

**Rural and Remote Clinical Network
Transport Working Group**

Evidence Brief #119

INTERVENTIONS TO SUPPORT PHYSICIANS IN RURAL AND REMOTE
PRACTICE WHO HAVE BEEN EXPOSED TO WORK-RELATED
EMOTIONAL TRAUMA WHILE CARING FOR PATIENTS

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INTERVENTIONS TO SUPPORT PHYSICIANS IN RURAL AND REMOTE PRACTICE WHO HAVE BEEN EXPOSED TO WORK-RELATED EMOTIONAL TRAUMA WHILE CARING FOR PATIENTS

I. Introduction

The Rural Coordinating Center for British Columbia (RCCBC) and the British Columbia Academic Health Science Network (BC AHSN) are working collectively and collaboratively to improve outcomes and value for residents and caregivers living in rural and remote British Columbia. To this end, BC AHSN is supporting the Rural and Remote Clinical Network. This evolving Clinical Network focuses on achieving the Quadruple Aim*, which includes “improving the work life of health care providers.”^{1 2} As such, part of BC AHSN’s work in Rural and Remote Care includes various initiatives to support the well-being of physicians working in rural and remote practice. In particular, this evaluation assesses the evidence on interventions to support health care providers following high-acuity, low-volume clinical events.

Previous key informant interviews undertaken by RCCbc with rural physicians have shown that:

“Stress and personal emotional trauma surrounding challenging clinical events has emerged as a key concern of many currently working in rural communities. Many physicians avoid isolated environments for these reasons and we lose others if a bad outcome or near miss is experienced, particularly if occurring alone and without support. Most of our small communities have a single physician available at night and on weekends. In some communities, particularly isolated First Nations communities, health services are provided by nurses. This health care provider is responsible for diagnosis and treatment, recognition of transport need, patient support until launch, and facility debriefing afterward. There may be recognition of one’s limitations with resources immediately at hand (e.g. professional skill set, staff and operational resources). They often also wear the responsibility of a poor outcome within the suffering community. As a result of these types of events, many suffer from feelings of isolation, burnout, experience mental health impacts and/or may leave the community.”

* In 2008, Berwick and colleagues at The Institute for Health Improvement (IHI) created a framework describing three aims needed to delivery high value care, the Triple Aim. These include improving the individual experience of care; improving the health of populations; and reducing the per capita cost of health care. In 2014, Bodenheimer and colleagues added a fourth aim, namely improving the experience of those who provide care. Without attention to care providers themselves, the other three goals become even harder to achieve.

“There is no current ability within our system to systematically identify and mitigate these stressors. However, since many of these challenging events require patient transport out of the community, there is an opportunity, through partnership with BCEHS, to use transport data to identify when a high-acuity clinical event has occurred in order to follow up and provide support as needed for those involved.”³

Once we identify physicians and other care providers who have been involved in a high-acuity, low-frequency clinical event, what is the most appropriate intervention to support them? This research evaluates the evidence on effective interventions to support rural and remote physicians in this circumstance.

II. Research Question

What is the most effective, evidence-based, early intervention/rapid response model to support physicians in rural and remote practice who have been exposed to work-related emotional trauma while caring for patients, potentially predisposing them to adverse effects, such as the occupational phenomenon of “burnout”, or sometimes called “second victim”⁴?

III. Background

Evidence shows that, “Witnessing patient harm is a difficult, yet expected, experience for health care providers. However, the shock from unanticipated patient harm or medical error involvement, especially errors that result in patient injury, can be particularly damaging to one’s well-being.”⁵ Affected populations may include not only physicians themselves, but also colleagues, family members, patients, and the health care system.

Some have used the term “second victim” (with patients being the first victims) to describe the phenomenon of caregivers who experience work-related emotional trauma.⁵ Others have expressed concern about this term and the characterization of physicians as “victims”, arguing that, “By referring to themselves as victims, healthcare professionals and institutions subtly

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promote the belief that patient harm is random, caused by bad luck, and simply not preventable. This mindset, they suggest, is incompatible with the safety of patients and the accountability that patients and families expect from healthcare providers.⁶ Irrespective of the term used, physicians who are exposed to occupational trauma may be predisposed to adverse effects, such as the occupational phenomenon of “burnout”.

According to WHO⁴, “burn-out” is now defined in ICD-11 as follows:

“Burn-out is a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions:

- feelings of energy depletion or exhaustion;
- increased mental distance from one’s job, or feelings of negativism or cynicism related to one’s job; and
- reduced professional efficacy.

