Systematic Review of Suicide Postvention Programs

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Sun Life Financial Chair in Adolescent Mental Health Team

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for

NOVA SCOTIA DEPARTMENT OF HEALTH PROMOTION AND PROTECTION

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1. BACKGROUND & CONTEXT

To support the implementation of the Nova Scotia Strategic Framework to Address Suicide, the need for a series of evidence papers was identified. The Nova Scotia Department of Health Promotion and Protection, the Nova Scotia Department of Health, the Canadian Mental Health Association (Nova Scotia Division), and the Sun Life Financial Chair in Adolescent Mental Health Team have agreed to partner on the development of these evidence papers that will review literature in relation to practices that support suicide prevention, intervention, and postvention.

A steering committee comprising the four partners and other experts and stakeholders has been established to guide the development of these evidence papers and the associated recommendations. The intended audience for the evidence papers is professionals and community-based organizations that contribute to addressing suicide in Nova Scotia, including health professionals, public health advocates, district health authorities, and government departments and agencies.

This information is also available in a shorter format intended for community members and interested members of the general public (see Appendix 1).

Steering Committee Members

- Dr. John Campbell, Annapolis Valley Health
- Dr. John Leblanc, IWK Health Centre and Dalhousie University
- Dr. Stan Kutcher, Sun Life Financial Chair in Adolescent Mental Health
- Magdalena Szumilas, Sun Life Financial Chair in Adolescent Mental Health Team
- Julian Young, Nova Scotia Department of Health Promotion and Protection
- Angela Davis, Canadian Mental Health Association (Nova Scotia Division)
- Carol Cashen, Capital Health
- Francine Vezina, Nova Scotia Department of Health
- Peggy MacCormack, Nova Scotia Department of Health
- Patricia Murray, Nova Scotia Department of Health

2. INTRODUCTION

Although a three-part prevention model is espoused within public health strategies to address suicide, such as the Canadian Association for Suicide Prevention Blueprint and the Nova Scotia Strategic Framework to Address Suicide, the approach toward suicide intervention has historically prioritized secondary and tertiary prevention. Secondary prevention typically takes the form of interventions targeted toward individuals displaying specific risk factors, such as suicide attempts. In most cases, individuals who display signs of heightened risk will come into contact with the mental health system through the use of crisis services, such as telephone hotlines or crisis counselling services, or through hospital-based programming, such as a psychiatric consultation in the emergency department. Tertiary prevention generally takes the form of postvention services that target individuals personally affected by a recent suicide. The intention of postvention programming is to aid the grieving process and reduce the incidence of suicide contagion through bereavement counselling and education. The groups targeted by postvention programs are usually termed "survivors," defined as all individuals, including family, friends, classmates, etc., who are affected by the death. Postvention programs and crisis debriefing services are also common, if not standard practice, within school settings in response to adolescent suicide (Wei, Szumilas, & Kutcher, 2009). Numerous evaluative frameworks have been created to improve the clinical and community practice. This analysis uses two frameworks to provide a robust evaluation of suicide postvention programs: the Centre for Evidence-based Medicine (CEBM) (Phillips et al., 2009), which evaluates study design and methodology to determine quality of evidence available for an intervention, and the Office of Justice Programs (OJP) What Works Repository Framework (Office of Justice Programs Working Group of the Federal Collaboration of What Works, 2005), which evaluates evidence from studies of interventions (see Table 2).

The purpose of this study was to determine the effectiveness of suicide postvention programs on bereavement, mental distress, and mental health, and to investigate their cost-effectiveness.

