evaluation to *applicable content* (evaluation C1). As one interviewee explained: "I think it needs to be applicable to where you work, and I know that this was a province-wide initiative for people working in all areas. But if you go into any education…examples are not at all what you see in your day-to-day…they…lose you" (IV_C_2).

The mechanism from the review was made more specific in the evaluation refining *content is valued* (review M), to *content is valued as relevant* (evaluation M) to their work and work setting. As one participant described:

> 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…create all sorts of idealized situations, perfect world environments. 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)

The initial proximal outcome, *increased learning and engagement* (review O), was refined in the evaluation to *engagement in learning* (evaluation O). The evaluation was able to be more specific about the importance of engagement as an early, necessary step in the learning process (Jarvis, Holford, & Griffin, 2013, p. 163).

> I believe people's attentiveness and awareness when they're there and how much they want to be there and want to learn and want to help the situation and decrease the amount of violence that they're exposed to in the department. So I guess the willingness for the person to be at that education is how much it's going to apply. Whether they feel it's important or it applies to them. So their willingness or what they've learned or happened – what's happened to them in the past is how much they're going to be attentive and listening to – in that education session. (IV_R_81)

The evaluation also identified that participants are more likely to engage in the education and be open to listen, pay attention to the content and actively participate when trainers are perceived as *credible* (evaluation C2). Credibility infers that someone is able to be believed (Stevenson, 2010), which some participants described as expertise with type II violence and/or knowledge of the clinical area (i.e., emergency department):

> It's also the person who is facilitating. I think if their background and areas where they've practiced is applicable…if they have worked in these higher violent areas. If it's someone…"I've read it in a book, or I've heard that in the emergency department this might happen," then we've lost that credibility with the instructor already…having someone who has those experiences– (is) more meaningful and translatable…I think you'd be more engaged…and actually actively listening and participating as opposed to just checking out. So the facilitator credibility is very important. (FG_T_28)

> Their confidence and experience was engaging...This is what they deal with on a day-to-day throughout their career. As an 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...You could tell it was based on experience– that helped. (IV_R_81)

> I think that it has to be given by someone who has experience with what types of violence we deal with…if it's given by someone who you know is teaching self-defence, that's not relevant to us. I find that most helpful, when you have someone who is experienced with what we deal with. They were more able to say…you have someone very irate yelling at you at triage…this is a way to diffuse that situation. It made me feel that they were teaching me something more relevant and that I could actually apply in day-to-day work. So it gave me more confidence in the situations that we see. (IV T_25)

### 4.3.2 COM explanation 2. Stories, discussion, and practice

**Table 21**

*COM explanation 2. Stories, discussion, and practice*

| Review initial program theory COMC | Evaluation refined program theory explanation |
|---|---|
| - | 2. Stories (C1), discussion (C2) and practice (C3) increase retention and application (O) as individuals connect with content (M). |

An explanation identified in the evaluation but not in the review, describes how three contextual educational practices – using *stories* (evaluation C1), *discussion* (evaluation C2), *and practice* (evaluation C3) – increases the likelihood that participants will *retain* (evaluation O1) *and apply* (evaluation O2) *VP education content* (Table 21). When participants hear stories about actual incidents of violence and have the opportunity for discussion and practice they establish meaningful *connections* (evaluation M) between new perspectives and knowledge, their past experiences and imagined future experiences (McDrury & Alterio, 2003). Participants identified that *stories* (evaluation C1) – individuals sharing accounts of actual events – were more impactful than scenarios developed for teaching: "When you're sharing the stories about what that was like and how that felt, you are connected much more" (FG_T_28). As one participant described, the *stories of actual events* (evaluation C1) created both a cognitive and emotional *connection* (evaluation M):

> 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. (IV_T_27)

Participants also stressed the importance of interactive methods of curriculum delivery with many sharing that they did not remember content from online modules or even if they had

completed them. When participants have the opportunity for in-person *discussion* (evaluation C2), they could ask questions to gain deeper understanding and *connect* (evaluation M) to the content from within their own experiences (Davis, 2013) and frame of reference:

> Asking have you seen violence…experienced violence in the workplace, and…then giving people and the trainer time 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. (IV_R_45)

> I think it's more that real-world practice as opposed to that abstract stuff. And then you get practice. If I walked in and I found that patient pacing and muttering, would I say anything? How would I say it? And then you can build off real-world scenarios and you can practice. Because you can't practice talking to a computer screen. And practicing that kind of stuff and sharing experiences about when it hasn't worked out well. (IV_R_45)

Finally, participants are more likely to *remember the education* (evaluation O) when there is the opportunity to apply the knowledge through *practice of skills* (evaluation C3). One participant described how *practice* (evaluation C3) in a training course they had taken previously resulted in long-term retention (evaluation O1) of knowledge:

> [It] was very interactive. We weren't just sitting having somebody talk at you. And that was probably one of the best courses I've learned– things stuck with me about de-escalation, just like keeping a defensive stance, not letting somebody get between me and my egress...I think that it was the fact that it was very hands-on…It was very engaging. They had little games that we played to develop teamwork and then talked about how those games could translate into practice. It was a great course, and that was probably a decade ago that I took that. And it still sticks with me. (FG_C_16)

### 4.3.3 COM explanation 3. Clinical content

**Table 22**

*COM explanation 3. Clinical content*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| - | 3. Clinical content (C) increases VP education application (O) due to increased self-efficacy (M). |

Another new explanation in the evaluation emphasizes the importance of relevant *clinical content* (evaluation C) as part of, or in conjunction with, VP education (Table 22). When healthcare workers receive *clinical content* related to VP (evaluation C) they are more likely to *apply VP education* (evaluation O) as they have increased *self-efficacy* (evaluation M) with VP skills, due to believing they possess the required relevant clinical knowledge to provide quality care. Clinical education is a component of health professionals' continuous learning requirements which contributes to competence and feelings of confidence (Benner, Hughes, & Sutphen, 2008).

> It's those actual clinical skills, what to say. What posture to have. What to say next. How to not go silent when somebody says something…Like, when somebody's heart rate goes to 20…you know you're going to go grab atropine. But if somebody starts to yell or come at you, you know that you're going to do this. You don't actually have to think about it. I think those should be approached as the same kind of clinical skill. (IV_T_24)

> Clinical education for sure…if you don't have those skills, you will not survive... 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. (IV_T_24)

Nurse participants, for example, said that in addition to content about VP skills they would like to know more about clinical conditions and a holistic approach to violence prevention and behaviour mitigation for patients with dementia, mental health and addictions, and those who have experienced homelessness or trauma.

> I think you need both pieces. Like, you need to know how to care for people with mental health crisis, with dementia. Like, how to best approach them and deescalate that verbally. I think that's important, as well as the occupational– like, how to protect yourself piece. I feel like they both go together. (IV_C_18)

> (Re: education about mental health, addictions, and dementia)
> That would definitely be useful…we're seeing a much greater component of that in the patient population. It would be good to have…how do you deal with someone who's not rational, who's not logical…who won't necessarily follow the usual paths of communication and meet your expectations of how you're communicating. [Would give] greater insight into the patient, more tolerance, more understanding…So less likely to have a situation escalate because the nurse is not understanding or doesn't have the techniques. (IV_R_71)

> It's getting worse. I mean, the mental health, the homelessness, the drugs, there's so many people that the only way they know how to survive is through violence…Maybe within the violence prevention courses, maybe there does need to be an element of education about addictions and homelessness and, you know, living with mental health and, like, maybe there needs to be a new component. (IV_C_61)

Some participants described the lack of underlying clinical information for violent behaviour related to different patient conditions in terms of the *depth* of the education and missing linkages with other training and areas of knowledge:

> I don't think we get a lot of education on working with patients with dementia and Alzheimer's for one...I think with the violence prevention, we're not actually getting deep enough into the education part of it. (IV_C_44)

> We need to relate our understanding of pathophysiology. We do our…delirium training and our psychosis training. I think our violence training is a place to consolidate…give us context on what are things that set people off…what are those behaviours that tell us when something is happening…how do you pull in that training you've had on dementia and work with that. And how do you pull in your training on substance intoxication. (IV_R_45)

### 4.3.4 COM explanation 4. Focus on prevention

**Table 23**

*COM Explanation 4. Focus on prevention*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| #2 Violence prevention versus violence management education (C) increases VP knowledge and skill use (O) due to increased self-awareness (M). | 4. Education focusing on prevention (C) decreases the risk of violence and related injury (O) due to improved general awareness (M1) and situational awareness (M2) |

Both the review and evaluation identified the importance of the education focusing on *prevention of violence* (review and evaluation C), with the evaluation refining the outcome from *increasing use of VP knowledge and skills* (review O) to *decreasing the risk of violence and related injuries* (evaluation O) (Table 23). The VP education content centers on a broad definition of violence that includes escalating verbal and nonverbal behaviour (Health Employers Association of BC, n.d.). As several participants reflected, when content on prevention is followed by equal time spent on managing physical violence, not only is the emphasis on prevention weakened, but the inference is that violence is both non-preventable and only physical:

> I think from the course work 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…there's a lot of verbal aggression, little motions and, just some body language aggression. So those things that I've learned are not helpful...Although it (education) might have (addressed verbal violence), it obviously did not resonate enough with me to change how I interact with patients. (IV_T_17)
>
> …I find part of this course was more, like, how to put people down, but not much on how to deescalate and really how to read people a bit better and stuff. Which kind of came with experience that I had in the past. I did training outside the nursing on conflict resolutions and…just assessing people. So I find part of this course was lacking that, (IV_C_21)

Instead, participants suggested to *decrease the risk of violence and injury* (evaluation O), education should focus first and foremost on knowledge and skills that communicate an

inquiring approach and management of the environment and the patient relationship. In describing how a prevention focused approach decreases risk of violence, one participant offered a diplomacy versus army metaphor to describe opposite approaches to VP:

> Eight times out of ten, if I would have just prevented…Then it would be…how to set up the room. How to have the people behind you. How to read the people, the different personalities. How can you just calm your voice and deescalate. How can you negotiate peace agreement between you and the person? Then you don't need to use (defence techniques) because they won't swing at you. I think a little bit, like, actually by talking, the diplomacy versus the army. (IV_C_2)

The COM refinement of the mechanism is particularly interesting. Where the review focused on individual's own *self-awareness* (review M), participants described the mechanism as *awareness* at two levels: *general awareness* (evaluation M1) and *situational awareness* (evaluation M2). The first describes a *general awareness* (evaluation M1) of the existence of violence and a belief that violence can be prevented (Heaton & Whitaker, 2012):

> Just awareness of this could happen. So you see a patient that maybe is already having some behaviours that may look like they are going to be aggressive and then standing a certain way, speaking to them in a certain way to help deescalate, versus going into the room, your backs turned. All of a sudden you get hit by something. Just being aware of your stance and de-escalation techniques. And then if those aren't working who to call and what to do. (IV_C_4)

> I think that a lot of these violent outbursts can just be avoided altogether with appropriate de-escalation techniques. That would…be way more beneficial… I've seen co-workers…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…people might come in, in pain or they might come in high on drugs, or…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. 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)

The second is *situational awareness* (evaluation M2) of opportunities to prevent violence through "a clear and accurate understanding of the surroundings" (Kelly, 2018, p. 12).

Originating from the field of aviation, the term situational awareness has been applied to complex and high-risk healthcare situations to describe and explain how individuals use both explicit and tacit information to intuitively assess and comprehend situations and anticipate and mitigate risk (Cohen, 2013; Gasaway, 2013; Kelly, 2018).

> I really do believe that the de-escalation techniques were something very useful I was able to take away. The looking at our environment, assessing our environment was another one and looking at what areas need to be worked on and what we already have in place and being more aware of those. How to call security better. How to use the panic buttons. When to call RCMP. How to use them in our community...I think that's mostly experience and awareness at the time. (IV_R_81)

> Just the awareness piece. Just even stepping away from danger or being more aware of things…it's just that like planting the seed...I feel like it made you become more aware…get out of an unsafe situation. (IV_C_3)

Although some participants felt knowing how to protect themselves was important, many noted there was insufficient time and practice to learn and internalize physical self-defence (e.g., release or breakaway techniques from patient grabs) skills and very few participants stated they had ever used them. Some participants also expressed concerns that teaching physical self-defence techniques in VP education may decrease healthcare worker and patient safety due to false confidence or inappropriate application:

> I remember there being a bit of self-defence. There was something that he taught us, and at the time I was, like, right on, but I don't remember that right now. It was something very quick. (IV_R_81)

> The content (should be) how to deescalate situations…how to get yourself out of physical situations should they arise. None of these if somebody grabs you like this, this is how you twist your arm, because you're not going to remember that kind of stuff. (IV_T_62)

> I've never had to do it for real. I would like to think that…everything you learned would work. But maybe it would give you false confidence. Maye you'd think, I could take this person. I could surely flip them on their back or something. And you can't. (IV_C_77)

> You don't want somebody doing a massive takedown on a little old man who's just, you know, a bit confused and causing him injury. I guess that's my fear is that if you learn all

> these self-defence moves and you're a keener and you, you know, you could have diffused it another way, could that happen. (IV_C_61)
>
> (Re: breakaway techniques) I think you have something in your arsenal, like some sort of backup. I think it gives you some confidence to continue to engage with the patient... (Q: Does it make you feel safer at all?) Probably not because that would never be a safe situation. (IV_T_25)

This COM explains how a singular *focus in VP education on preventing violence* (evaluation C) instead of a shared focus with managing physical violence *decreases risk of violence and injuries* (evaluation O) due to increasing participants' *general* (evaluation M1) and *situational awareness* (evaluation M2). Suggestions for additional beneficial injury prevention content included how to assess and determine when to retreat and when to call for assistance, as well as clarification of roles when assistance arrives (e.g., in-house response team, security, RCMP, or police):

> I work in the trauma room as well and…when you do get a warning that a trauma's coming in, we form the team and we form the roles before the actual situation arises. So if at all possible before, you know, placing a patient or needing to contain a patient you have that time to assign roles, I think it…works in the trauma room. I don't see why it wouldn't work in that situation. (IV_C_10)

## 4.4 Learning and applying in the workplace

This second domain includes COM findings 6-11 that describe how particular, contextual workplace factors support the continued learning and application of VP knowledge and skills.

### 4.4.1 COM explanation 5. Teams on the same page (shared mental model)

**Table 24**

*COM explanation 5. Teams on the same page (shared mental model)*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| #3 Team-based education (C1) and team-based discussions and decision-making (C2) increases collective/team VP knowledge & skills use (O) due to shared understanding (M). | 5. Teams on the same page (shared mental model) about VP (C) apply violence prevention skills (O) due to confidence in team members' actions (M). |

For this COM, the evaluation refined the contextual factors, outcomes, and the mechanism (Table 24). The review focused on contexts associated with effective teams, such as *team-based education* (review C1), and *discussions and decision-making* (review C2). While participants supported learning as a team and discussions, they identified the most important contextual factor as how effective teams *perform* together after the education by being *on the same page* (evaluation C) about VP. The frequently used term *on the same page* describes how a shared mental model leads to a shared understanding of situations, plans, and procedures for care, and team roles and tasks (Weller, Boyd, & Cumin, 2014).

The review outcomes referred to a general *use of VP knowledge and skills* (review O), whereas participants in the evaluation focused on practical application of the education giving concrete examples of *applications of VP skills* within their work environments (evaluation O).

> 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…you both have the same training, you've kind of done…the whole thing together. It's easier to be, okay, you remember how we did this? Let's do it together… 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)

> If we all have a same approach and a same experience and an algorithm in their head of what– this is going to happen. Because then when you're working with different colleagues – everybody is on the same page. And there's not, like, this nurse does it this way, the other nurse does it this other way. (IV_T_21)

Consequently, where the review mechanism was identified as a *shared understanding* (review M), participants revised the mechanism to *confidence* (evaluation M) *in team members' actions* that enable *use of VP skills* (evaluation O). When an individual knows that everyone on their team has a shared understanding of the approach, tasks, and goals they have more "confidence in the collective ability of their team to accomplish their tasks successfully" and are

more likely to take contributing actions such as using VP skills (Aubé, Rousseau, & Tremblay, 2015, p. 470).

> Every situation is different. You can't play out how anything is going to go. I mean, you can have a violent situation and– with a 90-year-old person in their bedside. I mean, we can only do the best that we can, and as the situations come, then you deal with it more. I don't think that that's fully in our control. I think that you do what you can to provide a safe place. But you don't know how things are going to go or how someone's going to behave. And so that's out of our control. But if you can be the best that you can be as a department, it takes the threshold down a little bit for you to be able to handle a situation in a safer manner. (IV_C_48)

> I always like to have confidence that when I go into a situation everybody around me has had the same experience….I usually feel pretty confident that they've all had the same training that I've had now. So…someone's escalating and yelling and screaming I'm going to step out of the room and call for help and have a presence around me. And if people around me know that then of course no one's going to be, like, what's this guy doing? When we work with violent patients it's so different than working with a critical care patient, where a critical care patient you rush to their bed. You provide support, medical treatment, care through hands-on. But with violent patients it's just the complete opposite. Sort of not running into a burning building. You're taking a step back and calling for the firefighters. It's that ability to realize that I'm going to step back and take a look at the situation and let it diffuse. And if everybody around me is on the same page, then they know this is like a shared mental model of how to deal with a crisis rather than this person has decided to walk away from their patient who's in a crisis right now. But that is actually the right thing to do and everybody around you knows then you feel, oh, we're all thinking the same thing. We all know it's a good time to step back, assess the situation, and then approach them as a team. (IV_C_6)

In discussing the importance of *being confident in other team members' actions* (evaluation M) when the *team is on the same page* (evaluation C), numerous participants used a broad definition of team to include non-caregiving staff members who work in the department such as housekeeping, clerical, security, porters, medical, and maintenance staff:

> 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 the whole team needs to see themselves as part of the response and everybody has a role… it needs to be a team effort, and everybody needs to play a role in interrupting

> violence if they see it happen and supporting their teammates to be safe. If someone's at risk, everybody should have the training and see each other as part of keeping everybody – patients and staff safe. (IV_R_45)
>
> I think every person that works in a hospital should have the education. Because it could be a housekeeper walking down a hallway that comes into violence. I really think everybody needs to be educated, and everybody needs to be on the same page. It needs to be a team approach. It's not different for me as a nurse as it is different for the doctor working over there. We're all in the same environment and in very close quarters. I think we all need to have – be on the same page and have the same game plan of how to deal with the situation. (IV_C_48)

### 4.4.2 COM explanation 6. Time and space to interact with patients

**Table 25**

*COM explanation 6. Time and space to interact with patients*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| #5 Workload management (C) increases use of VP knowledge and skills (O) as individuals have the time (M). | 6. Time (C1) and space (C2) to interact with patients decreases the risk of violence (O1) and injury (O2) through situational awareness (M). |

In the review COMC, problems with heavy workloads and workload management were contextual elements influencing VP education learning and application. Participants deconstructed *workload* (review C) to identify *time* (evaluation C1) and *space* (evaluation C2) as the critical contextual factors influencing their capacity to interact with patients (Table 25). More specifically, participants delineated many facets of *time* (evaluation C1) such as to develop therapeutic relationships with patients, to understand and address their needs, to identify risk, and to use VP skills such as de-escalation. As two participants describe:

> A lot of the times you're just so busy with all these patients you can't focus on something that potentially could escalate into violence. But you're so busy. It happens all the time where you have four patients and let's say a psych patient who's irritable and they want your attention. And you have to deal with this person who is almost having heart attack or something. You don't mean to diminish their needs, but that's an escalating problem where you just don't have the time. Maybe that person just needs someone to sit and talk to them and explain what's going on. But you're dealing with a really sick acute person and we know that could lead to violence, but it's just that you don't have the time to prevent it at that point. At that moment they're actually not as sick as the person that

> you're helping. Even though you know that this could escalate into something, but you can't be in two places at once (IV_C_3)
>
> On a day that's more quiet and I've got less patients…less acute patients, I'm more emotionally available to discuss things with a patient. So I think in terms of being able to deescalate situations, like, is directly related to the environment. If I have more time and availability to give myself to my patients… So I think the environment that we're in, like whether or not it's a busy day, can definitely directly affect how you respond to a situation. (IV_C_10)