Burn-out refers specifically to phenomena in the occupational context and should not be applied to describe experiences in other areas of life.”

Resiliency training may be helpful in “addressing unavoidable suffering, but it is the wrong treatment for the organizational pathologies that lead to avoidable suffering”.⁷ In other words, resiliency training is not a solution for the structural causes of burnout.

“Most studies on unanticipated or preventable patient harm cite the need for additional support services for those affected by the symptoms associated with medical error involvement.”⁵

“Since the 1990s, clinicians have been increasingly involved in attempts to develop interventions that might mitigate against the effects of trauma and prevent the onset of chronic PTSD. For several years, single-session interventions such as psychological debriefing were a widely used and popular form of intervention. Debriefing came under increasing scrutiny in the 1990s and has been the subject of one Cochrane Review first published in 1998 and subsequently updated (Rose 2002). Other reviews reported similar findings (van Emmerik 2002; Bastos 2015). The lack of evidence for the efficacy of single-session individual debriefing has therefore led many experts in the field to caution against its use (e.g. NICE 2018).”⁸ The World Health Organization has concluded that, “Single-session psychological debriefing should not

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“Increasingly the field has turned its attention to other models of intervention (Kearns 2012; Qi 2016). These models have included:

- multiple-session interventions aimed at any individual exposed to a traumatic event with the aim of preventing the development of PTSD
- interventions aimed at individuals with a known or suspected specific risk factor
- interventions aimed at individuals who are clearly symptomatic.

For example, psychological first aid has been increasingly prescribed as an initial form of intervention (NCTSN/NCP 2006). Psychological first aid refers to the provision of basic comfort, information, support and attendance to immediate practical and emotional needs. Brief forms of CBT offered from around two weeks’ post incident have been proposed as interventions to prevent the onset of PTSD and to treat those who develop symptoms in the early stages after a trauma. Interventions aimed at enhancing social support have also been suggested (Litz 2002; Ormerod 2002). Several recent studies have been conducted to evaluate some of these forms of intervention.”⁸

IV. Methods

1. selective review of literature
2. e-scan of organizations that provide emergency services and medical care in rural/remote settings
3. key informant interviews with leaders in organizations that provide emergency services and medical care in rural/remote settings

V. Results

A. Potential interventions

Potential interventions to support those who have been exposed to work-related emotional trauma include, for example: Employee Assistant Programs; Patient Safety; Rapid Response Teams; Root-Cause-Analysis (RCA); Morbidity and Mortality conference; Peer-to-Peer support (e.g. Critical Incident Stress Management-CISM) (i.e. Burlison ref 17, 19 24-27). Trauma-focused cognitive behavioural therapy (CBT) (see Bisson 2013; Bradley 2005), and eye movement desensitization and reprocessing (EMDR) (NICE 2018), have the strongest evidence base.⁸

B. Summary of 2019 Cochrane Systematic Review

The best evidence available comes from a Cochrane systematic review published August 8, 2019. ⁸ This study systematically reviewed the worldwide evidence on the efficacy of psychological multiple-session (two or more sessions) interventions aimed at preventing PTSD in individuals exposed to a traumatic event but not identified as experiencing any specific psychological difficulties, in comparison with control conditions (e.g. usual care, waiting list and no treatment) and other psychological interventions. The key points of this study are described in sub-sections 1-10 below:

1. Inclusion criteria: any multiple session (two or more) non-pharmaceutical early psychological interventions designed to prevent symptoms in adults who experienced a traumatic event that met the DSM-IV A1 criterion for PTSD, offered by one or more health professionals or lay person, and begun within 3 months of the traumatic incident.

2. Exclusion criteria: single-session individual/group interventions (they were the subject of a separate Cochrane Review) aimed at treating individuals identified as symptomatic.

3. Number of studies: n=27 studies

4. Number of participants: n=3964

5. Exposures:

- parents of children admitted to pediatric intensive care unit PICU (Als 2015, Kazak 2005, Lindwall 2014);
- bus drivers (Andre 1997);
- soldiers (Biggs 2016);
- maternity/pre-term NICU (Borghini 2014);
- victims of motor vehicle accidents MVA (Brom 1993; Wang 2015);
- survivors of critical illness (Cox 2018, Jones 2010);
- families end-of-life care (Curtis 2016);
- traumatic childbirth (Gamble 2005, 2010; Ryding 1998, 2004; Taghizadeh 2008);
- pilots (Gidron 2001; Zazick 2001);
- patients with implanted cardioverter defibrillators (Irvine 2011);
- patients post-intensive care (Jensen 2016);
- armed robbery (Marchand 2006);
- injury patients (Mouthaan 2013);
- trauma patients (Rothbaum 2012);
- snakebite victims (Wijesinghe 2015)