3. METHODS

3.1. Literature Search

3.1.1. Program Effectiveness

Computerized database searches were performed in September 2009 to obtain original research articles examining suicide prevention programs from PubMed, PsycINFO, Cinahl, and the Cochrane Database. As well, the journals *Crisis: The Journal of Crisis Intervention and Suicide Prevention* and *Suicide and Life-Threatening Behavior* were queried for peer-reviewed articles published in English-language journals with no restrictions on publication date using the following search terms: (suicide* AND postvention*) OR (suicide* AND contagion* AND [prevent* OR intervent* OR postvent*]) OR (suicide* AND survivor* AND [intervent* OR experiment* OR trial* OR effective* OR efficac*]). A hand search of relevant articles and reviews was also conducted. Forty-nine articles were retrieved for review. Publications were included in the analysis if they described an evaluation of a suicide postvention program and provided data (including case studies), were published in English, and were published in a peer-reviewed journal. Studies were excluded if they were a narrative systematic review, a dissertation, or if they described a postvention program but provided no evaluation.

3.1.2. Cost-effectiveness

Computerized database searches were performed in February 2010 to obtain original research articles examining cost-effectiveness of bereavement programs using the Centre for Research and Dissemination Database (including NHS EED, DARE, and HTA) and the Cochrane Database of Systematic Reviews, and PubMed, PsycINFO, and Cinahl databases were queried for peer-reviewed articles published in English-language journals with no restrictions on publication date using the following search terms: (suicide AND [cost OR econo*]) OR (bereave* AND [cost OR econo*]) OR (postvention AND [cost OR econo*]). Seven hundred and seventy-six hits (titles and/or abstracts) were reviewed, and six articles were retrieved. Studies were included if they described a bereavement program and included any information about costs related to the program and were published in an English-language peer-reviewed journal.

3.2. Evaluation of Suicide Postvention Programs

Descriptive information abstracted from suicide postvention programs included author(s), year of publication, full title, source database or journal, target population, study methodology, intervention type, setting, duration, manualization, topics, proposed mechanism, prevention strategy, number and age of participants, clinician type, control status, randomization status, length of follow-up, drop-out rates, outcome measures, and effects (see Table 1). All suicide postvention programs identified from studies were evaluated using two quality of evidence frameworks: the Centre for Evidence-based Medicine (CEBM) (Phillips et al., 2009), which evaluates study design and methodology to determine quality of evidence available for an intervention (see Table 2), and the Office of Justice Programs (OJP) What Works Repository Framework (Office of Justice Programs Working Group of the Federal Collaboration of What Works, 2005), which evaluates interventions based on study methodology, effect size, and replication, and classifies programs based on evidence of effectiveness and assists communities select and replicate evidence-based programs (see Table 3).

4. RESULTS

4.1. Characteristics of Included Studies

Eighteen articles meeting inclusion criteria were selected for analysis to determine the effectiveness of the reported suicide postvention programming. Evaluations included three randomized controlled trials (RCTs) (Constantino & Bricker, 1996; Constantino, Sekula, & Rubinstein, 2001; Murphy et al., 1998), two ecological studies (Etzersdorfer & Sonneck, 1998; Hacker, Collins, Gross-Young, Alemeida, & Burke, 2008), and eight pre-/post-test trials (four with control groups [Cerel & Campbell, 2008; Farberow, 1992; Hazell & Lewin, 1993; Pfeffer, Jiang, Kakuma, Hwang, & Metsch, 2002] and four without [Grossman et al., 1995; Mackesy-Amiti, Fendrich, Libby, Goldenberg, & Grossman, 1996; Rogers, Sheldon, Barwick, Letofsky, & Lancee, 1982; Sandor, Walker, & Sands, 1994]), as well as five case reports (Askland, Sonnenfeld, & Crosby, 2003; Battle, 1984; Callahan, 1996; Martin, 1992; Poijula, Wahlberg, & Dyregrov, 2001). Target populations for the postvention programs generally fell into three categories: school-based (Askland et al., 2003; Callahan, 1996; Grossman et al., 1995; Hazell & Lewin, 1993; Mackesy-Amiti et al., 1996; Martin, 1992; Poijula et al., 2001; Sandor et al., 1994), family-focused (Battle, 1984; Cerel & Campbell, 2008; Constantino & Bricker, 1996; Constantino et al., 2001; Farberow, 1992; Murphy et al., 1998; Pfeffer et al., 2002; Rogers et al., 1982), and community-based (Etzersdorfer & Sonneck, 1998; Hacker et al., 2008).