Participants also described the lack of quiet and private *space* (evaluation C2) in the emergency department as contributing to their inability to properly engage with patients and observe and de-escalate behaviour:

> Workload, space, time is very important…I can have the knowledge from being educated – the theory about what are the triggers, what to look for and all that stuff. 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. (FG_C_15)
>
> We don't have the time or the space in the emergency room to deescalate in the way that they want us to. (IV_T_53)
>
> A better unit where people who may need to be restrained or in seclusion, a better space with better care. Even with a lot of our population who are just hard to deal with…our department is so congested and so small and there's no room to put people. A patient could present to triage already with behavioural issues, and then they're brought in the department and placed in a chair next to all these other people, because there is nowhere else to put them. So I think that there's always that element of scariness because of lack of space. (IV_C_48)

The review outcome focused on *use of VP knowledge and skills* (review O), however, participants explained how more *time* (evaluation C1) and *space* (evaluation C2) to interact with patients could actually lead to *decreased risk of violence* (evaluation O1) *and injury* (evaluation O2). The mechanism of *time* (review M) identified in the review, was refined in the evaluation as a context influencing the mechanism of *situational awareness* (evaluation M). As introduced in evaluation COM explanation four (page 106), *situational awareness* (evaluation M)

encompasses the ability to be aware of the surrounding environment, comprehend situations, anticipate risks and act based on critical thinking (Cohen, 2013). A lack of time and adequate space to carry out work activities increases complexity of the environment impeding an individual's ability to maintain situational awareness increasing risk for violence and injury. As one participant describes the precursors to an incident of violence:

> 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… 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)

### 4.4.3 COM explanation 7. New content and discussions

**Table 26**

*COM explanation 7. New content and discussions*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| - | 7. New content in refresher education (C1) and regular team discussions about violence (C2) increase the use of VP skills (O1) and decrease violence normalization (O2) through sustained awareness (M). |

While the review identified the importance of the team context for learning (#3 COMC) and formal education content being specific to clinical settings (#1 COMC), the evaluation offered a new COM explanation about when and how two subsequent team-based activities are meaningful to healthcare workers to support the *use of VP skills* (evaluation O1) through *sustaining awareness* (evaluation M) (Table 26). First, many participants identified that *refresher education* (evaluation C1) provided a reminder of what they had learned in the formal education:

> I think that as a reminder-- because sometimes you casually will go up to a patient and then you might be too close to the bed for what you need. And then you find out that

> they're going to grab you…just being aware of that. So I think learning that and just being aware helps in my role. (IV_C_77)

> Reminders not to be complacent. And refreshing about what is best practice, I suppose, especially with notifications forms. Anything that might have changed with what you may have done a year ago. (IV_R_54)

To be effective, participants stated that refresher education must add new knowledge beyond the content of the formal education. As one individual stated, "I want someone who's going to teach me something I don't know" (IV_C_61). A second participant described their reaction to refresher training that only repeated information from the formal curriculum: "Here's another refresher. I have to do it. I'm here. Sign on the line. And you walk out no further ahead than you were when you walked in" (IV_C_70). Most participants were nurses who receive ongoing clinical education regarding new procedures or equipment, and many participants explained including *new content in VP refresher education* (evaluation C1) as following the same format:

> I'm a bit bored with the same thing over and over again…what's an example, like, a new med. We learn about a new med and this is how it works, this is what it's for. That's cool. That's interesting. This is what, like, engages us. (IV_T_26)

> That idea of keeping the awareness definitely fits with how I've synthesized other learning…keeping the awareness –whenever I've had education that is more spread out, it gives you a chance to come back after a couple of weeks or even a month to say-- to sort of refresh, be reminded of what you were learning. And also it keeps that awareness in your mind to notice those things in your day-to-day and then bring them back and discuss them and learn from others bringing back. (IV_R_40)

A second workplace context that supports *use of VP knowledge and skills* (evaluation O1) involves frequent *team discussions about violence* (evaluation C2). Participants provided examples of formal discussions (e.g., specific agendas in staff meetings or in-services); or informal discussions (e.g., short stand-up meetings, known as huddles):

> I think because there's those frequent informal huddles, checking in, all the posters on the walls, it is in your face, and you are aware of it. (IV_T_25)

> Those little huddles – the awareness. Or even just like an area where we could write, "this is what happened to me" and then we could discuss it, what to do. Or sometimes awareness posters too. (IV_C_3)

Additionally, *sustained awareness* of the potential for violence (evaluation M) through *refresher education* (evaluation C1) and *team discussions* (evaluation C2) *decreases violence normalization* (evaluation O2) by demonstrating it is worth discussion and continued education. As several participants describe:

> There's just so much as a nurse…you have to be aware of. You forget things that don't happen to you. So maybe even just like a little huddle…creating space for people to say things that have happened …then people can feed off each other and someone might not want to speak up unless somebody else does… sometimes unless it's probed you won't really say anything because it's so normalized. A little huddle brings people together and say what are your concerns, have you experienced any violence lately. How can we help support you and how can we create change so this doesn't happen again. (IV_C_3)

> I just think we can do better, and I think that the education piece is going to play a big role of being more frequent with this education, because it is that important. That we have normalized violence in the workplace, and that's not okay. We have a lot more to do. (IV_C_48)

> I think it makes you aware that it's not normal to have violence in the workplace. And that it's something that you need to know how to deal with, but then also be able to talk about after. (IV_T_25)

### 4.4.4 COM explanation 8. Mentoring and role modelling

**Table 27**

*COM explanation 8. Workplace mentoring and role modelling*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| #4 Local mentorship and role modelling of VP (C) increases VP knowledge and skill use (O) as confidence is increased (M), | 8. Workplace mentoring and role modelling of VP (C) increases the use of VP knowledge and skills (O) as self-efficacy is increased (M) |

The context for the evaluation COM was slightly modified from the review context. Based on participants' words, the review *local mentorship and role modelling of VP* (review C), was changed to the evaluation *workplace mentoring and role modelling of VP* (evaluation C) (Table 27) to include support from individuals such as VP instructors. Many participants described how the majority of VP learning occurs in the workplace through mentoring and role modelling by experienced healthcare providers:

> I feel like how I learned is through working with other people and them kind of mentoring you – or somebody that could be, like, this person that works on the ward, they're the violence education champion. You can go to them. You could say, like, hey, this is the situation that I had last week, and this is kind of how it went down. What do you think I should do next time? Or do you have any advice for me? Just give…some skills and some techniques and some ideas to try next time. (IV_C_18)

> 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 (while) the course training is still fresh…And having that instructor come back and touch base with them. (IV_C_70)

> I try to take a lot from the nurses that I think are strong. And I like their style of nursing. I do tend to learn things from people that I find…to be a little bit aggressive and rude…or have other things that I don't necessarily find positive qualities. So I learned from them what not to do. So I learn from everybody that I work with, something. It's very informal, you tend to learn, I find, in our department by see one, do one, teach one. If you see how someone's interacting with a patient you see that person escalating, you see that nurse escalating, you're watching that. What can I learn from that situation to not do should this situation arise again? And it will. It's like Groundhog Day working at emergency. (IV_T_62)

The mechanism by which mentoring and role-modelling supports knowledge-to-practice fits with the theoretical concept of *self-efficacy* (evaluation M). Bandura (1982) defined self-efficacy as "judgments of how well one can execute courses of action required to deal with prospective situations" (p. 122). Participants inferred an increase in *self-efficacy* (evaluation M)

via *mentoring and role modelling* (evaluation C) by describing how these contextual factors enhanced their knowledge base and helped them feel less intimidated:

> I think in terms of violence and in terms of managing yourself in the situation, I look to see what other nurses are doing, what are they saying to those patients, that kind of thing. And if I think it's a technique I think that could be effective I'll try and pick it up. And I think that's where it came back to when I said, like, my confidence was building and reminding people that their behaviour is not okay. When I first started in the emergency I didn't do that. And so…definitely over the last year that's changed where I feel okay to tell people it's not okay to treat me rudely. So maybe that's part of the violence education as well is building our nurses up so that they feel confident to handle themselves in those situations. Because maybe it's also a confidence issue as well. (IV_C_66)

> Watching other people for sure, who negotiate it well. Practicing, absolutely practicing, like, in safer environments. When I see somebody doing a good job of that, I always try and acknowledge that they've done a great job. Like, really good job deescalating that person, or the way you handled that situation was awesome and amazing, or you just sometimes stand around and watch somebody do that. And you're, like, ooh, I'm going to put that one in my memory bank for later 'cause that actually worked, and it's not something that I would have thought of saying before. (IV_T_24)

> I think every hospital should also have a go-to person for violence...It's a go-to person. If you have a problem with violence, then this is the person you go to right away. And alert this person and this person will be the one who is going to maybe organize. But I don't know. Maybe everyone being trained in violence. I would be more knowledgeable and feel safer and I don't know, maybe less intimidated with violent people. (IV_R_67)

### 4.4.5 COM explanation 9. Stress from excessive job demands

**Table 28**

*COM explanation 9. Stress from excessive job demands*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| #6 Sufficient physical/psychological energy (C) increases use of VP knowledge and skills (O) due to emotional self-regulation (M). | 9. Excessive job demands (C) decreases capacity to self-regulate emotions (O1) and to self-manage behaviours (O2) due to feeling stressed (M1). |

The review COMC emphasized the importance of having *sufficient physical and emotional energy* (review C) to *emotionally self-regulate* (review M), resulting in *increased use of VP knowledge and skills* (review O) (Table 28). Evaluation participants focused on the

'negatives' associated with *workplace stress* (evaluation M) activated by *excessive job demands* (evaluation C). These contextual factors influenced participants' capacity to *regulate their own emotions* (evaluation O1) and their *capacity to self-manage their behaviours* (evaluation O2), such as communication styles and responses with patients. As one participant summarized:

> 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)

Participants described how *inability to self-manage* (evaluation O2) was associated with physical and emotional stress (evaluation M) due to *job demands* (evaluation C). Participants described several job demands, such as too many patients, lack of material and human resource supports, overcapacity in number of patients, and dealing with violence:

> 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 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…not the environment nor time to do our job properly. (IV_T_55)

> Maybe it's our fault that when you have so many people and you're explaining that so many times and you're still trying to hang bags and give morphine and you're just…run off your feet. If you're at all getting tired in any way, you haven't had a break. Low sugar, anything like that. It's definitely more difficult. I know for myself I have awareness. I'll tell my colleagues I need to go take a five-minute walk. Even if we can't get a break today, just need to get a walk so I can get a juice or something and get my sugar level up…when you have so much volume that you're dealing with, trying to explain that and do these tasks and answering the phone calls it's– you're trying to do all these tasks and it's just very hard for that amount of people. (IV_C_4)

> Sometimes when it's you getting aggressed on, like, your own personal emotions naturally just bubble up to the surface and it's hard to stay calm. And so by having support from a team it maybe prevent you from escalating as well. (IV_C_1)
>
> I think what we have a tendency to do is when we're feeling anxious, aggravated, upset, or whatever else it is, you just continue to carry it around for the day. And you really can't. It's so distracting. It can be a fuel to a fire that's already existing for somebody else. So it's just so important to recognize that. (IV_R_56)

### 4.4.6 COM explanation 10. Workplaces supporting physical safety

**Table 29**

*COM explanation 10. Workplaces supporting physical safety*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| #6 Clear supported policies (C) increase use of VP knowledge and skills (O) as individuals feel empowered (M). | 10. When workplaces support physical safety (C), individuals apply VP education (O) as they feel less physically vulnerable (M). |

While the review COMC identified *policies* (review C) as the contextual factor *empowering* individuals (review M) to consistently apply *VP knowledge and skills* (review O), the evaluation evidence supported a more holistic and broader description of workplace contexts that support physical safety and decrease *physical vulnerability* (evaluation M) – extending far beyond but still including – violence-related policies (Table 29). Participants described how they felt *less vulnerable physically* (evaluation M) when a work unit's physical layout included safety features, such as lockable areas for egress, sightlines to others, no blind corners, ready access to help, available alarms, presence of security, physical barriers, and controlled access. *When workplaces support physical safety* (evaluation C), participants *feel less physically vulnerable* (evaluation M), enabling them to *apply their VP knowledge and skills* (evaluation O). As one participant described, feeling unsafe – vulnerable to physical violence (evaluation M) – affects a healthcare worker's ability to *apply VP skills* (evaluation O) and deliver quality care:

> 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)

> 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 (and) 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)

> (Re: controlled access to emergency) I worked (in another country) and they have a fabulous thing. You can't just get in. There are rules. I think it would just make it a very– a safer environment. It's a more controlled environment. 'Cause a lot of those things are not in our control. So that takes the onus a little bit off of us, we can do our job better without – some people work in fear. (IV_T_26)

In addition to feeling vulnerable *inside* the workplace, some participants felt physically vulnerable leaving work, and possibly encountering previously violent patients in the community. Several individuals shared that they chose not to live and work in the same community or took extra precautions regarding where they shopped or how they travelled to and from work.

> Well, we all have to go home after work. I've had notes left on my vehicle after work. I park underneath the lights. We always make sure that somebody, either security, walks us out or we're watching the other staff member get to their vehicle. You don't know where that person's going to go with it in their mind. (IV_C_44)

> If I'm out and I even slightly recognize somebody, I won't even make eye contact, and I just put my head down. I don't engage with a lot of people outside of sort of my working and my life, very small group of friends. For fear of retaliation, the way something may have been perceived one day when I was at work. (IV_T_62)

The role of violence tolerance policies in creating a *workplace that supports physical safety* (evaluation C) was addressed by participants in terms of understanding policies and being supported to enact them:

> So the policy was there to facilitate and look like on accreditation, yes, policy on violence. But the implementation of violence (policies) is not there. So then as a frontline worker you're...not supported. And why would I put myself in there? I think it has a major impact on your culture…just because some policies are not implemented. (IV_T_21)

> I feel like sometimes we let people stay in the emergency department that – like, oh, we'll – fine, whatever, just sleep in the waiting room then. And then next time we're, like, no, you can't stay here. You have to go to a shelter. Then people get mad, right, 'cause one day you're doing this. The next day you're doing-- another nurse is doing that. So we're giving people mixed messages. And then that causes confusion and anger amongst that person. (IV_C_18)

> I feel like it gives people something that they can use to support, i.e., if somebody's escalating and nothing's working, you…can just shut it down with, okay, I've done what I can do. This is our policy. You will need to leave. Or I've done what I can do, security will be coming. You can stay or you can go. But we do not accept – we do not allow or tolerate violence in this workplace, as you can see from our sign. (IV_T_24)

In contrast, several participants warned that signs informing patients and visitors of a zero-violence tolerance policy are ineffective and may contribute to violence:

> I think the signs are important and should be up everywhere…because even if we're not having the conversation, somebody's going to read that sign and then it's already in their mentality. Oh, they don't tolerate this. I think you have to be firm, but also at the same sense, like, we do not tolerate these types of behaviours. But another sign saying if you have any questions or concerns of care or what's happening, please talk to a healthcare professional. Opening a line of communication of some sort. Or a simple sign-- some people come in and get angry because they're showing up at the wrong desk and they're trying to get here and go there. And then they get all ramped up. So proper signage telling people where to go or how to get there is a simple way to not get people agitated. (IV_C_48)

> We have that big red sign in our department. Walk into any emergency department, there's a bajillion signs everywhere. And most people are not going to look at that because they're looking at their phones. So they don't care. They might see a big red sign but there's also five other signs around the big red sign. The only time they pay attention to it is if we point it out to them, because they're not behaving themselves. Sometimes it'll escalate some people. I know one nurse in particular said to someone who was not behaving themselves, I want you to turn around and read that big red sign behind you. And he was not happy he was being told to do that. (IV_C_66)

Individuals also noted a lack of support at a societal level with respect to legal consequences for assaults against healthcare workers carried. As one individual explained, a patient assaulting a police officer inside an emergency department would face charges while the same patient assaulting a healthcare worker would not:

> I think a lot of it is that we're just expected to deal with it…people think they can come in and abuse the nursing – or the medical staff. And there's no consequences. I feel like there needs to be consequences for when there's (physical) violence against nurses. I remember situations where my patient tried to punch me in the face. I ducked. Punched a cop in the face. Then they hit a nurse afterwards. They got charged for hitting the cop. There's nothing for hitting the nurse. (IV_T_53)

### 4.4.7 COM explanation 11. Psychologically safe cultures

**Table 30**

*COM explanation 11. Psychologically safe cultures*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| # 8 Blame-free cultures (C) increase VP knowledge and skills use (O) due to psychological safety (M). | 11. Workplace cultures free from judgement or blame (C) increase the use of VP knowledge and skills (O) as individuals feel psychologically safe (M). |

The evaluation supported the review COMC that individuals *use more VP knowledge and skills* (review and evaluation O) when they feel *psychologically safe* (review and evaluation M) (Table 30) feeling able to be themselves without fear of consequences to their image or status (Simonet, Narayan, & Nelson, 2014) The review context, *blame-free cultures* (review C), was

expanded by participants to *workplace cultures free from judgement or blame* (evaluation C). Participants described how a *culture free from judgment or blame* (evaluation C) is especially important within the workplace and at the level of a work unit. Within this type of workplace context, healthcare providers are comfortable asking questions and seeking assistance in potentially unsafe situations:

> 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)

Participants identified that *psychological safety* (evaluation M) is not only influenced by how leaders role-model a no-blame and shame approach after violent incidents, but how they respond after all errors, safety accidents and critical events, and the acceptance they perceive from peers:

> And when they see the support from leadership and the organization to actually have processes implemented in the areas that they work – it's like I can see evidence and feel the support of the people around me that I look up to or that lead me. And that helps me be able to put things into place. So culture. I guess it's like the safe work culture and how well that's developed in the organization makes a big difference. (FG_R_39)

> If you asked any emerg nurse they would say, like, I come back because of the staff. I come back for the staff and the staff are generally very, very supportive. And that's why. So they– it's a safe place to talk in the staff room, they can talk about it. They can– they feel supported through their peers through it. (IV_T_27)

## 4.5 Support, reporting and follow-up

The last domain includes COM explanations 12-15. This domain focuses on actions during and after violence has occurred: support during and after violence, support to report violence, and follow-up and debriefing after violent incidents.