6. Analyses: meta-analysis n=21 studies (2721 participants)

- multiple session early psychological intervention vs treatment as usual n=17
- multiple session early psychological intervention with active control condition n=4

7. A1-PTSD Criterion: development of characteristic symptoms following exposure to an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate.¹¹

8. Intervention categories:

“a. trauma-focused cognitive behavioural therapy (TF-CBT) - any psychological intervention that predominantly used trauma-focused cognitive, behavioural or cognitive-behavioural techniques. This category included exposure therapy;

b. stress management/relaxation - any psychological intervention that predominantly taught relaxation or anxiety/stress management techniques;

c. TF-CBT group therapy - any approach delivered in a group setting that predominantly used trauma-focused cognitive, behavioural or cognitive-behavioural techniques;

d. CBT - any psychological intervention that predominantly used non-trauma-focused cognitive, behavioural or cognitive behavioural techniques. This category excluded the use of exposure therapy;

e. EMDR - any psychological intervention that predominantly used EMDR;

f. non-trauma-focused CBT group therapy - any approach delivered in a group that predominantly used non-trauma-focused cognitive, behavioural or cognitive-behavioural techniques;

g. other psychological intervention - any psychological intervention that predominantly used non-trauma-focused techniques that would not be considered cognitive, behavioural or cognitive-behavioural techniques. This category included nondirective counselling, psychodynamic therapy and hypnotherapy.

A priori eligible interventions included non-pharmaceutical interventions that were not based or only partially based on a specified theoretical model but that nevertheless aimed to reduce symptoms of traumatic stress, to include the following categories:

- a. Education or information giving intervention – any intervention which predominantly provided only education or information about possible future difficulties or offered advice about constructive means of coping, or both.
- b. Stepped care - any *a priori* specified care plan which offered intervention in a stepped care manner based on the continuing needs of the included participants.
- c. Interventions aimed at enhancing positive coping skills and improving overall well-being - any non-pharmaceutical intervention that aimed to improve well-being such as an occupational therapy intervention, an exercise-based intervention or a guided self-help intervention.

A priori trials considered included:

- a. psychological intervention versus waiting list or usual care control;
- b. psychological intervention versus other psychological intervention.

From prior knowledge of the literature, it was clear that a number of different forms of intervention had been evaluated on differing participant groups. Several studies were thought to have offered intervention to all individuals exposed. Others were known to have evaluated interventions for those who met inclusion based on predictors of future risk. The researchers decided to undertake comparison of all interventions together initially and to undertake sub-analysis on specific interventions and interventions targeted at individuals meeting specific risk factors, as appropriate.”⁸

9. Authors’ Conclusions:

“While the review found some beneficial effects of multiple-session early-psychological interventions in the prevention of PTSD, the certainty of the evidence was low due to the high risk of bias in the included trials. The clear practice implication of this is that, at present, multiple session interventions aimed at everyone exposed to traumatic events cannot be recommended. There are a number of ongoing studies, demonstrating that this is a fast-moving field of research. Future updates of this review will integrate the results of these new studies.”⁸

At present, multiple session interventions *aimed at everyone exposed to traumatic events* cannot be recommended. There are a number of ongoing studies, demonstrating that this is a fast-moving field of research.

10. Summary of Evidence from Systematic Review

After reviewing all studies included in the Cochrane systematic review, and based on subsequent to email communications with the lead author of that study, Dr. Neil Edwards, a member of Cardiff University's Traumatic Stress Research Group who undertakes research in the field of psychological trauma and PTSD ¹², I draw the following conclusion:

- There are no studies in which the inclusion criteria were: (1) physicians at risk of work-related emotional trauma, (2) which satisfy the criterion of multiple session (i.e. 2 or more) early intervention (i.e. intervention beginning within 3 months of the trauma exposure), and (3) which compared with control conditions and other psychological interventions.

C. Other Evidence from Non-Comparator Studies and Key Informant Interviews

Given that there are no studies that examine the most effective, evidence-based, early intervention/rapid response model to support physicians in rural and remote practice who have been exposed to work-related emotional trauma while caring for patients, we are left with the evidence (1) from non-comparator studies and therefore not eligible for inclusion in the 2019 systematic review; and (2) key informant interviews with leaders in organizations that provide care or rescue services in rural/remote settings.