Box 4.1.

Types of suicide postvention programs

- School-based
- Family-focused
- Community-based

4.2. School-based Suicide Postvention Programs

A variety of school-based suicide postvention programs are described in the evaluation literature, including supportive counselling for close friends of the deceased (often referred to as survivors) (Hazell & Lewin, 1993; Martin, 1992; Sandor et al., 1994), psychological debriefing-type interventions aimed at whole school populations (Askland et al., 2003; Callahan, 1996; Poijula et al., 2001), and crisis training for school personnel (Grossman et al., 1995; Mackesy-Amiti et al., 1996).

Outcomes measured in evaluations of school-based suicide postvention programs included direct outcomes, such as number of suicide deaths and attempts (Callahan, 1996; Poijula et al., 2001) and suicidal ideation (Hazell & Lewin, 1993), and distal outcomes, such as youth self-reported behaviour scale, risk behaviour questionnaire, drug and alcohol use (Hazell & Lewin, 1993), social acceptance, athletic competence, physical appearance, job competence, romantic appeal, conduct/morality, and self-efficacy scale (Sandor et al., 1994). Outcomes of two

evaluations of the same school personnel training were changes in knowledge (Grossman et al., 1995; Mackesy-Amiti et al., 1996) and satisfaction with the program (Grossman et al., 1995). Two case reports did not rigorously measure outcomes but provided descriptive information about the impact of the postvention on participants (Askland et al., 2003; Martin, 1992).

4.2.1. Quality of Evidence

Quality of evidence of evaluations of school-based suicide postvention programs ranged from very low (case reports including expert opinion with/without critical appraisal) (Askland et al., 2003; Callahan, 1996; Martin, 1992; Poijula et al., 2001) to moderate (pre-/post-test with control group and the eight-month follow-up) (Hazell & Lewin, 1993). No randomized controlled trials of school-based suicide postvention programs were found.

Box 4.2.1.

School-based postvention programs

- Supportive counselling → close friends
- Psychological debriefing-type interventions → whole school population
- Crisis/gatekeeper training → school personnel

4.2.2. Evidence of Effectiveness

No protective effect of school-based suicide postvention programs can be determined for number of suicide deaths or suicide attempts from the available studies, since both of the evaluations that reported these outcomes were case reports, and neither provided statistical analysis. Furthermore, one case report documented the negative effect of a suicide postvention program (psychological debriefing type) implemented after two middle school students committed suicide, with six hospitalizations and 30 suicide gestures or attempts brought to the attention of the school social worker in the six months following the postvention (Callahan, 1996). No significant effect of a counselling intervention for close friends of the deceased on the youth self-report behaviour scale, risk behaviour questionnaire, or on drug and alcohol use, current suicidal behaviour, hospitalization for suicide attempt, or suicidal ideation after eight months was reported (Hazell & Lewin, 1993). The only significant effect of a youth group-based psychological debriefing and educational session aimed at close friends of the deceased sustained at the two-month follow-up was an increased score on a self-efficacy scale among youth who had experienced both the suicide and the intervention compared to youth who had experienced neither the suicide nor the intervention (Sandor et al., 1994). The evaluations of a postvention program aimed at increasing knowledge of school personnel with respect to crisis intervention reported significant increases in knowledge (n=205, mean increase=8.9 per cent [Mackesy-Amiti et al., 1996]; n=263, mean increase=9.2 per cent) (Grossman et al., 1995], with high ratings for participant satisfaction and utility (Grossman et al., 1995).

Box 4.2.2.

Effectiveness of school-based postvention

- No protective effect can be determined for number of suicide deaths or suicide attempts.
- One study reported serious negative effects.
- A counselling intervention for close friends of the deceased had no sustained effects on psychological outcomes or suicidal behaviour after eight months' follow-up compared to no contact.
- The only significant effect of a youth group-based psychological debriefing and educational session aimed at close friends of the deceased sustained at the two-month follow-up was an increased score on a self-efficacy rating scale.
- Gatekeeper training for proactive postvention was effective in increasing knowledge pertaining to crisis intervention among school personnel.