### 4.5.1 COM explanation 12. Team support during violence

**Table 31**

*COM explanation 12. Team support during violence*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| #9 Physical support during violence (C) increases perception of safety (O1) and VP knowledge and skills use (O2) as confidence is increased (M). | 12. In cohesive teams (C), individuals feel physically safer (O1) and apply more prevention skills (O2) as they trust their team to physically support them during violence (M). |

The review COMC changed substantially in the evaluation COM explanation with participants specifying that the physical support during violence (review C) identified in the review is a component of having a *cohesive team* (evaluation C) (Table 31). A theory arising from the review and evaluation explains how the *physical presence and support from a cohesive team during violence* (review and evaluation C) allows individuals to *use violence prevention skills* (review and evaluation O) instead of directly moving to a defensive or security approach. Numerous individuals used the term *has my back* to describe how they *trusted that their team would physically support them* (evaluation M) if patient or visitor behaviour escalated to violence. Examples of supportive team behaviour include verbally checking in when voices become raised, standing behind an individual as they deal with an aggressive situation, assessing and calling for security back up in case the violence escalates, and physically or verbally intervening when a team member feels unable to act:

> 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…its 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)

> You feel supported…know they have your back. We often manage to diffuse most situations that way. I think (support) it's during and after probably. Yeah, like, if having an event – you're, like, oh wow, people have my back. They're paying attention. (IV_T_25)

> For the most part, everybody works as a team. I think they realize that if you work as a team, things go better. And if you help each other out things will be better. And if everyone works together and everyone trusts that you have their back, like, everybody's always– I think for the most part everybody's aware of what's going on in the department. If someone's acting up over here, because it is small 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

### 4.5.2 COM explanation 13. Support after violence

**Table 32**

*COM explanation 13. Support after violence*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| #10 Acknowledgement and non-blaming support after violence (C) decreases psychological injury (O) due to psychological safety (M) | 13. Individuals receiving blame-free support after violence (C) feel less alone (O1) and process incidents more objectively (O2) as they feel validated (M) |

The review COMC was based on the psychological safety literature where *non-blaming support after violence* (review C) decreases psychological injury (review O) due to *psychological safety* (review M) (Table 32). Evaluation participants substantiated the importance of *blame-free support after violence* (evaluation C), but refined the mechanism to capture *feeling validated*

(evaluation M) for having experienced violence and as being an individual worthy of being cared about:

> This has affected somebody in a profound way and that people are aware…you've gone through something and that they can follow-up with you if you need to. 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. (IV_C_6)

> It just made me feel like, oh, people at work actually care about you. And they're acknowledging this was actually, you know, a violent incident. I don't know, 'cause after that happened, I was going to just keep working 'cause I wasn't– I was knocked to the ground and roughed up a bit. But I wasn't actually super– I wasn't super injured to the point I couldn't work. I was, like, yeah, I'm going to keep working. And one of the doctors was, like, no. You're not finishing your shift. You're checking in to triage. This is crazy. (IV_C_18)

> The feedback has been, like, you've been, I mean, there's support there, right. We understand. We empathize. We support you. This isn't right what happened, but how are we going to move forward? How is your wellbeing going to move forward? And so, I think staff overall feel supported. They feel heard. (IV_T_27)
> It would just be nice if the managers would touch base with you after the incident, maybe a little bit more. It would just make you feel like, oh, they were actually listening to me, and they want to keep me safe at work. I think it would be important to me just to feel like– I think it's important for longevity of staff, that your manager feels like you're an important member of the team or whatever at work. (IV_C_18)

> I think it's important to acknowledge that those things are hard and you've had an experience that can be potentially upsetting. And whether you are or are not upset, you've just negotiated a difficult thing, and you might need a minute, and that's okay. Usually I'm, like, nah, no, I'm good. But I mean, that's not everybody. A lot of people don't feel like that, and it's important to acknowledge that something that's just happened was difficult. (IV_T_24)

> My trust in my supervisors were completely betrayed. I felt like I was traumatized on both ends of the spectrum. I was traumatized by the patients who came in. They have their own things going on. I'm a healthcare worker, I understand that part. But then if I didn't get support from my bosses and supervisors, and I was bullied by them at the same time, it didn't go for a great work environment. So it was that understanding, compassion that, look, if this is happening, we need supports. You're not supporting us and instead, you're attacking us. (FG_T_29)

The evaluation further contributed to the COM explanation outcome by unpacking the review's outcome of *psychological injury (review* O). Participants described two proximal outcomes that are successive precursors to the more distal psychological injury. The first describes individuals *feeling less alone* (evaluation O1) with the experience of violence:

> (Re: support after violence) It's especially is important if people were physically hurt. It felt awful. We just all dispersed and then you're just kind of feeling that alone and you don't know if anyone else is feeling that. So it's like, yeah, isolating. You feel like maybe you're the only one feeling that way. Versus if you do have the support afterwards you can all just talk about it – a shared experience. (IV_C_1)

> 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. It…just helps dissipate a lot of the responsibility and ownership…it wasn't just something that happened to me. It happened to 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)

Second, individuals who feel validated (evaluation M) by acknowledgement and support (evaluation C) and do not feel alone (evaluation O1) are able to *process incidents more objectively* (evaluation O2) allowing them to move on or feel the event is concluded.

> And it also made me feel like there is lots of support. There's lots of backup. And I can access that. So yeah, I think it made me feel supported. (If it hadn't happened) I would have probably just felt a little ticked off at the end of the day. I don't think I took anything really personally, but just kind of, like, oh, that was a ridiculous situation. Probably kept ranting about it for the rest of the day. So I think just in talking about it kind of concluded the situation, and I could move on for the rest of the day. I was totally fine about the situation, but it was, like, oh, if this had been something that someone had taken quite personally, then I was, like, oh, there is that follow-up. I think if they were still struggling with the situation or the situation hadn't felt concluded, I think it would have probably helped them feel like there was support out there and that they can talk about it to someone. (IV_T_25)

> (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. (IV_R_81)

### 4.5.3 COM explanation 14. Debriefing incidents

**Table 33**

*COM explanation 14. Debriefing incidents*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| - | 14. Team debriefing after violent incidents (C) decreases violence normalization (O) as experiences are validated (M). |

Combined with other follow-up actions after violence in the review (#11 COMC), the evaluation identified *debriefing incidents of violence* (evaluation C) as a context distinctly different from support after violence and follow-up after reporting (Table 33). From evidence in the evaluation, *debriefing after violent incidents* (evaluation C) foregrounds the seriousness of violence in the workplace, *validating* (evaluation M) healthcare workers' experiences with violence and *decreasing violence normalization* (evaluation O). Participants articulated that while support after violence is essential, incidents also needed to be debriefed like other healthcare events like a Code Blue (cardiac or respiratory arrest), where team members discuss the arrest event; particularly their feelings, how things went, and what could be improved. Some participants stated how *debriefing after a violent incident* (evaluation C) contributes to prevention and communicates that violence is a noteworthy event like a cardiac arrest, *validating* (evaluation M) violence as unusual and unacceptable and providing hope that violence won't be *normalized in the workplace* (evaluation O).

> 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)

> There's a little bit of a defeatist attitude sometimes. I think maybe that's a coping skill because the staff do have to deal with so much. Sometimes when we discuss situations in rounds, there's sort of an attitude of, like, oh well. Rather than looking at what could we have done differently, or this isn't okay. We can't let this happen again. It's that, oh, well, this is what happened. At this site, the staff don't gather for very long in the morning. It's very brief rounds, brief discussion…at another a similar size hospital, rounds is longer and there does seem to be more engaging discussion about situations and how we can improve for next time. Those are a couple of pieces that might not support the education being used in practice here. (IV_R_40)

> 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)

> I don't think I need to go see a counsellor after an event. But I think debriefing an event kind of helps the dust settle. And then you can kind of debrief your feelings and your objective thoughts of– your objective and subjective thoughts. (IV_R_82)

### 4.5.4 COM explanation 15. Reporting and follow-up

**Table 34**

*COM explanation 15. Reporting and follow-up*

| Review initial program theory COMC | Evaluation refined program theory COM explanation |
|---|---|
| #11 Timely follow-up after violence (C) decreases cynicism of organizational commitment (O1) and normalization of violence (O2) as reporting is perceived as valuable (M) | 15. User-friendly reporting processes (C1) and follow-up (C2) increase reporting (O) as it is judged worthwhile (M) |

While both the review and evaluation identified the importance of *follow-up* (review and evaluation C) by supervisors or managers after a violent incident, the evaluation evidence specified both *user-friendly reporting processes* (evaluation C1) and *follow-up* (evaluation C2) as contexts necessary to activate individuals to judge reporting of violence as worthwhile (evaluation M) (Table 34). Based on participants' statements, the specific contextual characteristics associated with a user-friendly reporting system included: a simple, intuitive

form with one coordinated site for reporting. Currently, healthcare workers describe navigating a complex process of reporting violence to their organization and the provincial occupational safety body. Participants also expressed how r*eporting* (evaluation O) is influenced by *follow-up* (evaluation C2) by leaders with timely communications and actions after a report is filed.

> Out of this course I was, like, okay yeah, I should report this. And so I report it and nothing gets done. And they probably look at me, like, oh, well, that's just them, they are just complaining or whatever. (IV_R_81)

> 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)

> [Reporting is] very onerous, tedious, you're always doing it at the end of your shift, so you have to stay overtime to fill in all those papers. And then argue to get paid to pay– to actually fill in all that. So you're doing that on your own time, when you already did a 12-hour shift. You're exhausted. So staying and not being paid, to put in all that paperwork, and the thought that nothing will change is a barrier. (IV_R_54)

> You could leave a message yeah, 'cause that's where now I'm reporting it. I'm not going to bother reporting it to my manager, 'cause again, I feel as though it's a futile exercise. But to report– to call that number, it's only Monday through Friday office hours. Then you call, you usually don't get through to somebody. So then you leave a message and then they called back. But they called back at a time when I can't take the call. And then you kind of forget about it. (IV_T_55)

### 4.6 Summary

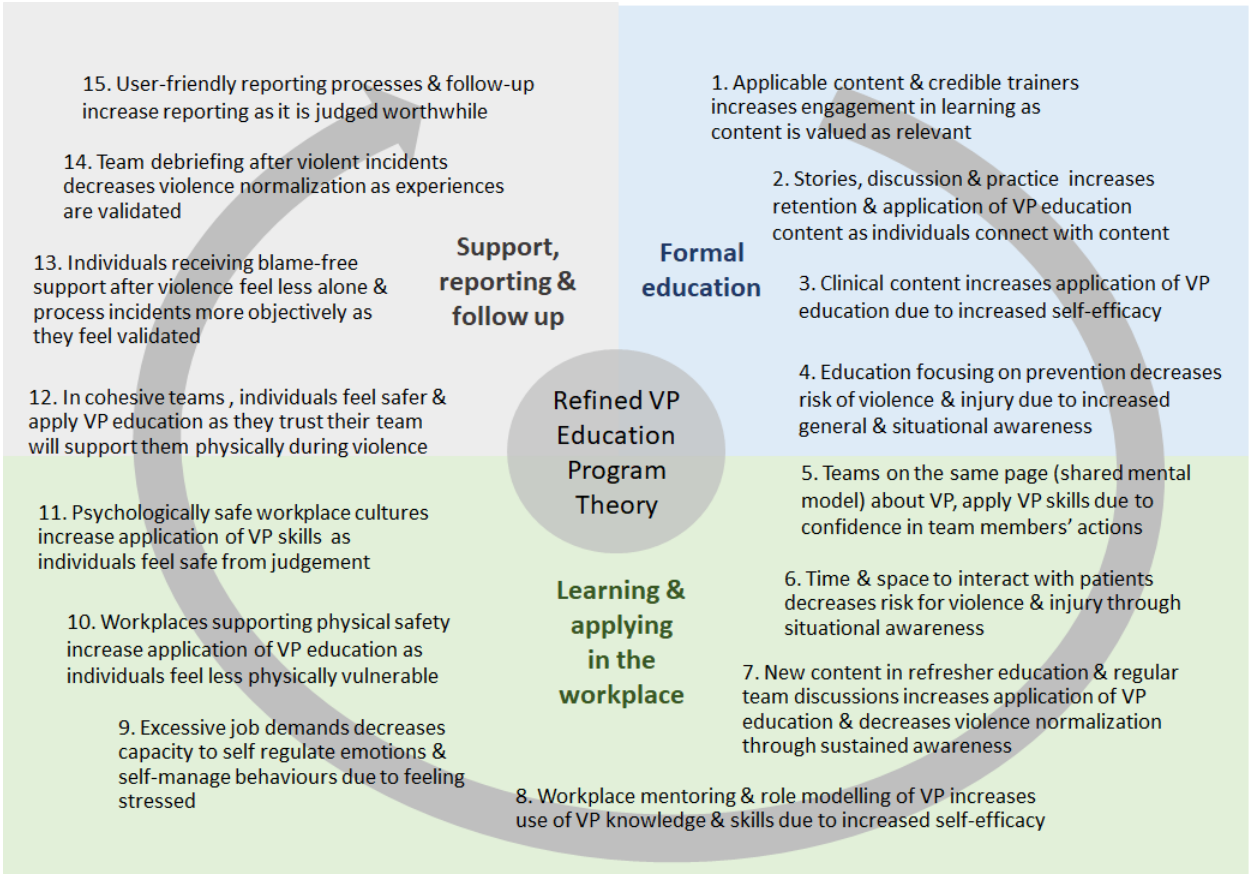
In this chapter, the realist evaluation program theory and detailed explanations have been presented and contrasted with the realist review findings. Although many of the explanations

overlap both research activities, the ability to probe for mechanisms using primary data from interviews and focus group interviews resulted in a refined program theory for violence prevention education that is more specific, and therefore more helpful, in developing recommendations.

Analysis and synthesis of the large amount of data from the evaluation interviews and focus group interviews resulted in a refinement of the 11 initial program theory configurations of contexts, mechanisms, and outcomes, and the contribution of four new COM explanations of VP program effectiveness. The evaluation also refined how the program theory is visualized, transforming the review's linear timeline to represent an interdependent and more cyclical relationship between the three explanation domains: formal education; learning and applying in the workplace; and support, reporting, and follow-up (Figure 15).

**Figure 15**

*Evaluation program theory for VP education*




The following chapter provides a discussion of how the refined program theory addresses the research questions, the evaluation's strengths and limitations, and the resulting recommendations and knowledge translation.

# Chapter 5: Discussion and Application of Findings

Chapter 4 presented the 15 COM explanations comprising the program theory for VP education refined in the evaluation. This chapter discusses how the findings address the research questions and how formal theories support the mechanisms in the COM explanations. The chapter concludes with a discussion of strengths and limitations including generalizability in realist research and how the evaluation findings contribute to policy and practice.

## 5.1 Answering the research questions

In Chapter 4, the realist evaluation findings were organized by context-related areas: formal education, workplace, support, and follow-up. The following sections use a different lens by discussing how the findings address each of the three evaluation research questions: *for whom* is VP education likely to be effective; *what are the underlying mechanisms* by which VP education results in the intended outcomes; and *what* contexts are associated with healthcare workers' use of VP education in practice?

### 5.1.1 For whom is VP education likely to be effective

Two participant characteristics from across the COM explanations address the question of *for whom* VP education is likely effective in reducing violence and injuries: gender and experience level.

The association between individuals who identify as female and an increased risk for violence concerning intimate partner and sexual violence is well established (World Health Organization, 2017). However, consistent with other studies and reviews on type II violence in healthcare (Lawoko, Soares, & Nolan, 2004; Lippel, 2016; Wei, Chiou, Chien, & Huang, 2015) this evaluation did not identify gender as a factor for experiencing violence or in learning and applying of VP knowledge and skills. In the over 3000 data text segments less than 20 referenced

gender, with mixed opinions as to whether men or women prevented or managed violence more effectively or were at greater risk for injury.

In contrast and consistent with other research findings (Adedokun, 2020; Camerino et al., 2008; Hahn et al., 2013; Nolan, Soares, Dallender, Thomsen, & Arnetz, 2001; Wei et al., 2015), more than 120 text segments in the data identified younger or less experienced staff healthcare workers as less confident in using VP skills or at higher risk for violence and injury.

In COM explanation 1 (applicable content), participants reflect on past experience when thinking about applying the education (Jarvis et al., 2013), and more experienced participants have previous primary experiences with violence to reflect upon which may not be available to new graduates. As articulated in one interview, level of experience has implications for curriculum design and worksite learning:

> Maybe the more experience you get in this situation, 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. (IV_T_12)

COM explanation 8 (workplace mentoring and role modelling) identifies the extra support needed by less experienced staff to reinforce and augment what they have learned in the education. As one participant noted "we have a lot of new grads that come to us. So it's checking with them. How are you feeling about that? Do you think that went well? Actually ask them what they think could improve about it…and try to point out things that maybe I noticed" (IV_R_85).

Finally, as identified in COM explanation 11 (psychologically safe workplace cultures), new and less experienced staff are often eager to demonstrate their competence and more likely to fear being judged in a culture where individuals feel blamed for violence or other incidents. Fear of failure and looking incompetent can discourage applying newly acquired VP knowledge

and skills (Edmondson, 2003) and may prevent inexperienced staff from asking for help, staying safe and reporting violence. As one participant reflected, “I think when you’re new and starting out…you’re so unsure about so many things” (IV_T_12).

### 5.1.2 Mechanisms by which VP education results in intended outcomes

Each COM explanation describes *how* characteristics of contexts resulted in particular outcomes due to activating a mechanism, such as an individual’s reasoning, belief, value, or emotion (Westhorp, 2018). While some mechanisms are specific to one COM explanation, some COMs share similar mechanisms or supporting formal theories. The discussion of mechanisms is organized by the eight supporting formal theories with a focus on the five theories that underpin more than one COM explanation (Table 35 and Figure 16).

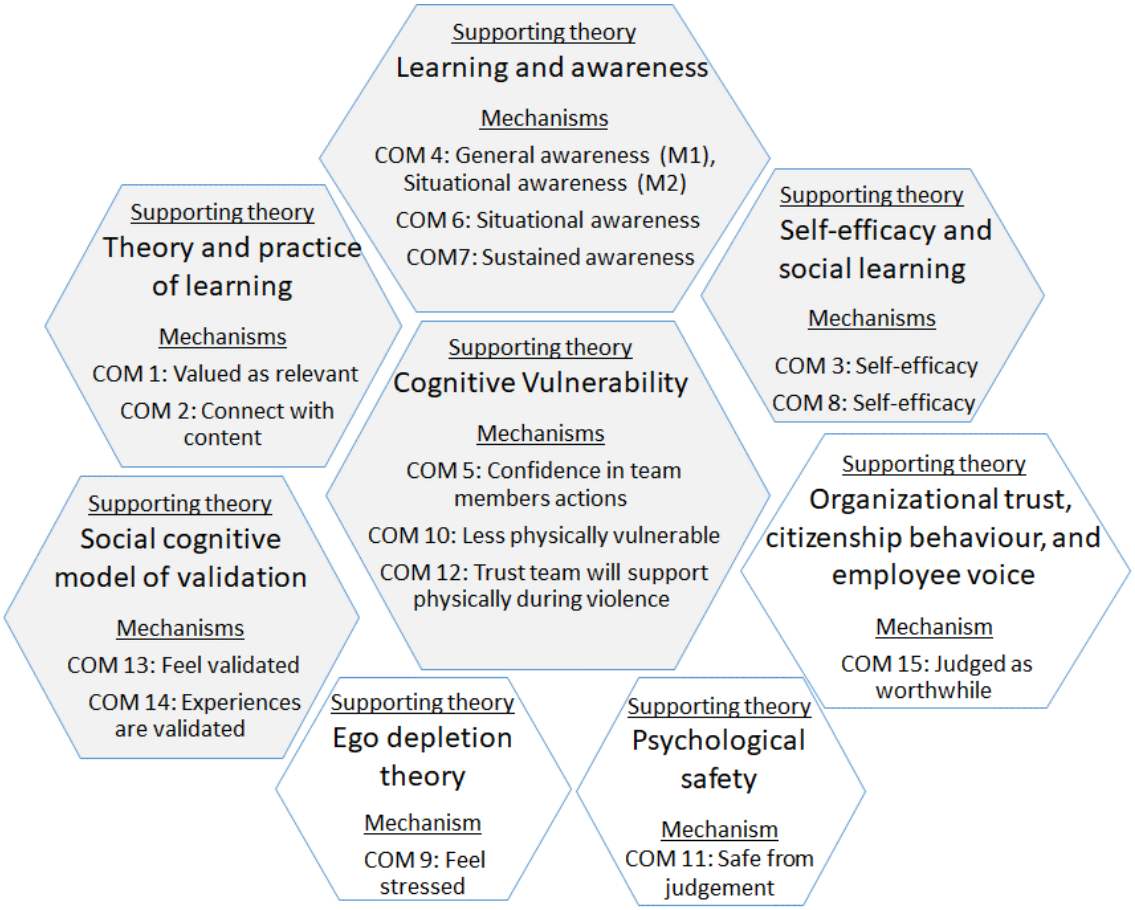
Table 35

*COM explanations by mechanisms and supporting formal theory*

| Supporting theory | COM | Context | Mechanism |
|---|---|---|---|
| Theory & practice of learning (Jarvis et al., 2013) | 1. | Applicable content (C1) and credible trainers (C2) | Valued as relevant |
| | 2. | Stories (C1), discussion (C2), and practice (C3) | Connect with content |
| Self efficacy theory (Bandura, 1982) Social learning theory (Bandura, 1971) | 3. | Clinical content in VP education | Self-efficacy |
| | 8. | Unit-based mentoring and role modelling of VP | Self-efficacy |
| Learning & awareness (Marton & Booth, 2009) | 4. | Education focusing on prevention | General awareness (M1) Situational awareness (M2) |
| | 6. | Time (C1) and space (C2) to interact with patients | Situational awareness |
| | 7. | New content in refresher education (C1) and regular team discussions (C2) | Sustained awareness |
| Ego depletion theory (Baumeister, 2001) | 9. | Excessive job demands | Feeling stressed |
| Cognitive vulnerability model (Armfield, 2006) | 5. | Teams on the same page about VP | Confidence in team members' actions |
| | 10. | Workplaces supporting physical safety | Feeling less physically vulnerable |
| | 12. | Cohesive teams | Trust their team has their back during violence |
| Psychological safety (Edmondson, 2008) | 11. | Psychologically safe workplace cultures | Feeling safe from judgement |
| Social cognitive model of validation (Leahy, 2005) | 13. | Individuals receiving blame-free support after violence | Feeling validated |
| | 14. | Team debriefing after violent incidents | Experiences are validated |
| Organizational trust and citizenship behaviour (Singh & Srivastava, 2016), employee voice (E. W. Morrison, 2014) | 15. | User-friendly violence reporting processes (C1) and follow-up (C2) | Judged worthwhile |

**Figure 16**

*CMO explanation mechanisms grouped by supporting theory*




### 5.1.2.1 Theory and practice of learning

In workplace education for healthcare professionals, skills are learned by developing meaning through applying knowledge in context (Jarvis et al., 2013). In *Theory and Practice of Learning* (2013), Jarvis et al. describe how the evolution from *knowledge as truth* to *knowledge as relative information* has changed with time and new discoveries laying the basis for the applicable nature of continuing professional and workplace education. Facilitating participants to reflect on their previous experiences (primary experiences) and linking to the experiences of others (secondary experiences) through narrative and discourse provides a context for making

meaning and learning. This theory supports how COM explanation 1 identifies *applicable* content (C) as activating participant reflection on previous workplace violence (primary experiences) to make meaning and construct new knowledge. Similarly, Jarvis et al.'s theory supports how in COM explanation 2, stories, discussion, and practice (C) (secondary experience) create a *connection* (M) with content.