1. Non-Peer-to-Peer interventions:

a. McMaster University Physician Wellness¹³

This program offers links to a range of “wellness” interventions for physicians in Ontario, including the Ontario Medical Association's Physician Health Program & Professionals Health Program, e-PhysicianHealth, CMPA's Physician Wellness, Depression Centre, and Panic Centre.

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b. Various CBT and stress management interventions

These interventions are not specific to physicians, are not peer-to-peer, and have varying degrees of efficacy. Evidence from these studies is reported in the aforementioned systematic review.

2. Peer-to-Peer interventions:

Evidence from “second victim” research suggests that peer-to-peer support is the approach preferred by physicians themselves.⁵ This preference for peer-to-peer interventions is corroborated by informal key informant interviews with rural physicians undertaken by RCCbc-collaborators. Three peer-to-peer models—CISM, forYou, and Transforming our Work: Thriving in Medicine—are the most widely described, either in the literature or by key informants.

a. Critical Incident Stress Management (CISM)

CISM^{14 15} is “an adaptive, short-term psychological helping-process that focuses solely on an immediate and identifiable problem. It can include pre-incident preparedness, to acute crisis management, to post-crisis follow-up. Its purpose is to enable people to return to their daily routine more quickly and with less likelihood of experiencing post-traumatic stress disorder (PTSD).”¹⁶

Importantly, evidence critical of Critical Incident Stress Management suggests that it should only be used for secondary victims, such as responding emergency services personnel, and was never intended to treat primary victims of trauma.¹⁷

CISM is a comprehensive range of integrated services, procedures, and intervention strategies designed to mitigate the effects of exposure to a critical incident. The core components¹⁸ of CISM are:

- Pre-Crisis Preparation
- Mobilization/Demobilization and Crisis Management Briefing (CMB)
- Defusing
- Critical Incident Stress Debriefing (CISD)
- Individual (One-On-One) Crisis Intervention
- Family Crisis Intervention
- Follow-up Services

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CISD^{19 20}, a component of CISM, was originally developed by Dr. Jeffrey Mitchell in 1974 to ease the acute stress responses of emergency workers. A critical incident is any event faced by emergency service personnel that may cause strong emotional reactions that could interfere with their ability to function. CISD hopes that immediate intervention following a traumatic event will eliminate or at least reduce delayed stress reactions.

CISM is used by a number of organizations, including North Shore Rescue²¹; BC Search and Rescue Association (BCSARRA)²²; Royal Canadian Marine Search and Rescue (RCM-SR)²³; Canadian Border Services Agency¹⁸; Vancouver Fire Rescue Service;²⁴ Vancouver Coastal Health/Providence Health Employee and Family Assistance Program (EFAP);²⁵ and STARS (Shock Trauma Air Rescue Service).²⁶ For example, North Shore Rescue, Whistler Search and Rescue, Coquitlam Search and Rescue, and BCSARRA have all been using CISM since 2007. Run by trained search-and-rescue members, or individuals with related agencies who have received CISM training, this peer-to-peer support is seen as valuable because, “The days when you would ‘finish up the call and go home’ are over”. “These are fellow members that know each other really well. It’s much easier to phone somebody and say ‘Hey that call today was really disturbing. I think we should talk about it.’” Aspects of CISM, such as “diffusions” are a requisite part of the most serious calls, such as body recoveries, because, “You have to do it; the same way you have to put away your gear at the end of the call. We have to clean things, and we have to make our minds clean again.”²⁷

The Justice Institute of BC²⁸ offers 14-day courses in CISM. “Courses in this certificate are open to individuals from a broad range of occupations and professions who may be required to provide or manage debriefing services following a critical incident. The certificate might be of specific interest to human resources, first responders such as firefighters, paramedics, law enforcement, front line responders such as emergency social services, crisis intervention, victim services, health care workers such as nurses, doctors, and child welfare workers.” CISM training is also offered by other organizations.²⁹

b. forYou Second Victim Support Team at University of Missouri Health Care System (MUHC)³⁰

The forYOU team is a group of University of Missouri Health clinicians who have been selected and trained in crisis support and stress management. The team includes volunteers from a variety of disciplines throughout MU Health. YouMatter³¹ is another program at Nationwide Children’s Hospital that replicates forYou.

The forYou team provides the following³²:

- “emotional first aid” to staff who have been involved in unanticipated or stressful events.
- one-on-one peer support and explores the staff member’s normal reactions and feelings that often occur after a stressful or traumatic event.
- a “safe zone” for the second victim to express thoughts and reactions to enhance coping.
- employee assurance that he or she is experiencing a normal reaction.
- assurance that information shared is strictly confidential.