4.3. Family-focused Suicide Postvention Programs

The family-focused suicide postvention programs included in this analysis consist of support group interventions provided to adult suicide survivors generally (Battle, 1984; Farberow, 1992; Rogers et al., 1982), as well as interventions aimed specifically at widows/widowers (Constantino & Bricker, 1996; Constantino et al., 2001), parents (Murphy et al., 1998),* and children (Pfeffer et al., 2002) bereaved by suicide. Program delivery was by crisis centre staff (Battle, 1984) and volunteers (Rogers et al., 1982), psychiatric nurses (Constantino & Bricker, 1996; Constantino et al., 2001), a clinical psychologist (Pfeffer et al., 2002), and clinician teams consisting of psychologists, nurses, and family therapists (Murphy et al., 1998), and program duration ranged from 1.5 hours per week for eight weeks (Constantino & Bricker, 1996; Constantino et al., 2001) to 1.5 hours per week (first four months) and 1.5 hours biweekly (second four months) for eight months (Battle, 1984). One study evaluated an "active postvention" program run by a crisis centre that provided a one-time outreach to survivors at the scene of a suicide (Cerel & Campbell, 2008). Duration of follow-up ranged from immediately post-intervention (Battle, 1984; Constantino & Bricker, 1996; Farberow, 1992; Pfeffer et al., 2002) to 12 months after (Constantino et al., 2001).

Outcomes measured in evaluations of family-focused suicide postvention programs included objective measures of mental health including depression (Beck Depression Inventory [Constantino & Bricker, 1996; Constantino et al., 2001] and Children's Depression Inventory [Pfeffer et al., 2002]), anxiety (Children's Manifest Anxiety Scale [Pfeffer et al., 2002]), psychological symptoms (Brief Symptom Inventory [somatization, obsessive compulsive features, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism] [Constantino & Bricker, 1996; Constantino et al., 2001; Farberow, 1992] and Global Severity Index [Murphy et al., 1998]), post-traumatic stress symptoms (Traumatic Experiences Scale [Murphy et al., 1998], and Childhood Posttraumatic Stress Reaction Index [Pfeffer et al., 2002]) and suicidal ideation (Cerel & Campbell, 2008; Farberow, 1992); subjective (self-report) measures of mental health including depression, anxiety, and grief "feelings" (Farberow, 1992); measures of social adjustment (Constantino & Bricker, 1996; Constantino et al., 2001; Murphy et al., 1998; Pfeffer et al., 2002); self-reported physical health (appetite, exercise, sleep, and concentration [Cerel & Campbell, 2008]); health status and Health Behaviours Scale (Murphy et al., 1998); as well as attendance (Battle, 1984; Cerel & Campbell, 2008) and satisfaction (Battle, 1984).

4.3.1. Quality of Evidence

Quality of evidence of evaluations of family-focused suicide postvention programs ranged from very low (case report including expert opinion with some critical appraisal) (Battle, 1984) to moderate (pre-/post-test with control group; single pre-/post-test with multiple follow-ups; low-quality RCT) (Cerel & Campbell, 2008; Constantino & Bricker, 1996; Constantino et al., 2001; Farberow, 1992; Pfeffer et al., 2002; Rogers et al., 1982) to high (RCT) (Murphy et al., 1998).

* Program for parents bereaved by violent death of 12- to 28-year-old children: accidental death (57 per cent), suicide (24 per cent), homicide (10 per cent), not classified by medical examiner (9 per cent). Results presented for all causes of death combined.

Box 4.3.1.