#### 5.1.2.2 Self-efficacy and social learning

Two COM explanations link knowledge from the VP education to application of VP skills via a mechanism of *self-efficacy*: an individual's belief in their ability and capability to act and succeed (Bandura, 1982). Secondary to gaining knowledge, an individual's confidence in their own ability to master a skill (self-efficacy) influences whether they apply the knowledge in practice and adopt the related behaviours (Bandura, 1999). Clinical content (COM explanation 3) and workplace mentoring and modelling (COM explanation 8) increase the application of VP knowledge and use of skills (O) as participants feel more prepared, believing they possess sufficient knowledge. As one participant described "I feel confident and supported by my co-workers that…I'm clinically capable of trying to deal with the situation" (IV_C_2).

Both explanations are supported by Bandura's Self-efficacy theory (1982) in which an individual's self-judgement of ability influences their agency to cope with situations and perform tasks. As explained in Bandura's paper *Self-Efficacy Mechanism in Human Agency* (1982), individuals' self-appraisal of their capabilities determines how they behave, their thought patterns, and emotional reactions in difficult situations.

Additionally, COM explanation 8 (local mentorship and modelling) aligns with *Bandura's Social-Cognitive Theory (SCT) (Bandura, 1989),* which emphasizes the influence of the social environment in which individuals acquire and perform behaviours and the bidirectional

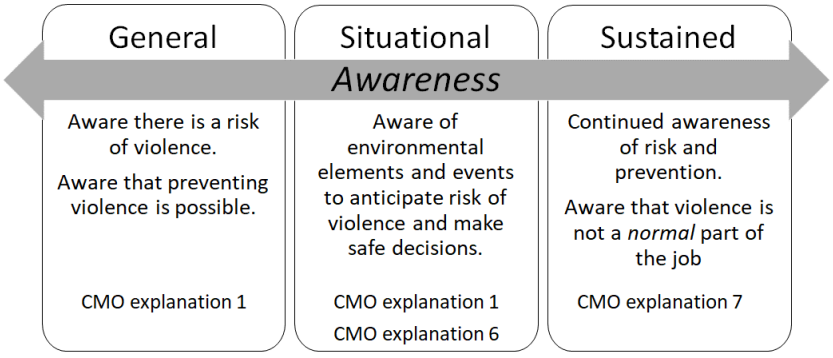
interaction between the individual, behavioural patterns, and the social environment (Bandura, 1999). As Bandura (1999) explains "knowledge structures are formed from the styles of thinking and behaviour that are modelled, from the outcomes of exploratory activities, verbal instruction, and innovative cognitive synthesis of acquired knowledge" (p. 24).

#### 5.1.2.3 Learning and awareness

The mechanism of awareness related to VP education in healthcare emerged in three ways in the COM explanations*: awareness* of the risk of violence and opportunities to prevent violence, *situational awareness*, and *sustained awareness* of risk, prevention, and that violence is not a normal part of a healthcare job. (Figure 17).

**Figure 17**

*Mechanism of awareness across CMO explanations*




Multiple participants articulated that having education focused on prevention made a difference by first creating an *awareness* (M1) (COM explanation 4) that the risk of violence exists, and that prevention of violence and injury is possible. As one individual noted, "just the awareness piece…stepping away from danger or being more aware of things…it's just like planting the seed" (IV_C_3).

In *Learning and Awareness*, educational psychologist Marton and education researcher Booth (2009) propose that educational content, instructional acts, and context are integrated

components of learners' experience, creating dynamics that guide where individuals *focus* and ways they see the world. COM explanation 4 aligns with this theory by emphasizing that education *focused* on prevention activates *awareness* (M) of both the risk of violence and that violence can be prevented. Marton and Booth (2009) explain a learner's focus is *relative*: at a given point in time one aspect becomes the focus of attention amidst a background of other possible phenomenon, ideas, or subjects. Similarly, participants identified that teaching self-defence techniques in VP education shifts the focus away from violence *prevention* to violence *management* detracting from the message that opportunities exist to prevent violence. As described in other research studies very few participants in this study applied the self-defence techniques in violent situations (Dickens, Rogers, Rooney, McGuinness, & Doyle, 2009). In addition, participants had better recall of active physical practice at the end of the day (focused on management) versus prevention content presented at the beginning of the day.

As described in COM explanation 6, *awareness* is also related to workload and time available for patients influencing the capacity at any given time to be *situationally aware* (M) of environmental elements and events to anticipate risk and make safe decisions (Cohen, 2013). One participant linked awareness, VP education, and the clinical concepts of cultural competence and trauma informed care[6] that influence a healthcare workers approach with patients: "it's good to bring awareness to folks who may or may not have a good understanding if they haven't had the cultural training yet, of intergenerational trauma, of white privilege" (FG_R_46).

[6] Cultural competency describes strategies and practices to care for diverse groups of patients based on understanding their beliefs, values and social contexts (Dreachslin, Gilbert, & Malone, 2013). Trauma informed care refers to a responsive healthcare delivery approach grounded in an understanding of the impact of traumatic experiences that emphasizes physical, psychological, and emotional safety and rebuilding of a sense of control and empowerment (Kimberg & Wheeler, 2019)

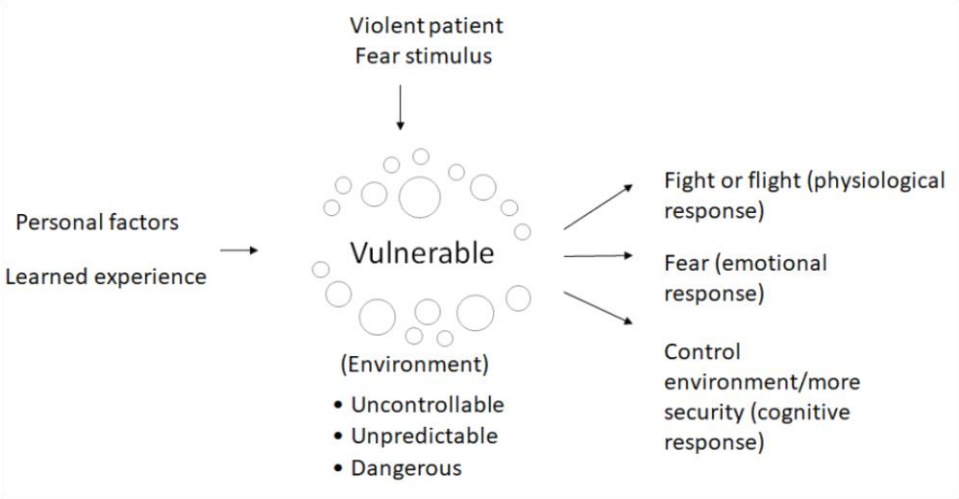
After initial formal education, *awareness* of violence prevention needs to be *sustained* (COM explanation 7) through policies, practice, discussions, refreshers, and debriefing of violence. As described in the psychology literature, an individual's *attentional set* is a key factor in whether they sustain awareness of a phenomenon such as potential for violence (Most, Scholl, Clifford, & Simons, 2005). An *attentional set* refers to a bias that guides what aspects of the environment an individual perceives as relevant and pays attention to (Tait & Brown, 2010). Developed through experience and exposure to relevant task related information from activities such as education and discussion, an attentional set provides a mental model of what an individual can expect to encounter in an environment and consequently will pay attention to (Briggs, Hole, & Turner, 2018). As one participant noted refresher training contributes to ongoing awareness through focusing individuals' attentional sets on VP keeping "awareness…to notice those things in your day-to-day" (IV_R_4).

#### 5.1.2.4 Cognitive vulnerability

A mechanism described as *feeling vulnerable* was identified in the findings related to fear for *physical safety* (COM explanation 10). Feeling physically *vulnerable*, is influenced by multiple contexts: a healthcare worker's previous experience with violence, confidence, and the degree to which they perceive the work setting as uncontrollable, unpredictable, or dangerous. The mechanism of feeling physically *vulnerable* was an important finding in the evaluation as it goes beyond fear of the violence to understand the influence of the work setting. This finding is supported by Armfield's (2006) *Cognitive vulnerability model* of the etiology of fear (p. 761) that has been adapted in Figure 18 for violence from patients and visitors.

**Figure 18**

*Adapted model of vulnerability and fear*




Less explicitly, vulnerability was an underlying concept for two other COM explanations. In COM explanation 5, *confidence in their team members' actions* (M) when there is a shared mental model (on the same page) for VP (C) increases predictability during potential and actual violence allowing individuals to feel safer to use VP skills. Similarly, in COM explanation 12 individuals feel safer (O1) and less vulnerable and use more VP skills (O2) when they trust that their team will support them during violence.

Like many mechanisms in realist explanations, participants more likely first articulate more easily identifiable feelings such as fear or feeling safe than the deeper underlying feeling of vulnerability. Consequently, participants often expressed physical vulnerability through frequent references to the need for consistent or increased security services:

> Having somebody around that can help deescalate right there can kind of prevent a situation from ramping up…it's a safety net, which allows me to access the patient in a safe manner. It changes how I feel. I feel less scared, and I feel protected… having a sense of security around or the RCMP or police makes me less terrified. (IV_C_48)

Vulnerability has far reaching implications for VP, influencing the approach individual healthcare workers take with escalating patient behaviour. One participant mirrored a term coined in a study of violence in psychiatric care "the bulldozer and the ballet dancer" (Björkdahl, Palmstierna, & Hansebo, 2010, p. 510), describing an individual's level of confidence to prevent and manage violence and feelings of vulnerability determining whether they use an "army" (call security, code white, take down) versus a "diplomacy" approach (prevention, negotiation, de-escalation) (IV_T_21). Although experienced at the individual level, feeling vulnerable is an emergent response to the risk for violence in the healthcare environment and requires organizational and not individual prevention interventions.

#### 5.1.2.5 Social cognitive model of validation

The mechanism of validation emerged in both COM explanations 13 and 14 in relation to validation as a person worthy of care and validation of having experienced violence. While much of the research on validation relates to child development and validation in the context of psychotherapy, Leahy (2005) proposed a more general social cognitive model of validation. Defining validation as a "central component of human experience" (2005, p. 195), Leahy posits that "problematic outcomes for emotions occur when the individual views his or her emotion as an experience that is incomprehensible, is not similar to the emotions that others would have" leading to loss of control, delayed emotional processing, and shame (2005, p. 200). This is congruent with the COM explanation 13 findings related to validation decreasing feelings of *being alone* (O1) and *processing incidents more objectively* (O2). As one participant noted, *acknowledgement* (C) of a violent incident "validates that experience because…it makes you feel like it's not just us" (IV_C_5), while another highlighted that "having somebody who saw what happened and could validate what happened after was also really important…it helped me deal

with it" (IV_R_45). Similarly, Leahy's (2005) theory supports COM explanation 14 where *validating* (M) the experience of violence decreases the normalization of violence. As another participant explained, when individuals are offered support after violence it communicates that what they experienced was "not normal, not acceptable, and is like any other injury... deserves recovery" and brushing it off "invalidates" that the interaction was violence (IV_T_60).

#### 5.1.2.6 Ego depletion theory: executive function and self-regulation

COM explanation 9 explains how *feeling stressed* (M) from *excessive job demands* (C) influences use of skills due to a healthcare worker's capacity to *self-regulate* emotions (O1) and consequently *self-manage* behaviour (O2) such as communication style. While other formal theories support the relationship identified between high *job demands* (C) and *stress* (M) – such as Karise's (1979) job demand-control model – the link between task demands, stress, and self-regulation of emotions and behaviour is best explained by Laumeister's (2001) theory of ego depletion. Using the psychoanalytic definition of *ego* as the organized part of the human psyche that consciously mediates between *self* and reality, Baumeister (2001) postulates that all acts of volition pull from a single, limited energy source within the ego. Mental processing (executive function) to make choices and decisions, initiate and inhibit behaviour, plan and take action, *as well as* the self-regulation of thoughts, emotions and behaviour compete for energy which can become depleted. *Excessive job demands* (C) – including managing patient aggression and violence – that overtax executive functions can lead to a temporary reduction in energy capacity, causing *feelings of stress* (M) and resulting in decreased capacity to self- regulate emotion (O1) and self-manage behaviour (O2) (Baumeister, Bratslavsky, Muraven, & Tice, 1998). As the participant quote from page 116 explains, managing tasks and aggressive patient behaviour can

leave an individual depleted of the ability to exercise volition and control their emotions and behaviours:

> Sometimes it's this perfect storm where one aggressive person makes you just click something on in you and then you're upset…it snowballs where you're on this train and you can't get off. And you might even sit and be…why am I so rude? You might realize it in the moment and still not be able to pull yourself out of that space. (IV_C_66)

Acknowledging the concept of a depleted capacity for self-regulation and control of emotions and behaviour due to excessive demands is important as it shifts perception of the required intervention from correcting a deficiency, knowledge, or skill gap of individual healthcare workers, to addressing workplace contexts that contribute to ego depletion.

#### 5.1.2.7 Psychological safety

The importance of feeling *psychologically safe* – was evident in the data for both the education and workplace particularly for inexperienced healthcare workers (COM explanation 11, *psychological safety*). Psychological safety in work teams as theorized by Edmondson (2008) describes how individuals feel they can be their true selves without fear of being judged incompetent by team members or supervisors. Psychological safety during formal or refresher VP education was described by one participant as "a safe learning environment and a safe place to ask questions" (IV_C_6) without fear of being shamed or seen as incompetent during simulations or roleplaying.

COM explanation 11 identified that a psychologically safe workplace culture – not just related to patient violence – influences whether healthcare workers apply the VP knowledge and skills from the education to prevent violence as individuals as individuals generalize both what they experience and witness. Participants echoed the review findings of the importance of a workplace where staff did not feel psychologically

vulnerable; however, unlike many other studies (Allen et al., 2011; Jussab & Muiphy, 2015; Stevenson et al., 2015), most participants characterized their workplace as psychologically safe and supportive. As one individual noted so "our team is awesome…if people even say the word "blame" to themselves –I'm the first one to tell them, do not blame yourself for what just happened. You're trying to give good care to those patients that are in a lot of pain. You're doing your best. Don't blame yourself" (IV_C_4). The concept of psychological safety exists primarily at a team level and is generalized as part of the culture as opposed to being specific to incidents of violence. As one participant described, freedom from being judged influenced how team members worked together and helped each other:

> It's easier to ask for help too...because you know these folks, and no one's going to judge you for asking for help. And they're willing to be there, or they're probably asking you: do you need any help? So in a team atmosphere, it's much easier. (FG_C_8)

This informal nature of how individuals assess the psychological safety of a work culture aligns with the concepts of social information processing theory (SIP) where information about psychological safety gathered through "informational cues" from interactions with others is used to interpret events, expectations, and behavioural norms (Simonet et al., 2014, p. 820). As Simonet et al.(2014) identify, a work culture that empowers and provides psychological safety allows individuals to be more their authentic self, have increased self-efficacy, feel they have some autonomy, and that they can make a difference.

#### 5.1.2.8 Organizational trust, citizenship behaviour, and employee voice

The final COM explanation (15) describes the contexts that influence whether individuals *report incidents of violence* (O). Unlike many other COM explanations, almost unanimously,

participants framed contexts surrounding reporting in negative terms. Participants consistently described time consuming, complicated, and *inefficient reporting processes* (C1) as a barrier to reporting. Additionally, lack of consistent and timely *follow-up after reporting* (C2) resulted in individuals judging reporting as not worthwhile (M) for the time and energy required. Multiple theories or concepts from organizational behaviour combine to support this explanation. The first, organizational trust, describes how an employee's perceptions of the degree to which their organization is trustworthy and can be relied upon to be supportive, fair, and transparent in communication, influences organizational citizenship behaviour (Singh & Srivastava, 2016). Organizational citizenship behaviour (OCB) refers to discretionary behaviours by employees that contributes to the organization and work culture that are outside of what is required in their job and not tied to compensation or formal rewards (Bolino, Hsiung, Harvey, & LePine, 2015). OCB behaviours can include volunteering to take on additional responsibilities, and investing personal time and effort above and beyond what is required, without an expectation of being rewarded (Bolino et al., 2015). The final theory, employee voice, builds on OCB to specifically identify the discretionary behaviour of voluntarily communicating helpful information, concerns, and suggestions upwards in an organization (E. F. Morrison & Love, 2003). Workers are more likely to use their employee voice instead of staying silent and withholding potentially useful information, when they perceive that speaking up has value and does not involve a risk of negative consequences such as retribution (E. W. Morrison, 2014). In relation to violence reporting, when an organization invests in *efficient reporting processes* (C1) and leaders *follow-up* (C2) and communicate the actions taken to prevent further violence, they establish a level of

organizational trust that encourages workers to invest effort (OCB) in reporting of violence (employee voice) (Figure 19).

**Figure 19**

*Reporting of violence and organizational trust, citizenship behaviour and employee* ***voice***


### 5.1.3 In what contexts/circumstances do VP education programs contribute to healthcare workers' effective VP and management practices?

Chapter 4 answered the research question of contexts contributing to healthcare workers learning and applying VP education specific to each COM explanation. To address the research question of *in what contexts* in a wider sense, the following sections highlights characteristics of five broad contexts from across the participant data that contribute to VP education being applied in practice: connection to a VP strategy, connection to clinical education model, supportive workplace culture, and team cohesion.

#### 5.1.3.1 Part of a broader VP strategy

The program theory illustrated in the last chapter confirms that how individuals learn, retain, and apply VP knowledge and skills is influenced not only by the education but also by work unit and organizational contexts. Similar to findings from other studies and publications (Runyan et al., 2000; Wang et al., 2008; Whitman, 2016), this evaluation identified that addressing the complex issue of patient violence in healthcare requires a multifaceted approach that includes actions at societal, organizational, unit, and individual levels. In the absence of a comprehensive strategy VP education is unlikely to be effective and it may also increase skepticism that the organization is more concerned with compliance than with workers' safety.