The forYou model uses the Scott Three-tiered Interventional Model of Support^{33 34 35}

- Tier 1 consists of local unit/department support, providing one-on-one reassurance to second victims.
- Tier 2 consists of trained peer supporters, the patient safety team, and risk management activation if the second victim requires further assistance.
- Tier 3 results in expedited referral to ensure availability of professional support/guidance as needed (employee assistance program, chaplain, social work, clinical psychologist).

c. Transforming Our Work: Thriving in Medicine

This is a “2-day workshop focused on themes such as maintaining a healthy professional practice, reinforcing communication skills between colleagues, and defining the unique characteristics of medical culture that predispose physicians towards professional burnout.”³⁶

At the end of this one-of-a-kind workshop, participants leave with a personalized plan, applicable now, in their own practice. The workshop was developed by Tandi Wilkinson MD and co-facilitated with Lee-Anne Laverty MD.

d. RISE (Resilience In Stressful Events)^{37 38}

The RISE program is another “second victim” model at John Hopkins University. RISE comprises a multidisciplinary peer responder team that has volunteered to support second victims when an unanticipated patient-related event occurs. Peer supporters receive one day of training.³⁹

e. BC Physician Health Program

This BC-specific program provides “discreet, private support through experienced program physicians and/or extensive network of counselors, therapists, and coaches. In addition to features such as a 24/7 confidential helpline, comprehensive health assessment, short-term

counseling and coaching, connection to a family physician, there is also an option for peer-to-peer help from a physician colleague. There is no peer-reviewed evidence on the efficacy of this program.⁴⁰

f. Canadian Association of Emergency Physicians (CAEP)

CAEP is piloting a modified version of CISM, involving a simplified format for conducting a 10-15 minute peer-to-peer debriefing/defusion session in the emergency department. Although this workshop has only been performed once on residents, there are plans to develop an app that leads facilitators through the debriefing process.⁴¹

VI. Discussion

Evidence is strong that single-session psychological debriefing should not be used for people exposed recently to a traumatic event as an intervention to reduce the risk of post-traumatic stress, anxiety, or depressive symptoms. The GRADE⁴² strength of this recommendation is classified as “strong”.^{9 10}

There is an absence of well-controlled studies on effective multiple-session, early intervention/rapid response, models to support physicians in rural and remote practice who have been exposed to work-related emotional trauma while caring for patients.

However, evidence from key informants, qualitative research, and non-comparator cohort studies offers some insight into potentially effective early intervention/rapid response models to support physicians in rural and remote practice who have been exposed to work-related emotional trauma while caring for patients.

Given the evidence that physicians prefer peer-to-peer interventions to process work-related traumatic experiences, three models emerge as the most promising interventions suitable for effective, evidence-based, early intervention/rapid response to support physicians in rural and remote practice who have been exposed to work-related emotional trauma while caring for patients potentially predisposing them to adverse effects, such as the occupational phenomena of “burnout” or “second victim”⁴:

- (1) **CISM** is the most widely used model for providing support to those who have been involved in a potentially trauma-inducing event while providing patient care. It may be the best model (whether ad-hoc or routinized) to meet the needs of rural/remote physicians.
- (2) **forYou**, MUHC’s program, may be most appropriate for those working in institutions/hospitals with the capacity to support a dedicated in-hospital “second victim” team, purposefully embedded³³ in high-risk clinical areas, (such as intensive

care units or operating rooms), as well as on high-risk clinical teams (such as rapid response teams, code blue teams, and palliative care teams).

- (3) **Transforming Our Work: Thriving in Medicine**, is a promising intervention, with anecdotal evidence of positive outcomes reported by participants and facilitators; more evidence would be needed to recommend this program as the primary intervention to support.

VII. Conclusion

CISM is the most widely used and tested peer-to-peer multi-session model for providing support to those who have been involved in potentially trauma-inducing events while providing patient care. CISM may, therefore, be the best model (whether used ad-hoc or routinized) to meet the needs of rural/remote physicians. Other programs based on the “second victim” paradigm, such as forYou, YouMatter, and RISE, may be effective, but less suitable for rural and remote physicians given that this model, as implemented, relies on a dedicated in-hospital

“second victim” team. With further refinement and increased capacity to train peers, Transforming Our Work may be a helpful intervention. A bespoke hybrid model, tailored to the unique circumstances of rural and remote physicians, might also be considered, but validating the requisite tools and techniques would involve considerable time and resources as compared to implementing an existing program.

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