Family-focused postvention programs

- Outreach at scene of suicide to survivors
- Support groups for widows/widowers and parents
- Support groups for other adult survivors
- Support groups for child and adolescent survivors

4.3.2. Evidence of Effectiveness

Results reported in evaluations of family-focused suicide postvention programs include short-term (Constantino & Bricker, 1996; Pfeffer et al., 2002) and long-term (12 months) improvements in depression symptoms (Constantino et al., 2001), short-term (Constantino & Bricker, 1996; Pfeffer et al., 2002) and long-term (Constantino et al., 2001) reduction in anxiety symptoms; short-term (Constantino & Bricker, 1996) and long-term (Constantino et al., 2001) reduction in other psychological symptoms (see Table 1c); short-term (Murphy et al., 1998) reduction in mental distress; short-term (Constantino & Bricker, 1996) and long-term (Constantino et al., 2001; Murphy et al., 1998) improvement in grief experiences; and reported satisfaction with help derived from participation in support group (Battle, 1984; Farberow, 1992; Rogers et al., 1982).

Outreach at the scene of suicide was found to be significantly more likely to result in incidence and frequency of attendance at a support group as well as seeking help at a crisis centre for suicide survivors (Cerel & Campbell, 2008) compared to no contact. Both intensive (bereavement support group) and minimal contact (social group) nursing postvention for spousal survivors of suicide resulted in significant reduction in depression symptoms, obsessive-compulsive traits, anxiety and phobic anxiety, and grief experiences (despair, anger/hostility, guilt, rumination, and depersonalization) immediately after intervention, with significant improvement on social adjustment present only after the minimal contact intervention (Constantino & Bricker, 1996). Effects of the interventions (collapsed for follow-up analysis) on depression symptoms, anxiety, phobic anxiety, paranoid ideation, psychoticism, grief experiences (despair, loss of control, rumination, depersonalization, somatization, and death anxiety), and most social adjustment scale subsets were sustained after the one-year follow-up (Constantino et al., 2001).

Mothers bereaved by the violent death (including suicide) of their children participating in a group treatment had significantly better scores in the short term (immediately after intervention) on measures of overall mental distress and PTSD than control (not sustained at the six-month follow-up), and improvements in grief experiences scale first evident at follow-up (Murphy et al., 1998). Participating fathers had significantly lower overall mental distress scores than control sustained at the six-month follow-up; however, no program effect on fathers’ PTSD scores or grief responses was evident. No program effect on participants’ physical health status or marital role strain was observed.

Children and adolescents participating in a group intervention for bereavement through suicide of a relative had significantly lower scores on depression and anxiety scales compared to the control group immediately after the intervention (Pfeffer et al., 2002). However, no program effect on post-traumatic stress reactions or social adjustment was observed.

One evaluation reported conflicting findings of significantly higher "feelings" of depression and puzzlement in adult participants of a group-based intervention compared to control, coupled with a reduction in severity of grief, shame, and guilt "feelings" from baseline to post-intervention among participants (Farberow, 1992).

Box 4.3.2.

Effectiveness of family-focused postvention

- No protective effect can be determined for number of suicide deaths or suicide attempts.
- Outreach at the scene of suicide was helpful in encouraging survivors to attend a support group and seek help in dealing with their loss at a crisis centre.
- Any contact with a nurse-led group counselling postvention for spousal survivors of suicide helped reduce psychological distress in both the short and long term (one year).
- Group treatment for parents bereaved by the violent death of their children had differential effects on mothers and fathers.
- Mothers experienced positive effects on measures of overall mental distress and PTSD-like symptoms in the short term and positive effects on a grief experiences scale at six months' follow-up.
- Participating fathers demonstrated significantly lower overall mental distress scores in the short and medium term (six months).

4.4. Community-based Suicide Postvention Programs

Two evaluations of community-based suicide postvention programs were identified in the literature. One study reported the effects of media guidelines and information campaigns for the containment of suicide contagion on the number of deaths by suicide in the Viennese subway (>1 million population) between 1980 (seven years before the intervention) and 1996 (Etzersdorfer & Sonneck, 1998). The other described the results of a two-year community intervention for the containment of suicide contagion among young people in a mid-sized town in Maine (<80,000 population) (Hacker et al., 2008), which had as one component media education on suicide reporting guidelines, but also included other components implemented in schools, media, and health services systems (see details in Table 1c). Outcomes measured in the community-based suicide postvention evaluations were number of deaths by suicide (Etzersdorfer & Sonneck, 1998; Hacker et al., 2008), number of lethal overdoses (Hacker et al., 2008), and number of suicide attempts (Etzersdorfer & Sonneck, 1998).