> I feel like (my 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)

#### 5.1.3.2 Clinical education model approach

As described in COM 3 (clinical education), healthcare professionals gain confidence through a sound clinical knowledge base that enables them to care for patients appropriately. As noted in the introductory chapter, responsibility for VP education usually rests with occupational health and is separate from clinical education. Consequently, with one notable exception where a combined approach was used (Björkdahl et al., 2013), most VP curriculums focus on workplace health and safety with little or no clinical content. As documented in Chapter 3, most participants were practicing clinical nurses who share a set of norms about learning new information and preparing for and managing adverse healthcare events like cardiac arrests.

A common approach to facilitating healthcare workers to learn new information and skills required in their job is to provide short workplace education sessions – often referred to as

in-services – that link new clinical information to practice (Bluestone et al., 2013). Additionally, for critical and time-sensitive skills such as responding to cardiac arrests, practice drills are usually conducted, documented, and debriefed to inform learning and actions in future events (Williams et al., 2016). Multiple participants referred to this established two-prong approach to learning and practice and questioned why VP education does not use this same clinical model,

> Well, if we compare it to the code blue drills where there was actually good outcomes, I had to do it monthly. The code blue drills showed research that when they did it routinely, regularly, every month, it showed vastly increased confidence and competence for the nurses with that and their roles and the actual applied skills. So I think it would have to be something similar like that, or you'd mirror it to something like that. There's always potential of new learning and refreshing, but to really feel solid and comfortable with it, you'd need to do it regularly. (IV_R_54)

One participant linked using the clinical model to team training and shared knowledge as highlighted in COM 5:

> You would know where everyone is at…whatever everyone else should know too, so if you would ask somebody to do something you could have a reasonable expectation that they might or might not know how to do it by everyone having that training and we do it together – like any code situation, like we train to do code blues together, we do mock cardiac arrests because you need to train all the time so that you just get more proficient at it. And I just feel like we should train to do this stuff too 'cause they're just as urgent in a sense. (IV_C_1)

#### 5.1.3.3 Support during and after violence

As outlined in COMs 12 and 13, support during and after violence was essential to prevent violence and related injury. Participants recounted occasions when peers stepped up to assist a colleague in de-escalating a violent situation or take the time to talk after events and support each other. Although with few exceptions, participants perceived supervisors and managers as supportive during and after a violent incident, a leader's response to any team member regarding an event influenced the whole team's perception of psychological safety. As described in COM 13, appropriate support from a leader after violence has two components:

acknowledging and validating that the individual's experienced violence and checking-in on how they are doing, which participants interpret as caring.

> I think mostly it comes down to leadership; not just in the actual leaders and managers on the floor, but in– I think it takes a leader to go up and talk to the nurse that is– the nurses who were involved in situations and asking them how they're doing. I think that is probably number one. I think you can take a lot of stuff and a lot of crap in the day, as long as you have– as long as you feel like you are supported, you can handle a lot. (IV_R_65)

Information from the focus group interviews with leaders and some interview participants indicated that the current education strategy focuses on VP for direct caregivers. Although there may be an expectation that leaders attend the same course as staff, there appears to be a gap in providing education for leaders and supervisors focused on supporting staff regarding violence.

Some participants shared that after a violent incident, they were offered or received formal psychological support from an employee counselling service. However, it is worth noting that several individuals attributed *preventative* psychological support to helping them stay calm during escalating situations and allow them to not take violence personally or be as emotionally traumatized. In particular, life coaching, conflict training, and ongoing personal development helped increase resilience and change perspectives concerning violence. As one participant noted:

> That old wounding (previous traumatic experience related to violence prevention) that just kind of comes up. It's there and my worry is if I'm not working through that with my (personal life) coach that puts me at a potential of making mistakes. And that puts me in a potential of causing harm if I'm not working through that. (IV_R_56)

As part of or an adjunct to education to prevent violence, these ideas offer additional educational or support opportunities to prevent psychological injury from violence.

#### 5.1.3.4 Cohesive team

Several explanations – COMs 5, 12 and 13 – stress the importance of cohesion in a team to prevent violence and injury. Similar to findings from other research, participants emphasized that the support and feeling of belonging they had with their team sustained them, made them feel safer and kept them coming back to work (Arbury et al., 2017; Åström et al., 2004; Heaton & Whitaker, 2012; Tölli et al., 2017).

In addition to being confident that the team has a shared understanding and that members support each other during and after violent incidents, positive team relationships provide resilience in coping with violence. These findings are congruent with research that identified the essential factors in nurse retention are feelings of belonging to a workgroup and being supported (Reinhardt, León, & Amatya, 2020)

> The work is the same everywhere…. what keeps you there is your team and kind of morale – we do functions out of work that's inclusive to everyone. I find people want to be there. We're a little family, and everyone cares. (IV_R_85)

> I think that what happens is, when you feel supported you like working there… like the team. We feel that people have our back, and at the end of the day, we leave feeling fulfilled. That we work with people who appreciate us and appreciate our time. (IV_R_6)

Clarity about who is a team member is essential to planning education and trust among the team on how VP knowledge and skills are applied. Several participants used a broad definition of the team to include everyone involved in preventing violence, including housekeeping staff, security, security leader, ambulance workers, police or RCMP. Two participants articulated the importance of solid team relationships:

> Definitely having education and Sims together and with EHS and RCMP and our whole– like, especially in emergency, bringing us more together, like socials outside or Sims within the hospital or something like that. I think that would be hugely beneficial. I think in small hospitals, we're fortunate because we do see them quite a bit, and we build our relationship because we see each other quite a bit…just in communication. I'm able to

> ask our EHS or our RCMP officers to do something for me easier because I know, one, what they're capable of and two, that they're going to say yes. Like, they're going to help me. (IV_R_81)

> I'm so grateful for that emergency security ambassador role. Because I find that individual does a lot of that verbal de-escalation when there isn't time to do it. If you notice somebody's being a little mouthy in the waiting room, you can't bring them inside and get them seen first just because they're being rude or belligerent or making comments about the staff. But when you call the security ambassador, they'll go have a chat with them. I like their role because they tend to know the entire department and what's happening in the entire department. Which patients to watch out for. (IV_T_13).

Applying a narrow definition of who is on the team can have unintended consequences, as described by one participant not invited to the debriefing of a violent incident in which they were involved:

> I just felt like– I felt worthless. I felt really unimportant. And I just thought why I am putting myself out there. When I do my job, I do it with all my heart and I, you know, like, I will go above and beyond. If I'm a part of, you know, a really good team, I'll do things that I might not necessarily be required to do. But I do it because I'm helping my team, and I know that they're going to help and support me. I just felt really unimportant and undervalued as a member of that team. (IV_C_32)

#### 5.1.3.5 When violence is not normalized as part of the job

Finally, in addition to COM 14, where normalization and validation of experiencing violence are directly linked, several contexts across the program theory influence whether violence is seen as unusual and unacceptable or as a normal and expected part of a healthcare job. Adapting the WHO ecological framework for interpersonal violence (World Health Organization, 2011), Figure 20 illustrates the characteristics of contexts at multiple levels that participants identified as either perpetuating or dispelling the perception that violence is just "part of the job" (Lipscomb & London, 2015).

**Figure 20**

*Levels of contexts influencing normalizing of violence*


Societal tolerance and norms about violence shape individual behaviour and can protect against or encourage the use of violence (World Health Organization, 2009). An increasing trend of accepting a level of violence and a lack of societal consequences for assaulting or threatening healthcare workers reinforces the behaviour as acceptable or nothing unusual (Lipscomb & London, 2015). Although 35 American states have enacted laws with stricter penalties for assaulting nurses (Durnbaugh, 2020), proposed US federal laws making it a crime to assault healthcare workers have not been enacted (OH&S, 2019). Similarly, in Canada, despite a 2019 report and recommendation from the Canadian Parliamentary Standing Committee on Health, a proposed amendment to the criminal code to "require a court to consider the fact that the victim of an assault is a health care sector worker to be an aggravating circumstance for the purposes of sentencing" (Casey, 2019, p. 3) are not yet law. Similar to other

research, participants noted that the lack of consequences was one more indication that violence was an accepted part of the healthcare job (Brophy et al., 2018).

Participants identified contexts across the COM explanations that they believed indicated whether their organization was committed to addressing violence or was just "ticking a box" to meet regulations or other requirements. Organizational safety climate – "the set of values beliefs and principles that employees perceive are held within their organization" (Probst, Brubaker, & Barsotti, 2008, p. 1148) – influences employee behaviour such as reporting of incidents (Probst et al., 2008). Similarly, as described in the following quotes and summarized in Table 36, participant trust, that their organization genuinely values worker safety, influences attitudes towards the education and normalization of violence.

> I think it also helps reinforce a culture that this is a safe working environment that people, you know, they are able to share how they're feeling. And that these things are taken seriously. That organizations are genuinely– they take violence seriously, enough that they take a step back. They have debriefs. They talk about these things…that facing violence in the workplace is not just part of your job. (IV_T_55)

> If you don't feel that they're coming from best interests, you're disengaged right away because you're, like, well, they only want me to do this to say that we did this certification or we checked these three boxes. And they can track and trend it and say how good or bad we're doing with it. Then you really have no incentive, or you're not kind of really in on what they want to change. You're not sold on that philosophy. (FG_T_28)

**Table 36**

*Organizational actions demonstrating a commitment to address violence*

| Context | Organizational actions demonstrating a commitment to address violence |
|---|---|
| **Formal education** | Paid time away from work<br>(versus attending during a shift or on regular days off, or unpaid) |
| **Formal education** | Education content specific to participants' work area and setting<br>(versus generic content) |
| **Refreshers** | New information and discussion in refresher training<br>(versus repeat the in-person or online course) |
| **After violence** | Debriefing of violent incidents to inform prevention<br>(versus no follow-up or debriefing after violence) |
| **Time with patients** | Addressing workload as part of VP |
| **Physical safety** | Addressing workplace factors contributing to feeling physically vulnerable |
| **Psychological safety** | Non-blaming approach to all incidents, including violence |
| **After reporting** | Communication on actions resulting from violence reporting |

Lastly, the acknowledgement and validation of violence as a significant event and the ability to talk to team members after violence reinforces that experiencing violence is not normal and just part of the job.

> I think it makes you aware that it's not normal to have violence in the workplace. And that it's something that you need to know how to deal with, but then also be able to talk about after. (IV_T_25)

## 5.2 Evaluation Strengths and limitations

While Chapter 2 outlined the strengths and limitations of the review, the following section identifies the strengths and limitations of the evaluation. The overall strengths and limitations identified for the dissertation are presented in Chapter 6.

*Strengths*

Several of the evaluation's strengths relate to stakeholder engagement and the research design. The involvement of a Project Advisory Group in developing the evaluation purpose and focus helped ensure that the evaluation findings would be relevant and address a real-world

problem. The large sample size of the evaluation, numerous research sites of different sizes, and four different knowledge holder groups involved in the interviews or focus group interviews provided a reasonable degree of evidence triangulation. As the number of data collection events in realist evaluation is flexible and driven by what is required to inform the program theory, the evaluation design was able to be flexible and include conducting extra interviews when they would contribute valuable information or when interested individuals could not attend a focus group interview.

Using the timeline model developed in the review to communicate the project scope to participants and asking one open-ended question ensured that participants could focus on what was important to them without being led by any researcher bias. The iterative process of analzying data from completed interviews and focus group interviews while further data was being collected provided the opportunity to ask questions that had been not fully explored by previous participants. The input of multiple researchers with different backgrounds to coding and review of evidence minimized potential bias on the part of the main researcher and author. A major strength of the evaluation findings is the articulation at a level that speaks not to a specific setting and program, but to contexts that influence program implementation – such as a facilitated education session, cohesive team approach to violence, and high job demands – allowing findings to be applicable where similar contexts exist. The practical nature of the realist evaluation findings also enables project recommendations to be specific enough to inform stakeholder action.

*Limitations*

The original project proposal was for a mixed-method evaluation approach involving analysis of organizational documents. However, quantitative data, such as violence statistics,

were unreliable due to underreporting; thus, the evidence used was limited to qualitative data from the interviews and focus group interviews.

Purposeful sampling in the evaluation was limited to selecting emergency departments at three types of sites across three health authorities, but did not extend to the individual participant level. As individuals volunteered to participate, the sample may not be representative of the target population– participants might be more attuned to violence and aware of the education than the broader population – and as such the research is unable to make inferences from participant demographics. Focus group interviews were held with homogenous groups and many participants knew each other which may have suppressed unique comments or increased group think. Although the single opening question in interviews and focus group interviews minimized bias, subsequent probing questions were at the discretion of the interviewer, creating an opportunity for bias.

Although the findings are supported by the evidence, the author prioritized the potential COM explanations and developed the program theory models based on their interpretation. Other researchers may identify different conceptual models of the program theory and different priorities of explanations.

As this evaluation focused on violence in emergency departments, findings may be less relevant to other clinical specialties. Finally, the evaluation was conducted in British Columbia, Canada, and its applicability to other countries, cultures, and languages may be limited. Healthcare environments are dynamic, with changing contexts and influences. Thus, the research findings are relevent to the contexts present at the time the research was conducted.

# Chapter 6: Conclusion

This chapter summarizes the evaluation project from the aim and objectives, research methods, main themes in the findings, and an explanation of the knowledge translation (KT) approach and activities. Subsequent sections discuss the project's strengths, limitations, and implications for future research. The dissertation concludes with thoughts on learning gained during the project and the particular relevance of the findings and methodology in the current context of global healthcare challenges.

## 6.1 Project aim and objectives

Violence against healthcare workers is a complex problem with numerous causes of violence and multiple factors influencing whether healthcare workers apply VP knowledge and skills and report violent incidents and injuries. Although VP education for healthcare workers is the predominant intervention to address and mitigate violence from patients and visitors, systematic reviews of VP education evaluations have been unable to ascertain overall effectiveness. This project aimed to help close this knowledge gap by evaluating the BC Provincial Violence Prevention Curriculum (PVPC) using an alternative realist methodology that shifts from reliance on incident and injury outcome data to focus on why and how individuals learn and apply VP education knowledge and skills. Evaluating the PVPC education was an occupational health priority for the BC health authorities, and the evaluation was in response to this need. The COM findings and recommendations met the project's objective to provide BC health authority stakeholders with actionable evidence to inform VP program optimization and sustainment, and guide where efforts would achieve the best results.

## 6.2 Contribution to knowledge, policy, and practice

This project makes contribution in three areas. It addresses a general knowledge gap of VP effectiveness in healthcare, provides evidence and actionable recommendations for knowledge translation and mobilization generally, and for stakeholders of the PVPC education in BC. In addition to the findings, this evaluation increases awareness of a realist approach and its potential for evaluating other programs and policies.

### 6.2.1 Addressing a knowledge gap

Numerous factors may influence the effectiveness of VP education in preventing violent incidents and injuries. This project identified what matters most, for whom, and why, enabling applying the evaluation results beyond the research sites. The main findings can be summarized using the question posed to participants: what helps individuals learn and apply VP knowledge and skills?

#### 6.2.1.1 Learning VP knowledge and skills

The evaluation highlighted that a cookie-cutter approach to VP education, with a standard curriculum for all healthcare workers, clinical areas, and settings, is of limited value. For participants to engage effectively in education and learn VP knowledge and skills, the content and examples need to be relevant to their role and clinical specialty and applicable to their work setting resources and the violence they experience. Participants engage and retain content best when facilitators or trainers are seen as credible and teach from experience using real stories of violent incidents enabling discussion of decision making, emotions, and actual outcomes. Education intending to prevent violence needs to focus on communication, de-escalation, and decision-making to prevent injury; devoting equal training time to violence management may unintentionally communicate that violence is inevitable. Possessing knowledge about the causes,

symptoms, prevention, and treatment of patients' diseases and conditions is a critical factor for clinical healthcare workers to feel competent and confident. Similarly, to confidently integrate VP into clinical care, healthcare workers need the same depth of knowledge about the causes, behaviours, and prevention of violence for specific patient conditions they see, such as dementia and forms of mental health or addictions.

#### 6.2.1.2 Applying VP knowledge and skills

Many workplace characteristics can influence whether individuals apply what they learned in VP education, making it difficult for stakeholders with limited resources to know what changes to implement. The evaluation identified that healthcare workers are more likely to apply VP knowledge and skills when workplace contexts support them to feel physically and emotionally safe, confident, and able to do their job. When individuals feel supported to enact policies, have access to emergency help, and trust their team to assist if situations become unsafe, they are more likely to feel physically safe and try de-escalation instead of defaulting to calling security.

The degree to which an environment feels unpredictable and healthcare workers feel a lack of control of their workspace also increases fear and perceived vulnerability. Individuals, particularly new staff, are more likely to apply VP education skills when they feel emotionally or psychologically safe and do not fear being blamed, shamed, or judged incompetent if their patient is violent. Healthcare workers are more likely to feel confident using prevention skills when they have access to mentorship and role models, and there is a shared understanding and approach to preventing violence among their team.

Another factor influencing whether healthcare workers apply VP content and report violence relates to violence being normalized as "just part of the job." Healthcare workers can

perceive employers as disingenuous about addressing violence when: i) the education is not supported and does not meet participant needs, ii) enacted policies are not supported, iii) physical environment issues persist, iv) violence is not discussed or debriefed, and v) reporting does not result in follow-up and preventative actions. Preventing violence includes reporting incidents to enable mitigation for the specific clients, policy and practice discussion, and changes and measurements for monitoring prevalence. This evaluation also confirmed findings from other research that healthcare workers will continue to underreport violence unless reporting systems are efficient and user friendly, employers provide work time to complete reports, and reporting results in follow-up and visible actions to prevent further violence.

#### 6.2.1.3 Relevance to other settings

As the author could not locate any previous research that applied a realist approach to evaluating VP education in healthcare, this project makes a unique contribution to understanding how and why VP programs' effectiveness varies between implementations, settings, and participants. Although the evaluation was conducted in one clinical specialty area (emergency) in BC hospitals, the potential for generalizing the findings beyond the research settings is supported by three factors. First, the research findings describe the characteristics of different contexts that influence the learning and application of PVPC education. Consequently, the findings apply to programs similar to the PVPC implemented in settings that share characteristics with the research sites. Second, both the evaluation using primary data from interviews and focus group interviews and the review using secondary data from the literature shared similar findings, inferring some generalizability. Finally, mechanisms in several of the COM explanations are supported as plausible as they align with existing accepted theories of human behaviour and would, therefore, reasonably apply to other evaluation settings where the formal theories apply.

## 6.3 Knowledge translation

The Canadian Health Research Institutes (CIHR) defines knowledge translation (KT) as a "dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the health care system" (Canadian Institutes of Health Research (CIHR), 2016). This section provides an overview of the KT approach and activities undertaken in this project, followed by the presentation of recommendations specific to each COM explanation, and a suggestion for an approach to implementing the recommendations.

### 6.3.1 Knowledge translation approach and activities

Throughout every phase of this project, two-way KT was a key element: Project Advisory Group members and participants shared information about their priorities, perceptions, challenges, and organizational cultures, and researchers explained the research approach and methodology and shared findings (Monaghan & Boaz, 2018). As other researchers have documented, involving stakeholders in developing the research proposal and reviewing the findings and recommendations prevents surprises and contributes to shared ownership and use of the findings (Kok, Gyapong, Wolffers, Ofori-Adjei, & Ruitenberg, 2016; Monaghan & Boaz, 2018)

In Chapter 5, the project findings are presented as a program theory of 15 specific explanations of how and why healthcare workers learn and apply VP education. As part of plausibility testing and preparation for the final evaluation report, the preliminary findings for both the review and evaluation were presented to the Project Advisory Group stakeholders. For both the review and evaluation, the Project Advisory Group stakeholders unanimously validated

and embraced the preliminary and final findings and recommendations as relevant and actionable.

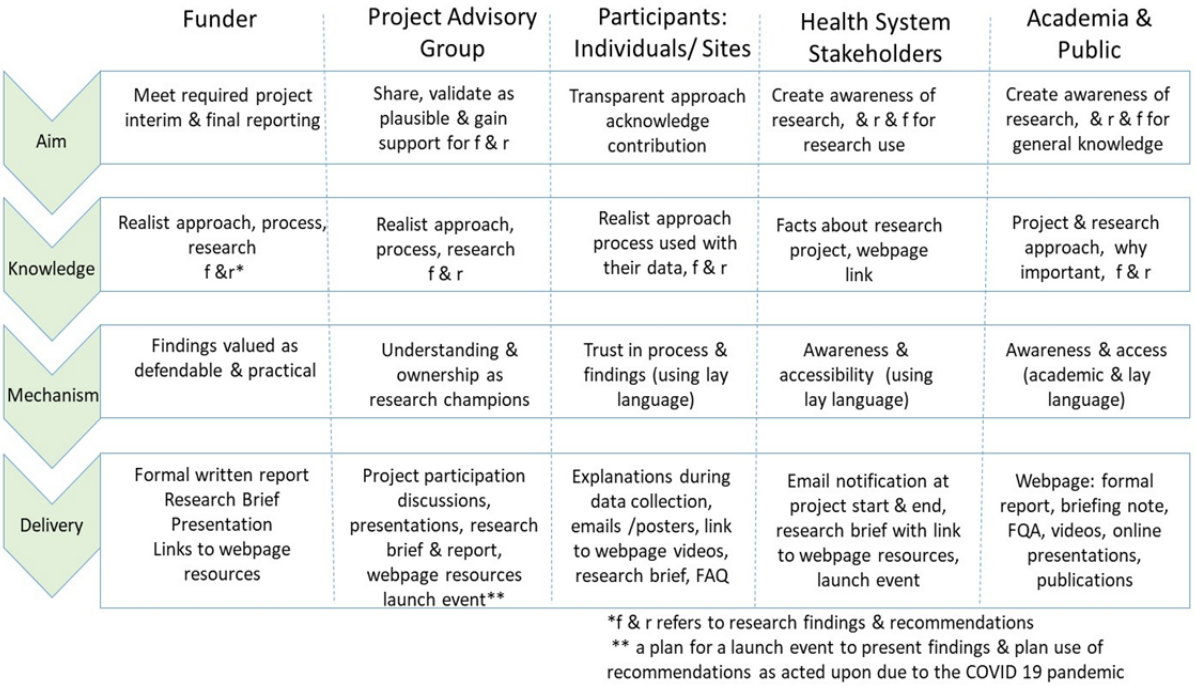
### 6.4 Knowledge translation activities

One existing framework for KT delineates findings into three categories: “usable” findings translated into practical language, “in use” through accompanying recommendations, and “useful” when the findings help transform and improve a practical program aspect (Pan & Pee, 2020, p. 410). The evaluation’s preliminary findings provided usable information, while the recommendations included with the final findings enable stakeholders to use them. The author hoped to assist stakeholders in planning to implement the recommendations; however, healthcare stakeholders have postponed actions to address violence and refine the PVPC as they manage the global COVID-19 pandemic.

The framework used to document the KT activities undertaken in this project (Figure 21) draws from aspects of two existing models for promoting and integrating evidence into health and health system practices (Bragge, Grimshaw, Lokker, & Colquhoun, 2017; Lavis et al., 2003). Within the framework, *aim* connotes the purpose of the activity, *knowledge* represents the research findings and recommendations, *mechanism* aligns with realist causal mechanisms of how the KT activity works to influence behaviour and attitudes, and *delivery* is the method used to communicate the knowledge.

**Figure 21**

*Knowledge translation*




At the project's inception, an environmental scan (Pawson, 2013) identified the relevant stakeholder groups for the comprehensive communication plan that was implemented. A project web page (www.pwhs.ubc.ca/prevent-violence) provided the research status throughout the process and access to the project goals, scope, FAQ, research brief, final report, Video Scribe© presentations of the findings and recommendations, and links to project-related research publications.

### 6.4.1 Recommendations

The following recommendations are part of the December 2020 Final Report to WorkSafeBC, accessible on the UBC Partnership for Work, Health and Safety web page www.pwhs.ubc.ca/prevent-violence. The dissertation author wrote the report with contributions and editing from Dr. Chris McLeod, Dr. Maura MacPhee, and Dr. Michael Daniels.

The evaluation recommendations provide stakeholders with actionable evidence to inform decisions to address violence from patients and visitors. While this section outlines specific recommendations for each COM explanation, a subsequent section outlines considerations on approaching implementation of the recommendations.

#### 6.4.1.1 Recommendations related to each COM explanation

The recommendations are designed as a checklist, with numbers corresponding to individual COM explanations with the intent that stakeholders can use them as an assessment tool to identify gaps and strengths in their VP program. The first section of the checklist (1-4) corresponds to explanations related to formal education (Figure 22) while the second and third sections related to application of the knowledge and skills, refresher education, and support and follow-up after violence (Figures 23-24).

**Figure 22**

*VP education recommendations for formal education*

| | | |
|---|---|---|
| Formal education | 1 | ❑ Content & examples specific to participants' clinical area, role, experience level & site/unit resources<br>❑ Trainers teach from experience & understand participants' work setting & the violence they face |
| | 2 | ❑ Interactive sessions with discussion<br>❑ Actual lived stories of incidents as examples<br>❑ Psychologically safe practice of actual previous events |
| | 3 | ❑ Clinical education specific to patient population cared for & violence experienced e.g. MHA, dementia, trauma informed care<br>❑ Appropriate to role & experience level |
| | 4 | ❑ Focus on prevention: communication, de-escalation, decision making for safety . Do not include release/defense techniques |

**Figure 23**

*VP education recommendations related to the workplace*

| | | |
|---|---|---|
| Workplace | 5 | ❑ Train as a team, at worksite where possible<br>❑ Practice like other codes, team discussions & incident reviews |
| | 6 | ❑ Employ strategies to address workload & decrease task focus<br>❑ Review physical spaces for privacy/quiet to de-escalate violence<br>❑ Identify contributing factors for violence through debriefing |
| | 7 | ❑ Refresher sessions like clinical in-services: interactive & includes new information<br>❑ Discuss safety as part of culture: e.g. huddles, staff meetings, incident reviews |
| | 8 | ❑ Unit/site VP support: formal mentors, VP Champions, accessible site or unit instructors<br>❑ Support for young less experienced staff & role modelling by supervisors & senior staff |
| | 9 | ❑ Non blaming incident review to identify contribution of fatigue & stress<br>❑ Consistent support to take breaks especially post violence; review workload & OT hours<br>❑ Preventative personal & life coaching & access to employee counselling services |
| | 10 | ❑ Explore/address what makes staff feel physically vulnerable e.g. controllable access<br>❑ Ensure safe egress, escape space, clear reliable protocols to access help (security, code white, RCMP) |
| | 11 | ❑ Non-blaming role modelling & response by leaders to all events including errors, violence, critical incidents, staff injuries<br>❑ Non- blaming discussions about violence & purposeful support for new & less experienced staff for new skills |

**Figure 24**

*VP education recommendations related to support and follow-up*

| | | |
|---|---|---|
| Support- follow up | 12 | ❑ Education/refresher training focuses on team response & support during violence<br>❑ Team approach to violence protocol & role modelling role modelling by supervisors & senior staff |
| | 13 | ❑ Education for managers/supervisors on support after violence: acknowledging without blame; emotional check-in & support<br>❑ Team inclusion in discussions & debriefs, offer employee support services |
| | 14 | ❑ Standard violence debriefing process like other codes; document debriefs & recommendations.<br>❑ Focus debriefs on support, sharing , learning & prevention. |
| | 15 | ❑ Accessible efficient reporting: single place, minimal time & effort required, support to complete during work hours<br>❑ Timely response, consistent communication & follow-up preventative actions to individual/team/organization |

Although the recommendations were formulated for BC health authorities where the research was conducted, the theory driven approach of a realist evaluation approach suggests a broader application based on human behaviour and psychology. The realist review drew from a wide spectrum of literature from different countries and settings to provide a theoretical starting

point for the evaluation. While the primary data used for the evaluation was gathered through interviews and focus group interviews within a particular province and setting, the close alignment between the review and evaluation findings supports a broader application beyond the research sites, geographical location, and clinical setting of emergency departments.

### 6.4.2 Considerations for implementation

In addition to the specific recommendations presented above, two of the previously explained mechanisms were identified by the author as foundational: actual and perceived vulnerability and normalization of violence. As mechanisms that exist from before education through working, experiencing violence and the post violence period, feelings of being vulnerable and seeing violence as normal can take precedence over mechanisms such as team support or engagement in learning and provide a unique lens through which to design a VP strategy.

#### 6.4.2.1 Vulnerability

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

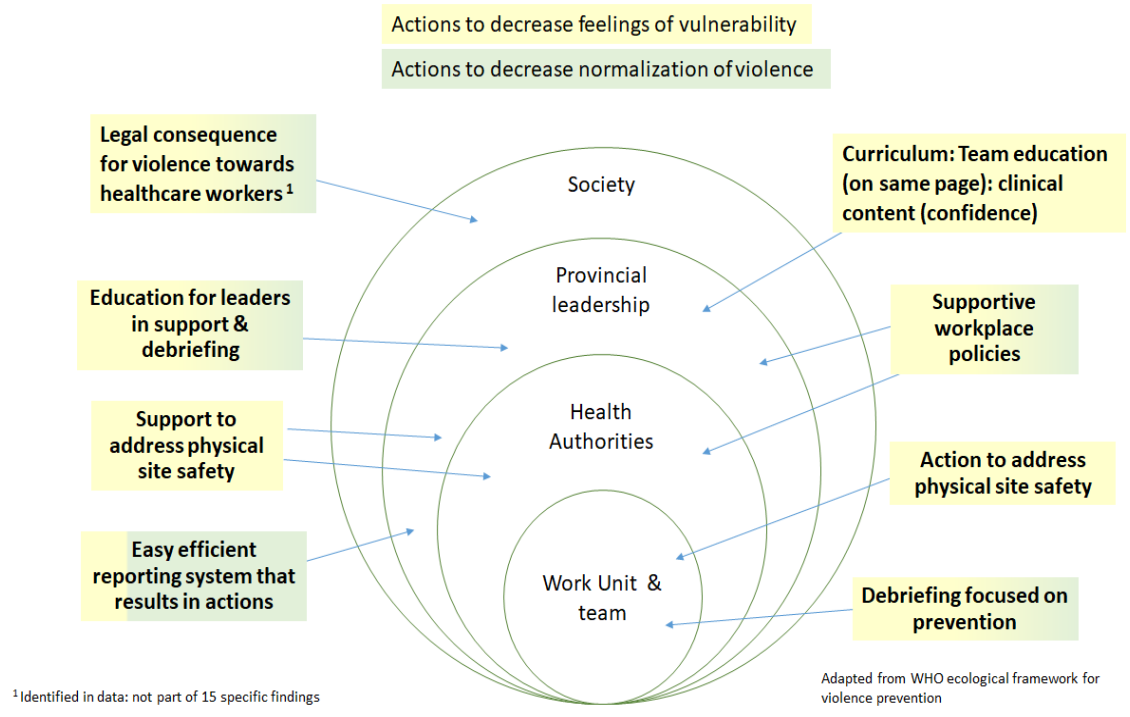
As one participant articulated, a healthcare worker's level of confidence and how vulnerable they feel influences whether they use an "army" (call security, code white, take down) versus the "diplomacy" approach (prevention, negotiation, de-escalation) taught in the PVPC (IV_T_21). Particularly at this time, focusing on recommendations that address feeling vulnerable can support healthcare workers' increased use of VP knowledge and skills while demonstrating a commitment to their safety and health.

#### 6.4.2.2 Normalization

Chronic underreporting of violence and the resulting lack of reliable data is a significant issue in evaluating actions to address violence, such as the recommendations in this report. As this evaluation confirmed, how an organization responds to violent incidents communicates both their commitment to safety and whether violence should be reported and addressed or is just part of the job. Consequently, acting on recommendations that influence violence's normalization also helps address underreporting and lack of data. By way of summary, the intersection of the mechanisms is illustrated in Figure 25 using an adapted ecological model from the WHO framework for societal levels of interventions to address violence (WHO, 2011).

**Figure 25**

*Actions related to vulnerability and normalizing violence*



### 6.4.3 Increasing awareness of a realist approach to evaluation

Social and educational programs and the settings where they are implemented are multi-faceted and complex. All programs and policies aiming to change human behaviour involve human choice influenced by individual interpretations and reasoning. Unlike a controlled lab setting, social programs are open systems with changing and evolving contexts and influences. As many organizations have learned, no intervention works for everyone in all contexts; a successful pilot of a program or policy does infer it will be successful in an enterprise-wide rollout. An evaluation of a social program or policy lacks critical information to guide practice if it does not include why, how, and for whom the intervention was (or was not) successful. The realist approach used in this project is well suited to evaluating programs and policies – like VP education – that involve human volition and complexity and where numeric outcome measurements cannot inform future action. Although a realist evaluation approach is widely used for health and social research in the United Kingdom (UK) and has a presence in Europe and Australia, it is lesser-known in Canada.

The selection of an evaluation approach depends upon the research purpose and questions, suitability to the setting and participants, accessibility of data, and resource availability (McDavid, J., Huse, I., & Hawthorn, 2013; Trochim, 2020). A realist approach is not appropriate to all research questions and circumstances. When relevant data is accessible and an evaluation is seeking to determine if a *process* was followed accurately, *worth an investment,* or demonstrated a *quantifiable* effect, evaluation approaches such as process, outcome, or impact are appropriate and less resource intensive than applying a realist methodology. When an evaluation seeks to understand *how*, *why* and *for whom* a social, educational or health program or policy is effective, a realist approach offers insights that other approaches are less able to provide. A growing trend

in the UK has been for studies to combined two complimentary approaches – such as a random clinical trial and a realist evaluation – addressing both the questions of whether a particular treatment or program works and also why, how, and for whom (Fletcher et al., 2016).

As no realist courses existed in Canada when this evaluation was conducted, the author gained knowledge and expertise by attending Oxford and Liverpool University courses and contracted with a realist mentor for support. Introducing and explaining a realist evaluation approach was a foundational aspect of the project KT, from networking the formal proposal, through to sharing the findings and recommendations. The author intends that the knowledge dissemination related to VP education in healthcare also increases awareness of the potential of using a realist approach to evaluation of other programs.

### 6.5 Dissertation strengths and limitations

*Strengths*

This dissertation's strength relates to its design and scope, multiple researchers' involvement, and methodology. Encouraged but not required within realist evaluation standards, this project's design included both a realist literature review and a realist evaluation strengthening the findings by utilizing secondary and primary data. The Project Advisory Group's involvement contributed to the evaluation's success, as group members championed the project within their organizations and felt ownership of the research and findings.

The project scope also contributed to the research's strength, with 64 documents included in the review and 136 individuals contributing to the evaluation data through 58 interviews and 25 focus group interviews at nine research sites. The evaluation findings identified the importance of resource availability in applying VP education, validating the purposeful decision to include rural, community, and urban tertiary hospital research sites.

Realist research acknowledges that the "standpoint of the researcher is inevitably involved in, and interacts with, the data that are collected" (Maxwell, 2012, p. 97) providing both a valuable resource and possible source of bias or distortion. As Maxwell (2012) explains, "rather than treating subjectivity as a variable to be controlled and ideally reduced to zero, realists see it as a component of the actual process of understanding" (p. 98) that when consciously managed can add to in-depth discussions and robust analysis of the evaluation data and findings. A strength in this project was the opportunity to leverage the author's extensive knowledge and experience of the research topic and environment (healthcare) while mitigating against pre-conceived paradigms and assumptions through diversity of membership on the research team. Three professors from different disciplines provided project supervision, and funding supported hiring of two part-time individuals with different backgrounds: an evaluator (MN) to coordinate project administration and assist with data collection and analysis, and a researcher (AV) to assist with initial data coding.

The realist methodology used in the review and evaluation contributed to the project's strength. By utilizing a lesser-known realist approach to review and evaluation, the project contributes knowledge regarding VP education effectiveness that traditional approaches cannot. With the amount of research conducted each year, it is reasonable to conclude that many studies have little influence on policies or programs. A strength of realist methodology is the ease with which findings translate into understandable and actionable recommendations. The pragmatic nature of the realist findings combined with involving stakeholders at all stages of the research strengthens the knowledge translation potential and the chance that the research will influence real-world program and policy decisions.

*Limitations*

The realist approach used in this project was a strength but also represents its most significant potential weakness. As realist methodology is lesser-known in Canada and not taught in BC, there was a significant learning curve for the author and other team members. The need for external support and education required travelling abroad and seeking external mentorship and advice for course correction. Conducting a realist evaluation requires significant time, energy, and resources as the sample size is significantly larger than many other qualitative approaches. The project team designed the evaluation sample to be larger than required in realist research to ensure the perception of contribution from all nine sites. The result was a long process with the final 30 transcripts supported the evidence already identified without contributing new explanations or ideas.

In addition to being new to the research team, a realist approach to evaluation was completely unknown to this project's stakeholders. This resulted in the need to spend as much time explaining and justifying the realist approach, and the scope and validity of the findings, as sharing the findings. The Project Advisory Group had the benefit of a gradual introduction to a realist approach, however, presenting the findings to a broader group of stakeholders resulted in a few individuals challenging the validity of findings that extended beyond the education program itself.

As noted previously, optimally, the project design could have triangulated data through a mixed-method approach combining violence incident and injury statistics and realist interview and focus group interview findings. Quantitative data inclusion was not included due to questionable accuracy due to underreporting of violent incidents and injuries, as confirmed by interview participants.

### 6.6 Implications for future research

As identified in the project scope and highlighted in the limitations, this evaluation focused on VP education in emergency departments in BC, Canada using qualitative data. While the findings are generalizable to settings that share the identified contexts, future research could validate, refine, or add explanations through realist evaluations of VP education in other healthcare areas, occupational sectors, provinces, or countries. Similar to the contexts in which they are implemented, programs are not static but evolve and develop when recommendations are implemented or participant's needs and work environments change. New studies can replicate this study to build upon this project's work by adapting and refining the findings and recommendations to address emerging contexts. Future research could apply a mixed-methods approach by including quantitative methods such as survey information or – if healthcare workers' violence incident and injury reporting becomes more reliable – violence statistics.

The evaluation findings emphasized the importance of in-person VP education for the opportunity for first person stories, followed by discussion and practice (COM explanation 2). During the 2020-2021 COVID-19 pandemic many educational programs made a required shift to on-line learning. The alternative modes of education delivery and numerous interactive platforms used such as ZOOM© provides opportunities to explore and evaluate how, why, and for whom VP programs achieved – or did not achieve – intended outcomes. The identification of multiple formal theories to support explanations – such as organizational trust, OCB, and employee voice in the final COM explanation related to reporting, presents interesting opportunities for further research to explore possible layering or sequencing within mechanisms.

Future research could include a more detailed analysis of the role of gender in Type II violence. Even though gender was not a contextual factor in this study's realist review or

evaluation, nursing is a gendered profession with the majority of nurses self-identifying as women. Understanding the role of gender in healthcare violence prevention education, therefore, should be examined in more depth (Ali, 2018).

### 6.7 Thoughts on the learning journey

From the inception of the proposal to writing the dissertation, the three years spent conducting this evaluation provided methodological, logistical, and conceptual lessons. The most significant learning involved internalizing realist methodology concepts by applying them progressively in the literature review, evaluation data collection, and data analysis. Although the actions in a realist approach to reviewing literature or interviewing participants resemble other methodologies, the focus of activities is different. Understanding the realist concepts of contexts and mechanisms and learning to sufficiently search and probe deep enough for the mechanisms that explain particular outcomes takes time, practice, and the occasional course correction.

The first lesson from this approach occurred during the review, when giving in to the temptation to search for all potential literature instead of focusing on documents that could inform the program theory resulted in a great deal of extra and wasted work. Similarly, in the review, the first coding attempt separated contexts, mechanisms, and outcomes and had to be abandoned as the results were confusing and unhelpful. The ease of coding complete COM explanations in the evaluation compared to the review was enlightening. None of the review documents had used a realist approach, making it challenging to identify and code mechanisms.

In contrast, the opportunity to probe in the evaluation interviews and focus group interviews made identifying and coding mechanisms more straightforward. Realist analysis and synthesis are iterative processes; however, the extent of continual refinement was unexpected. Distilling the mechanisms down to single words involved countless discussions, logic modelling,

and comparison with existing theories, which continued throughout the writing of the dissertation.