4.4.1. Quality of Evidence

The evaluations of community-based suicide postvention programs used ecological study designs (moderate quality of evidence). However, neither of the evaluations described statistical analysis of program effects, limiting the conclusions that can be drawn from their results.

Box 4.4.1.

Community-based postvention programs

- Media reporting guidelines for suicide and suicide attempts
- Multi-component intervention including schools, media, and health services systems

4.4.2. Evidence of Effectiveness

The evaluation of media guidelines for responsible reporting of suicide and suicide attempts in the Viennese subway notes a "sharp drop" in such events after initiation of the intervention, with the levels seen in the four years prior to the intervention not recurring in the subsequent nine years (Etzersdorfer & Sonneck, 1998). However, interpretation of the effectiveness of this postvention is difficult, since the report does not make clear the exact duration of the intervention, and lacks a discussion of other socio-historical factors that may have influenced suicide rates at that time. Notably, a simple analysis carried out from the available data showed no statistically significant difference in mean suicide or suicide attempt rates in the seven years before (1980–early 1987) and nine years after (late 1987–1996) the intervention.

Unlike the latter report, the evaluation of a community-wide intervention to reduce youth suicide and lethal overdose notes the limitations of an ecological study design in ascribing causality to the intervention (Hacker et al., 2008). In addition, the very short follow-up described in this evaluation (two years post-intervention) contributes to limiting the conclusions that can be made about the effectiveness of this intervention in reducing suicide contagion. Nevertheless, while it is not possible to ascribe any program effect of the community-wide intervention to reduce youth suicide contagion, this report could be useful in informing communities that are

considering or implementing such interventions about possible actions to be taken within the community, methods and protocols for partnership and collaboration, sources for data collection, and possible methods for data reporting.

Box 4.4.2.

Effectiveness of community-based postvention

- Media guidelines for responsible reporting are promising for the reduction of suicides and suicide attempts.
- Further investigation of community-based postvention programs is required to determine if they are effective independent of socio-historical factors.

4.5. Cost-effectiveness of Bereavement Programs

This reviews analysis was unable to find any studies describing the cost-effectiveness of any program targeted at individuals bereaved by suicide. Programs described were targeted at parents bereaved of children who died in hospital (Nair, Goodenough, & Cohn, 2006; Small, 1986; Stewart, 1995); individuals bereaved of family members who died in hospice (Reid, Field, Payne, & Relf, 2006); bereaved children, adolescents, and their caregivers (Foster, Porter, Ayers, Kaplan, & Sandler, 2007); and older individuals bereaved of a spouse (Onrust, Smit, Willemse, van den Bout, & Cuijpers, 2008).

Two articles provided cost analyses (Foster et al., 2007; Onrust et al., 2008), one provided a cost estimate of the program and discussed benefits without a formalized cost-utility assessment (Stewart, 1995), and three discussed the cost-effectiveness of a resource without providing details (Nair et al., 2006; Reid et al., 2006; Small, 1986).

A qualitative study of bereavement support provided by five UK hospices suggested that telephone support by trained volunteers could be a cost-effective way of reaching bereaved people without a large expenditure of resources. However, no cost analysis was performed (Reid et al., 2006).

A qualitative study of a pilot program for telephone support for groups offered to parents bereaved by the loss of a child living in remote locations was identified, but no cost analysis was included in the article. The program consisted of one-hour teleconference sessions occurring once a month for six months with a maximum of four participants allowed (six parents participated from a total of 90 families that were contacted). The sessions were facilitated by the bereavement counsellor who worked at the hospital where the children had been patients, and was semi-structured. An evaluation focus group found the advantages of the program to be the anonymity it provided and the fact that participants felt it was a safe and non-threatening environment, as well as its accessibility and viability ("low cost," not specified). Disadvantages of the program were the fact that it required considerable technological knowledge (dialing into a teleconference), the lack of interactional cues, the "unseen" facilitator, and the limitation on group size and session duration (Nair et al., 2006).