Logistically, while the project plan worked well, it is worth questioning if the large number of interviews (58) and focus group interviews (25) conducted was necessary. Arranging and conducting the data collection was time-consuming and the resulting 3100 pieces of data were at times overwhelming. Although conducting more interviews and focus group interviews honed the researchers' realist data collection skills – apparent when early and later transcripts were compared – the final third of the transcripts did not add new data as theoretical saturation was attained.

Two interview approaches were particularly effective and worth noting. Sharing the blank program theory timeline and asking the single opening question about what was most important for learning and applying VP knowledge and skills worked well. Participants understood the evaluation's scope and focused on what they cared about most. Offering a virtual magic wand was also valuable for helping participants to reframe the characteristics of contexts that did not support effective VP education to what would be effective and why.

One conceptual lesson learned during the project involved making false assumptions when the probing stops one question too soon. An example involves an emergency triage nurse describing giving short responses to waiting patients or visitors who repeatedly come and ask questions during busy times. A reasonable assumption might be that the nurse is stressed and unable to self-manage emotions and reactions. Additional probing, however, revealed that giving curt answers when the emergency waiting room is full, is an intentional time management technique to end conversations, freeing up time to triage new arrivals to ensure no patient is having a stroke or heart attack.

A second conceptual observation involves the relationship between the researcher and participants in realist research compared to other qualitative methodologies with which the author had experience. A realist approach allowed the researchers to be more transparent about the evaluation's focus, including the purpose of types of probing questions and allowed for researchers to share ideas from the literature or from other participants. Consequently, the interviews and focus group interviews felt less formal and more relaxed and conversational, and participants generally seemed at ease and engaged quickly.

Like most other researchers reporting or publishing their work, this author hopes to make a difference by increasing knowledge, changing practices, and influencing programs and policies. An ethical and moral imperative also exists to honour the project participants' contribution and trust. Many participants thanked us for the opportunity to be heard, with some expressing it was the first time they had hope that actions might be taken to address violence.

At the time of this dissertation, however, healthcare systems and healthcare workers worldwide are burdened with responding to waves of the COVID-19 virus pandemic. Across society, usual ways of meeting and interacting have changed, and constant vigilance against contracting the virus and feeling fearful is pervasive. Recent publications report that healthcare workers feel particularly vulnerable due to the pandemic, experiencing not only a fear of contracting the virus but also a lack of control of their work environment and increased emotional distress, with resulting mental health issues and insomnia (Hines, Chin, Levine, & Wickwire, 2020; Shigemura, Ursano, Kurosawa, Morganstein, & Benedek, 2021). Despite various public demonstrations of gratitude and recognition, there are also indications that violence towards healthcare workers has continued during the pandemic and, in some places, has increased (Devi, 2020; Forgione, 2020).

Responding to the virus, has redirected health services and organizational resources away from many priority clinical services – such as some elective surgery – and programs such as VP education, which have been scaled back or postponed indefinitely. While responding to the COVID-19 virus has understandably supplanted previous priorities, findings from this evaluation of VP education provide timely information as employers try to address pandemic-related psychological health issues for healthcare workers. The evaluation identified that unpredictable work environments increase feelings of vulnerability in healthcare workers affecting the psychological and physical health and resulting in behaviours driven by fear. The pandemic and variants of the virus have dramatically added to the unpredictability of the healthcare environment and vulnerability for workers in ways that are difficult for employers to address.

Unpredictability in the workplace is cumulative, and in the absence of the ability to control the pandemic factors, employers have the opportunity to increase workplace predictability for workers by addressing other factors contributing to unpredictability and vulnerability such as those identified in this evaluation for violence from patients.

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# Appendices

## Appendix A Realist Review Documents

### A.1 Initial program theory

Initial program theory: explanations of how the VP program is intended to achieve outcomes

| When /If | Then | Resulting in |
|---|---|---|
| On-line modules mirroring the classroom content are completed prior to the classroom sessions(s) | participants will learn & assimilate information through repetition & reinforcement* | Increased knowledge of how to think about, prevent & management violence |
| Violence scenarios are generated by participants from their own experience & used for discussion | participants will learn information through envisioning how the content can be applied | demonstration of the desired violence prevention, management & reporting actions |
| Information is given on the components & importance of risk assessment for violence | individuals will assume a belief that violence is not inevitable & can be prepared for & prevented | practice violence risk assessment as part of their normal care of patients |
| leaders follow up with employees after violence to inform actions to prevent further violence | employees see reporting as worthwhile & have increased trust that actions will be taken | will communicate risk of violence & report violence informally & formally |
| Peers support each other during & after a violent incident | individuals trust that "someone has their back" & they are not alone | will feel safer, less fear & more confidence to try new VP skills & apply new learning |
| Staff members have a heavy workload, multiple demands & lack of time | they may feel overwhelmed & fatigued | unable to apply knowledge to assess, prevent, & de-escalate violence |
| Thoughtful non blaming debrief sessions with staff after violent incidents or on a routine basis | participants will have reinforcement of the curriculum content applied to practice | are more likely to integrate the violence prevention into their practice routine. |
| Focus on self awareness & participant role in communication to prevent violence | participants will self reflect on previous interactions and potential future situations | Demonstrate reflexive behaviour & self management in future violence situations |
| Participants are given definitions & examples of what constitutes violence | participants will reconceptualise and reframe violence to include unintended violence | Will identify violence from a new perspective & complete risk assessments & reporting |

## A.2 Database search terms

*S4 search is the combination of S1 and S2 and S3 after duplicates were removed.

| **CINAHL Database (English; 2000-2018 Full Text ) S1 & S4 &S8** | | |
|---|---|---|
| **S1:** Workplace Violence<br>School violence<br>Risk for violence, self-directed or directed at others (NANDA)<br>Exposure to violence<br>Environmental management violence prevention<br>Work environment | **S2:** Rural health personnel<br>Health care industry<br>Multidisciplinary care team<br>Home health aides<br>Health personnel<br>Health personnel minority<br>Health facilities<br>**S3: (Personnel):**<br>Practical nurses<br>Nursing home personnel<br>Nursing staff hospital<br>Nursing assistants<br>**S4:** S2 OR S3 | **S5: (Training of employees)**<br>Multi-skilled health Practitioners<br>Staff development Training and development of employees<br>**S6: (Staff development)**<br>Staff development Outcomes of education<br>Inservice education<br>**S7: (Prevention Program)**<br>Hospital programs Program development<br>Employee assistant programs Prevention programs<br>Programmed instructions Program implementation<br>Program evaluationEmployee Orientation<br>**S8: S5 OR S6 OR S7** |
| **PsychINFO Database (English; 2008-2018 Full Text ) S1 & S4 & S7** | | |
| **S1:** Patient Violence Patient Abuse<br>Patient Violence Aggressive Behavior<br>Workplace Violence Exposure to Violence<br>Working Conditions | **S2:** Hospitals<br>Home Care Personnel<br>**S3:** Nursing Homes Nursing Students Nurses<br>S4: S2 OR S3 | **S5**: Hospital Programs Programmed Instruction &<br>** key words were typed in to the search as no search terms available*<br>**S6**: Training staff development<br>education<br>**S7: S5 OR S6** |
| **MEDLINE Database (English; 2008-2018 Full Text ) S3 & S4 &S5** | | |
| **S1**: MH Violence OR MH Workplace Violence OR MH Patients OR violence from patients OR MH Exposure to Violence OR MH Physical Abuse OR MH Safety OR MH Dangerous Behavior<br>**S2**: MH Problem Behavior OR aggressive behavior or violence OR MH Workplace Violence OR Type II violence **S3: S1 or S2** | **S4**: MH Workplace OR MH Hospitals OR MH Hospitals, Urban OR MH Hospitals, General OR MH Hospital Departments OR MH Personnel, Hospital OR MH Emergency Service, Hospital OR MH Hospital Medicine OR MH Nursing Staff, Hospital OR MH Hospital Rapid Response Team OR MH Health Care Sector OR MH Allied Health Personnel | **S5**: MH Program Evaluation OR MH Program Development OR Education OR MH Staff Development OR MH Inservice Training OR MH Training |
| **ERIC Database English; 2008-2018 Full Text S1 & S4 & S8** | | |
| **S1:** Violence OR Patients OR abuse OR Aggression | **S2:** Hospitals OR Nursing Homes OR Home Health Aides OR Health Facilities<br>**S3:** Health Personnel OR Nursing Students<br>**S4: S2 or S3** | **S5:** Training AND Allied Health Occupations Education OR Clinical Teaching Health Professions OR Nursing Students<br>**S6:** Staff Development OR Outcomes of Education OR Inservice Education<br>**S7:** Program Evaluation OR Employee Assistance Programs OR Program Development OR Teaching Methods OR Program Implementation OR Program Evaluation OR Staff Orientation<br>**S8: S5 or S6 or S7** |

## A.3 CINAHL snowball search terms from scoping documents

| Scoping document | | Key terms used as search terms | |
|---|---|---|---|
| | Violence S1 | Healthcare S2 | Intervention/ education S3 |
| (Tölli et al., 2017) | Aggression; challenging behaviour; violence | Nursing; | Behaviour management; effective interventions; staff competence; |
| (Kynoch et al., 2011) | Abuse; aggression; patient assault; violence; workplace violence | | |
| (Guay, Goncalves, & Boyer, 2016) | Aggression; psychological distress; violence | Psychiatric hospital; | Confidence in coping; education and training program; |
| (Beech & Leather, 2006) | Workplace violence | Health-care | Evaluation Training |
| (Ferrara, Davis-Ajami, Warren, & Murphy, 2017) | Agitation; Patient Assault; Workplace Violence | Acute Care; Nursing; Inpatients; Medical-Surgical Nursing; | Confidence; Crisis Intervention -- Education; Evaluation Research; Medical-Surgical Nursing -- Education; Program Evaluation |
| (Halm, 2017) | Patient Assault -- Workplace Violence; | Nurse Attitudes; Nursing Practice; Nursing Staff; Hospital | Communication Skills; Evidence-Based; Nursing Staff; Hospital Education; Outcomes of Education; Occupational Safety -- Education; Prevention and Control; Risk Management -- Education; Staff Development; Workplace Violence Prevention and Control |

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|---|---|---|---|
| (Forster et al., 2005) | Aggression | Health Personnel* Hospitalization Mental Health Services/organization & administration | Occupational Health*; Professional- Patient relations; Program Development; risk assessment; management methods; Violence/ prevention & control*; Occupational Exposure/ prevention & control*; |
| (Swain & Gale, 2014) | Patient Assault | Community Health Services; Community Health Workers; | Communication Skills Training; Occupational Safety; Outcome Assessment; Patient Assault -- Prevention and Control; |
| (Adamson, Vincent, & Cundiff, 2009) | Patient Assault; | Drug Rehabilitation Programs; Health Facility Environment; Health Personnel | Health Personnel -- Education; Staff Development; Workplace Violence -- Prevention and Control |
| (Hartley, Ridenour, Craine, & Morrill, 2015), | Workplace violence; | Healthcare | Online; training |
| (Kynoch et al., 2011) | abuse; aggression; patient assault; violence; workplace violence | | intervention |

## A.4 Included review documents contributing to COMs

| Author(s) | Year | Title | Publication |
|---|---|---|---|
| **Adams, J., Knowles, A., Irons, G., Roddy, A., & Ashworth, J** | 2017 | Assessing the effectiveness of clinical education to reduce the frequency and recurrence of workplace violence | Australian Journal of Advanced Nursing |
| **Arnetz, J. E., & Arnetz, B. B.** | 2000 | Implementation and evaluation of a practical intervention programme for dealing with violence towards health care workers | Journal of Advanced Nursing |
| **Ashton, R. A., Morris, L., & Smith, I.** | 2018 | A qualitative meta-synthesis of emergency department staff experiences of violence and aggression | International Emergency Nursing |
| **Baig, L., Tanzil, S., Shaikh, S., Hashmi, I., Khan, M. A., & Polkowski, M.** | 2018 | Effectiveness of training on de-escalation of violence and management of aggressive behavior faced by health care providers in a public sector hospital of Karachi | Pakistan Journal of Medical Sciences |
| **Banerjee, A., Daly, T., Armstrong, H., Armstrong, P., Lafrance, S., & Szebehely, M.** | 2008 | Out of control: Violence against personal support workers in long-term care | Report (CIHR Funded Project) |
| **Banerjee, A., Daly, T., Armstrong, P., Szebehely, M., Armstrong, H., & Lafrance, S.** | 2012 | Structural violence in long-term, residential care for older people: Comparing Canada and Scandinavia | Social Science & Medicine |
| **Beech, B., & Leather, P.** | 2006 | Workplace violence in the health care sector: A review of staff training and integration of training evaluation models | Aggression & Violent Behaviour |
| **Björkdahl, A., Hansebo, G., & Palmstierna, T.** | 2013 | The influence of staff training on the violence prevention and management climate in psychiatric inpatient units | Journal of Psychiatric & Mental Health Nursing |
| **Blando, J. D., O'Hagan, E., Casteel, C., Nocera, M. A., & Peek-Asa, C.** | 2013 | Impact of hospital security programmes and workplace aggression on nurse perceptions of safety | Journal of Nursing Management |
| **Blando, J., Ridenour, M., Hartley, D., & Casteel, C.** | 2014 | Barriers to effective implementation of programs for the prevention of workplace violence in hospitals | Online Journal Of Issues In Nursing |
| **Blouin, S.** | 2017 | Taking a stand against workplace violence | Health Care Executive |
| **Bond, P., Paniagua, H., & Thompson, A.** | 2009 | Zero tolerance of violent patients: Policy in action | Practice Nursing |
| **Brophy, J. T., Keith, M. M., & Hurley, M.** | 2018 | Assaulted and Unheard: Violence Against Healthcare Staff | New Solutions: A Journal of Environmental And Occupational Health |
| **Cassidy, E. L., Rosen, C., Cook, J., Greenbaum, M. A., Chow, H., Solano, N., & Sheikh, J. I.** | 2005 | Assessment to intervention: Utilizing a staff needs assessment to improve care for behaviorally challenging residents in long term care (Part I) | Clinical Gerontologist |
| **Chapman, R., Ogle, K. R., Martin, C., Rahman, A., Mckenna, B., & Barnfield, J.** | 2016 | Australian nurses' perceptions of the use of manual restraint in the Emergency Department: A qualitative perspective | Journal of Clinical Nursing |
| **Chen, W. C., Huang, C. J., Chen, C. C., & Wang, J. D.** | 2011 | The incidence and risk factors of workplace violence towards female | Archives of Environmental & |

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| | | nurses reported via internet in an acute psychiatric hospital | Occupational Health |
| **Child, Rebekah J. Howerton, and Elizabeth J. Sussman.** | 2017 | Occupational Disappointment: Why Did I Even Become a Nurse? | Journal of Emergency Nursing |
| **Darling, F. E., Allen, D. E., de Nesnera, A., & Cummings, K.** | 2011 | Transforming the culture of caring: Getting hurt is not part of the job | Journal of Psychosocial Nursing |
| **Dickens, G., Rogers, G., Rooney, C., McGuinness, A., & Doyle, D.** | 2009 | An audit of the use of breakaway techniques in a large psychiatric hospital: A replication study | Journal of Psychiatric and Mental Health Nursing |
| **Duffin, C.** | 2010 | Researchers question the effectiveness of training staff in breakaway techniques | Mental Health Practice |
| **Duncan, S.M., Hyndamn, K., Estabrooks, C.A., Hesketh, K., Humphrey, C.K., Wong, J.S., Acorn, S. and Giovannetti, P.** | 2016 | Nurses' experience of violence in Alberta and British Columbia hospitals | Canadian Journal of Nursing Research |
| **Edmondson, A. C.** | 2008 | Managing the risk of learning: Psychological safety in work teams | International Handbook of Organizational Teamwork and Cooperative Working |
| **Farrell, G. & Salmon, P.** | 2010 | Challenging behaviour: An action plan for education and training | Contemporary Nurse |
| **Farrell, G., & Cubit, K.** | 2005 | Nurses under threat: a comparison of content of 28 aggression management programs | International Journal of Mental Health Nursing |
| **Forster, J. A., Petty, M. T., Schleiger, C., & Walters, H. C.** | 2005 | kNOw workplace violence: developing programs for managing the risk of aggression in the health care setting | The Medical Journal of Australia |
| **Gerdtz, M. F., Daniel, C., Dearie, V., Prematunga, R., Bamert, M., & Duxbury, J.** | 2013 | The outcome of a rapid training program on nurses' attitudes regarding the prevention of aggression in emergency departments: A multi-site evaluation | International Journal of Nursing Studies |
| **Gillespie, G. L., Farra, S. L., & Gates, D. M.** | 2014 | A workplace violence educational program: a repeated measures study | Nurse Education in Practice |
| **Gillespie, G. L., Gates, D. M., Kowalenko, T., Bresler, S., & Succop, P.** | 2014 | Implementation of a comprehensive intervention to reduce physical assaults and threats in the emergency department | Emergency Nursing: JEN |
| **Gillespie, G. L., Gates, D. M., Mentzel, T., Al-Natour, A., & Kowalenko, T.** | 2013 | Evaluation of a comprehensive ED violence prevention program | Journal of Emergency Nursing |
| **Gillespie, G. L., Gates, D. M., Miller, M., & Howard, P. K** | 2010 | Workplace Violence in Healthcare Settings: Risk Factors and Protective Strategies | Rehabilitation Nursing |
| **Halm, M.** | 2017 | Aggression management education for acute care nurses- What's the evidence? | American Journal of Critical Care |
| **Heckemann, B., Breimaier, H. E., Halfens, R. J. G., Schols, J. M. G. A., & Hahn, S.** | 2016 | The participant's perspective: learning from an aggression management training course for nurses. Insights from a qualitative interview study | Scandinavian Journal of Caring Sciences |
| **Henderson, L., Kamp, B., Niedbalski, K., Abraham, S. P., & Gillum, D. R.** | 2018 | Nurses' Perspectives on Patient and Visitor Violence: A Qualitative Study | International Journal of Studies in Nursing |

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| **Hills, D.** | 2008 | Relationships between aggression management training, perceived self-efficacy and rural general hospital nurses' experiences of patient aggression | Contemporary Nurse. |
| **Ilkiw-Lavalle, O., Grenyer, B. F., & Graham, L.** | 2012 | Does prior training and staff occupation influence knowledge acquisition from an aggression management-training program? | International Journal of Mental Health Nursing |
| **Jussab, F., & Murphy, H.** | 2015 | "I just can't, I am frightened for my safety, I don't know how to work with her": Practitioners' experiences of client violence and recommendations for future practice | Professional Psychology: Research & Practice |
| **Kansagra, S.M., Rao, S.R., Sullivan, A.F., Gordon, J.A., Magid, D.J., Kaushal, R., Camargo, Jr, C.A. and Blumenthal, D.** | 2008 | A survey of workplace violence across 65 US emergency departments | Academic Emergency Medicine |
| **Koller, L. H.** | 2016 | It could never happen here: promoting violence prevention education for emergency department nurses | Journal of Continuing Education |
| **Lanctôt, N., & Guay, S.** | 2014 | The aftermath of workplace violence among healthcare workers: A systematic literature review of the consequences | Aggression and Violent Behavior |
| **Lanza, M., Schmidt, S., & Mcmillan, F., Demaio, J., & Forester, L.** | 2011 | Support Our Staff-A Unique Program to Help Deal With Patient Assault. | Perspectives in Psychiatric Care |
| **Leadbetter, D.** | 2007 | Challenging behaviour: Whose problem is it? | Nursing & Residential Care |
| **Lee, B., Del Rosario, K., & Byron-Iyamah, C.** | 2017 | Incorporating Relationship-Based Care Into a Nurse Education Program for Managing Disruptive Patient Behaviors | Clinical Nurse Specialist CMS |
| **Luck, L., Jackson, D., & Usher, K.** | 2008 | Innocent or culpable? Meanings that emergency department nurses ascribe to individual acts of violence | Journal of Clinical Nursing |
| **MacGabhann, L.** | 2002 | Prevention and management of violence: Implementing clinically effective practice | Mental Health Practice |
| **Marshall, B., Craig, A., & Meyer, A.** | 2017 | Registered nurses' attitudes towards, and experiences of, aggression and violence in the acute hospital setting | Kai Tiaki Nursing Research |
| **Martinez, A. J. S** | 2016 | Managing Workplace Violence with Evidence-Based Interventions: a Literature Review | Journal of Psychosocial Nursing & Mental Health Services |
| **Moylan, L.** | 2015 | A Conceptual Model for Nurses Decision-making with the Aggressive Psychiatric Patient. | Issues in Mental Health Nursing |
| **Needham, I., Abderhalden, C., Halfens, R. J., Fischer, J. E., & Dassen, T.** | 2005 | Non-somatic effects of patient aggression on nurses: a systematic review | Journal of Advanced Nursing |
| **O'Grady, E., Dempsey, L., & Fabby, C.** | 2012 | Anger: a common form of psychological distress among patients at the end of life | International Journal of Palliative Nursing |
| **Parish, C.** | 2013 | Change ward culture to cut violence and aggression | Mental Health Practice |
| **Paterson, B., Leadbetter, D., & Bowie, V.** | 1999 | Supporting nursing staff exposed to violence at work | International Journal of Nursing Studies |

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|---|---|---|---|
| **Pich, J., Hazelton, M., Sundin, D., & Kable, A.** | 2010 | Patient-related violence against emergency department nurses | Nursing & Health Sciences |
| **Price, O., Baker, J., Bee, P., & Lovell, K.** | 2015 | Learning and performance outcomes of mental health staff training in de-escalation techniques for the management of violence and aggression | British Journal of Psychiatry |
| **Renker, P., Scribner, S. A., & Huff, P.** | 2015 | Staff perspectives of violence in the emergency department: Appeals for consequences, collaboration, and consistency | Work |
| **Rosenau, B.** | 2017 | Violence Prevention and Nurse Safety | Canadian Nurse |
| **Sato, K., Wakabayashi, T., Kiyoshi-Teo, H., & Fukahori, H** | 2013 | Factors associated with nurses' reporting of patients' aggressive behavior: A cross-sectional survey | Journal of Nursing Management |
| **Stevenson, K. N., Jack, S. M., O'Mara, L., & LeGris, J.** | 2015 | Registered nurses' experiences of patient violence on acute care psychiatric inpatient units: an interpretive descriptive study | BMC Nursing |
| **Stubbs, B., & Dickens, G.** | 2008 | Prevention and management of aggression in mental health: an interdisciplinary discussion | International Journal of Therapy & Rehabilitation |
| **Sturrock, A.** | 2010 | Restraint in inpatient areas: the experiences of service users | Mental Health Practice |
| **Tölli, S., Partanen, P., Kontio, R., & Häggman-Laitila, A.** | 2017 | A quantitative systematic review of the effects of training interventions on enhancing the competence of nursing staff in managing challenging patient behaviour | Journal of Advanced Nursing |
| **Vandecasteele, T., Van Hecke, A., Duprez, V., Beeckman, D., Debyser, B., Grypdonck, M., & Verhaeghe, S.** | 2017 | The influence of team members on nurses' perceptions of transgressive behaviour in care relationships: A qualitative study | Journal of advanced nursing |
| **Wang, S., O'Brien-Pallas, L. L., & Hayes, L.** | 2008 | A review and evaluation of workplace violence prevention programs in the health sector | Nursing Health Services Research Unit |
| **Whitman, E.** | 2016 | Frequent violence in the ED doesn't have to be part of the job | Modern Healthcare |
| **Zarola, A., & Leather, P.** | 2006 | Violence and aggression management training for trainers and managers A national evaluation of the training provision in healthcare settings | Report prepared for the Health and Safety Executive, Nottingham |

# Appendix B Realist evaluation documents

## B.1 Poster to recruit interview participants

(Health authority logo)

# Emergency Department Research Volunteers Needed!

The Partnership for Work, Health and Safety, a research unit at the University of British Columbia, is conducting an innovative evaluation of the Provincial Violence Prevention education.

## Your emergency department is one of nine across BC chosen to participate in the project.

You are invited to participate if you are an emergency department staff member who:

1. Wants to contribute to solutions addressing violence against health careworkers from patients and visitors
2. Frequently interacts with/or provides direct care to emergency patients
3. Have worked in emergency for at least 1 year
4. Have attended the Provincial Violence Prevention education in the past 5 years

What does participation involve?

- Sharing your opinion and ideas about explanations of how, when, for whom, and in what situations the Violence Prevention education is effective in preventing violence and staff injuries
- An option to participate on work time or non-work time
- A confidential interview up to 60 minutes in length

As a thank you will receive:

- $75 gift card for participation on non-work time
- $20 gift card for participation on work time

**Interested in participating or want more information? Please contact**

Name and contact information

THE UNIVERSITY OF BRITISH COLUMBIA

Partnership for Work, Health and Safety

## B.2 Email to recruit focus group interview participants

Email content to be sent by a site administrative assistant to potential focus group interview participants:

*The email below is being forward to you for consideration as our health authority has agreed to participate in this UBC project*.

PLEASE DO NOT RESPOND TO THE SENDER OF THIS EMAIL. If you are interested in participating in a focus group or have questions about the UBC project PLEASE CONTACT THE RESEARCH TEAM DIRECTLY
*(will be one or the other listed below depending on the research site)*

Email (name and email) or call XXX-XXX-XXXX
*(or)*
Email (name and email) or call XXX-XXX-XXXX

The Partnership for Work Health and Safety at the University of British Columbia is inviting you to participate in a WorkSafeBC funded research project to evaluate the Provincial Violence Prevention education that has been implemented in BC health care. The evaluation is taking place in nine sites across BC and involves interviews with frontline workers in the emergency department, and separate focus groups with key individuals who have a role in creating a safe work environment.

**You are invited to a focus group for:**
☐ Acute care managers and supervisors
☐ JOSH Committee Members
☐ Violence prevention educators

The purpose of the project is to develop a practical understanding of how and why the violence prevention education is effective (or ineffective) in preventing violent incidents from patients and violence related injuries to staff, and in increasing reporting of violence. The evaluation project will develop explanations and recommendations to inform further decisions about violence prevention in BC health care.

This focus group will be held during regularly scheduled hours, will take 30-60 minutes, and where possible will coincide with existing meetings. Participation is completely voluntary and there is no risk to you or your employment if you decline to participate or withdraw from participating.

The research team will keep strictly confidential information about who participates and information shared in the focus group will not be identified as coming from any particular individual, group, or site.

At the end of the focus group individuals will receive a $20 gift card in appreciation for their participation.

(one of the following regarding the date and time of the focus group)

a) Date time and specifics about the scheduled focus group
b) Information about possible dates and times
c) A request for availability from interested individuals

More detailed information is provided on the attached consent form.

PLEASE DO NOT RESPOND TO THE SENDER OF THIS EMAIL. If you are interested in participating in a focus group or have questions about the UBC project PLEASE CONTACT THE RESEARCH TEAM DIRECTLY
*(Will be one or the other listed below depending on the research site)*

Email (Name and contact information researcher 1)
*(Or)*
Email (Name and contact information researcher 2)

You can also check out our website at www.pwhs.ubc.ca/prevent-violence

Thank you in advance for considering our invitation and we look forward to hearing from you,
(One or the other name consistent with who is to receive the reply)

Researcher 1
PhD Candidate
Partnership for Work, Health and Safety

Researcher 2
Research Coordinator
Partnership for Work, Health and Safety

For
Dr. Christopher McLeod, Principal Investigator
Co-Director, Partnership for Work, Health and Safety
(email) XXX-XXX-XXXX,
School of Population and Public Health,
UBC 2206 East Mall, Vancouver, BC, V6T 1Z3
www.pwhs.ubc.ca

## B.3 Consent form- Interviews

THE UNIVERSITY OF BRITISH COLUMBIA

(health authority logo)

**Informed Consent for Interview Participants**
Realist evaluation of violence prevention education in BC health care

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| **Principal Investigator:** | **Co-Investigators:** |
|---|---|
| Christopher McLeod, Principal Investigator<br>UBC School of Population and Public Health<br>(email and telephone number) | Maura MacPhee, UBC School of Nursing<br>Michael Daniels, UBC Sauder School of Business<br>(name and contact information for health authority contact) |

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You are invited to take part in an evaluation project "Realist evaluation of violence prevention education in BC health care". This evaluation is being conducted by Sharon Provost, PhD Candidate (University of British Columbia) under the supervision of Dr. Chris McLeod (UBC School of Population and Public Health), Dr. Maura MacPhee (UBC School of Nursing) and Dr. Michael Daniels (UBC Sauder School of Business).

**Project Purpose**: Violence against health care workers from those they care for is a serious problem. Violence prevention education has been provided to BC health care workers in high-risk areas such as emergency, mental health and residential care. Understanding if this education is making a difference is challenging as increases or decreases in reported violence and injuries can be related to many different factors.

The purpose of this evaluation is to understand why, how, when, for whom and in what circumstances the violence prevention education in health care is effective (or ineffective) in preventing violent incidents and related injuries and in increasing reporting of violence. The evaluation project will develop practical theories and recommendations to inform further decisions about violence prevention activities in BC Health care.

**Project Funder:** WorkSafeBC is funding this evaluation.

**Data Collection**: This evaluation is being conducted in nine different emergency departments across three BC health authorities.

Interviews

Individual interviews will be conducted with frontline staff members in each emergency department. Interviews will be approximately 60 minutes long and will be held outside of scheduled work hours. At the conclusion of the interview participants will be offered a $75 gift card in appreciation of their contribution. The discussion will focus on feedback and opinions on explanations about how, why, when, and for whom the education does or does not make a difference in preventing or managing violence from patients or visitors.

Although the interview may draw on personal experience, the focus is on participant feedback and opinions on theories about how, why, when, and for whom the education does or does not make a difference to preventing or managing violence from patients or visitors. Interviews will be digitally recorded, transcribed and analyzed in NVivo software to abstract the key themes.

Focus Groups

Focus groups in each health authority or at each site will be held with:

a) Violence prevention educators
b) Acute care leaders
c) Joint Occupational Health and Safety Committee members

**Confidentiality:** Your confidentiality will be respected. However, research records identifying you may be inspected in the presence of the Investigator or his designate by representatives of (health authority) (not your direct supervisor or manager) and the (appointed HA) Health Research Ethics Board Co-Chair for the purpose of quality assurance. No information or records that disclose your identity will be published without your consent, nor will any information or records that disclose your identity be removed or released without your consent unless required by law.

You will be assigned a unique study number as a subject in this study. Only this number will be used on any research-related information collected about you during the course of this study, so that your identity (i.e. your name or any other information that could identify you) as a subject in this study will be kept confidential. Information that contains your identity will remain only with the Principal Investigator and/or his designate. The list that matches your name to the unique study number that is used on your research-related information will not be removed or released without your consent unless required by law.

Your participation is entirely voluntary. The decision to participate is up to you. You may choose at any time not to answer a question, change your responses, withdraw an answer,

or stop the interview. If you decide to withdraw from the study at any time, your data will not be included.

Your rights to privacy are also protected by the Freedom of Information and Protection of Privacy Act of British Columbia. This Act lays down rules for the collection, protection, and retention of your personal information by public bodies, such as the University of British Columbia and its affiliated teaching hospitals. Further details about this Act are available upon request (Freedom of Information and Protection of Privacy Act of British Columbia).

**Contacts for questions or concerns:** If you have any questions about this project at any time, please contact (Name) Director of Operations and Privacy with the Partnership of Work, Health and Safety at XXX-XXX-XXXX.

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics (contact info) and/or contact the HA Health Research Ethics Board Co-Chair by calling XXX-XXX-XXXX.

**Risk and Benefits:** There are no anticipated risks for participating, nor any consequences to deciding not to participate. All interviews will be conducted in private and what individuals say will remain confidential. The information gained through interviews will not be used as individual accounts. Quotes may be used to illustrate important concepts, however, no personal identifiers, such as names or locations, will be used. Participating in this project can be a positive experience for individuals who care about sharing their expertise/perspective, want their voice heard and want to contribute to addressing violence. Individuals will receive a gift card in appreciation.

**Participant Consent:** Taking part in this project is entirely up to you. You have the right to refuse to participate in this project. If you decide to take part, you may choose to pull out of the project at any time without giving a reason and without any negative impact on your employment.

- Your signature below indicates that you have received a copy of this consent form for your own records.
- Your signature indicates that you consent to participate in an interview and consent to have the discussion digitally recorded.

_____

Participant Signature Date

_____

Participant Name (Print)

## B.4 Consent form – Focus groups

THE UNIVERSITY OF BRITISH COLUMBIA

health authority logo

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**Informed Consent for Focus Group Participants**
Realist evaluation of violence prevention education in BC health care

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| **Principal Investigator:** | **Co-Investigators:** |
|---|---|
| Christopher McLeod, Principal Investigator<br>UBC School of Population and Public Health<br>(email and telephone number) | Maura MacPhee, UBC School of Nursing<br>Michael Daniels, UBC Sauder School of Business<br>(name and contact information for health authority contact) |

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You are invited to take part in an evaluation project "Realist evaluation of violence prevention education in BC health care". This evaluation is being conducted by Sharon Provost, PhD Candidate (University of British Columbia) under the supervision of Dr. Chris McLeod (UBC School of Population and Public Health), Dr. Maura MacPhee (UBC School of Nursing) and Dr. Michael Daniels (UBC Sauder School of Business).

**Study Purpose**: Violence against health care workers from those they care for is a serious problem. Violence prevention education has been provided to BC health care workers in high-risk areas such as emergency, mental health and residential care. Understanding if the education is making a difference is challenging as increases or decreases in reported violence and injuries can be related to many different factors.

The purpose of this evaluation is to understand why, how, when, for whom and in what circumstances the violence prevention education in health care is effective (or ineffective) in preventing violent incidents and related injuries and in increasing reporting of violence. The evaluation project will develop practical theories and recommendations to inform further decisions about violence prevention activities in BC Health care.

**Project Funder:** WorkSafeBC is funding this evaluation. If you choose to participate during a regularly scheduled shift, your health authority will cover the cost of employee time to participate.

**Data Collection**: This evaluation is being conducted in nine different emergency departments across three BC health authorities. Focus groups in each health authority or at each site will be held with:

a) Violence prevention educators
b) Acute care leaders
c) Joint Occupational Health and Safety Committee members

Focus group participants are invited to participate via an email forwarded by an administrative assistant outside of their department. Individuals wishing to participate will be asked to contact the research team. The focus groups will take approximately 60 minutes, will be held during scheduled work hours and where possible will coincide with existing meetings. Participants will receive a $20 gift card to thank them for their contribution.

Although the focus group discussion may draw on personal experience, the focus is on participant feedback and opinions on theories about how, why, when, and for whom the education does or does not make a difference to preventing or managing violence from patients or visitors. Focus groups will be digitally recorded, transcribed and analyzed in NVivo software to abstract the key themes.

Posters will also be placed in the nine emergency departments asking for frontline caregiver volunteers for individual interviews.

**Confidentiality:** Your confidentiality will be respected. However, research records identifying you may be inspected in the presence of the Investigator or his designate by representatives of (health authority) (not your direct supervisor or manager) and the (appointed HA) Health Research Ethics Board Co-Chair for the purpose of quality assurance. No information or records that disclose your identity will be published without your consent, nor will any information or records that disclose your identity be removed or released without your consent unless required by law.

You will be assigned a unique study number as a subject in this study. Only this number will be used on any research-related information collected about you during the course of this study, so that your identity (i.e. your name or any other information that could identify you) as a subject in this study will be kept confidential. Information that contains your identity will remain only with the Principal Investigator and/or his designate. The list that matches your name to the unique study number that is used on your research-related information will not be removed or released without your consent unless required by law.

Participation is entirely voluntary, the decision to participate is up to you. You may choose at any time not to answer a question, change your responses, withdraw an answer, or leave the group. All participants are encouraged to refrain from disclosing the contents of the discussion outside of the focus group, however, we cannot control what other participants do with the information discussed. Potential focus group participants who wish to

participate and who are concerned about sharing their perspectives in a group setting may request an interview instead. If you decide to withdraw from the study, any data that is attributed to you will not be included.

Your confidentiality will be respected at all times. Your rights to privacy are also protected by the Freedom of Information and Protection of Privacy Act of British Columbia. This Act lays down rules for the collection, protection, and retention of your personal information by public bodies, such as the University of British Columbia and its affiliated teaching hospitals. Further details about this Act are available upon request (Freedom of Information and Protection of Privacy Act of British Columbia).

**Contacts for questions or concerns:** If you have any questions about this study at any time, please contact (Name) Director of Operations and Privacy with the Partnership of Work, Health and Safety at XXX-XXX-XXXX.

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics (contact info) and/or contact the Health Research Ethics Board Co-Chair by calling XXX-XXX-XXXX.

**Risk and Benefits:** There are no anticipated risks for participating, nor any consequences to deciding not to participate. All focus groups will be conducted in private locations and what individuals say will remain confidential to those who are present. The information gained through focus groups will not be used as individual accounts. Quotes may be used to illustrate important concepts, however, no personal identifiers, such as names or locations, will be used. Participating in this project can be a positive experience for individuals who care about sharing their expertise/perspective, want their voice heard and want to contribute to addressing violence. Individuals will receive a $20 gift card in appreciation.

**Participant Consent:** Taking part in this project is entirely up to you. You have the right to refuse to participate in this project. If you decide to take part, you may choose to pull out of the project at any time without giving a reason and without any negative impact on your employment.

- Your signature below indicates that you have received a copy of this consent form for your own records.
- Your signature indicates that you consent to participate in a focus groups and consent to have the discussion digitally recorded.

_____

Participant Signature Date

_____

Participant Name (Print)

## B.5 Gift card acknowledgement

(PWHS Logo)

Acknowledgement of Receipt

"I hereby acknowledge receipt of a gift card valued at $_____ as a token of appreciation for my participation in the Realist Evaluation of Violence Prevention Education in BC Health Care research project conducted by the Partnership for Work, Health and Safety at the University of British Columbia."

Printed name: _____

Email: _____

Contact number: _____

_____ _____
Signature of the Recipient Date

_____ _____
Signature of a witness Date

## B.6 Poster to thank participants

(Health authority logos)

# Thank you
## Emergency Department Research Volunteers!

The Partnership for Work, Health and Safety, a research unit at the University of British Columbia, has now finished the interviews for the realist evaluation of the Provincial Violence Prevention Education.

We want to thank all of the individuals who helped make this project a success through participating, encouraging others to contact us, putting up posters and booking meeting spaces.

We are committed to sharing the study findings with you when they are ready and will update our status on our webpage: https://pwhs.ubc.ca/revpe/

| | | |
|---|---|---|
| Researcher 1 photo and name | *Thank you again!* | Researcher 2 photo and name |

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Partnership for Work, Health and Safety

## B.7 Participant characteristics information questions

Interview Participant Info – (Asked verbally, audio recorded, coded in NVivo©)

1. Role & profession?
2. How long have you worked in this role?
3. How long have you worked in emergency?
4. When did you attend the training?
5. Apart from the classroom session, what other violence prevention education have you participated in (on-line modules, simulations, refresher etc.)?
6. Have you experienced violence or aggression from patients or visitors?

Focus Group Participant Info – Leaders (written form, entered into Excel)

1. Current role & profession?
2. Clinical area(s) that you manage/supervise:
3. Have you attended the violence prevention education in the past 5 years?
4. Have you experienced violence or aggression from patients or visitors?

Focus Group Participant Info – Violence Educators (written form entered into Excel)

1. Current role & profession?
2. Did you participate in developing the violence prevention curriculum and in what way?
3. How long have you been teaching the violence prevention curriculum?
4. Have you experienced violence or aggression from patients or visitors?

Focus Group Participant Info – JOHSC (written form, entered into Excel)

1. Current role & profession?
2. How long have you been on the Safety Committee?
3. Have you attended the violence prevention education in the past 5 years?
4. Have you experienced violence or aggression from patients or visitors?