A Dutch randomized cost-utility analysis of a visiting service for older widowed individuals (10-12 home visits by a trained volunteer who had been widowed) versus usual care (brochure on depressive symptoms) found that the experimental group demonstrated slightly better results (quality-adjusted life years) with slightly higher costs than the control group. However, this was not significant after adjustment for differences in baseline scores (Onrust et al., 2008). The authors recommended that bereavement support services not be provided universally, and that "in-depth analyses [be] conducted to identify who benefits most from this kind of intervention, and in what subgroups the incremental cost-utility is best. In the future, bereavement interventions are then best directed to these groups" (Onrust et al., 2008).

A comprehensive cost analysis of a bereavement program targeted at children, adolescents, and caregivers of recently bereaved children (two-hour group session/one week x 12 weeks + two individual sessions) led by trained, MSc.-level clinicians was analysed for costs per family, per person, and per hour of contact (Foster et al., 2007). Analysis was based on two perspectives: public agency (payer, explicit costs only: personnel, consultants, benefits, intervention direct expenses, travel, miscellaneous supplies, and equipment) and society (explicit and implicit costs: space, volunteered time, and associated fringe benefits). The results indicated that the cost of the intervention was comparable to rates for outpatient therapy in many settings. Costs were reduced when calculations were based on a "real-world" setting (effectiveness) compared to the test setting (efficacy).

A randomized controlled trial of the above program compared to self-study had previously found it effective for improvement in outcomes including caregiver-child relationship, caregiver mental health, use of active coping strategies, and reduced inhibition of feeling expressions immediately after the intervention, with continued improvement on some outcomes at the 11-month follow-up among girls and participants with higher problem scores at baseline (Sandler et al., 2003).

An article published in 1995 described a program that for US$20 per family per year provided bereavement support to parents whose child had died at Duke University Medical Center (Stewart, 1995). The program was run by a team comprised of a bereaved parent, a clinical nurse specialist, and a chaplain, and included regular mailings of individualized letters containing grief education materials and support information, periodic telephone contact, and an annual Day of Remembrance. Evaluation of the program by 26 families (of over 100 participants) was very positive, with 88 per cent stating that overall the bereavement program helped them cope with their loss; however, no cost-benefit analysis was conducted.

Another program designed for parents of children and adolescents who died in hospital conducted at Shands Hospital at the University of Florida was also described as "cost-effective"; however, no costing details were provided (Small, 1986). Within two months of death, 53 parents were sent a copy of *The Bereaved Parent* by Harriet Schiff (1978) by the nurse, social worker, or counsellor with whom they had the closest relationship. They were then sent a follow-up questionnaire and contacted via telephone for feedback. Forty-one families (77 per cent) provided feedback, the majority of which was positive. Initially the purchase of books for this program was funded by hospital memorial money; it was later supported by a corporate donation obtained by a parent who had participated in the program.

In summary, the few resources that do shed light on the cost-effectiveness of bereavement programs indicate that costs are generally not higher than care as usual (Onrust et al., 2008) or comparable outpatient therapy (Foster et al., 2007), but that outcomes may depend on individual or group characteristics at baseline. However, it is essential to point out that as far as this research could determine, there have been no cost-benefit analyses of any suicide postvention program. It is therefore not possible to make any comment about the cost-effectiveness of suicide postvention programs. Furthermore, the available literature that addresses the issue of cost of other bereavement programs does not provide strong conclusions as to the weight of their costs and benefits.

5. INTERPRETATION

5.1. Key Findings: School-based Suicide Postvention Programs

No protective effect of school-based suicide postvention programs can be determined for number of suicide deaths or suicide attempts from the available studies.

One study reported negative effects of a suicide postvention (Callahan, 1996).

A counselling intervention for close friends of the deceased had no sustained effects on psychological outcomes or suicide ideation, current suicidal behaviour, or hospitalization for suicide attempt after the eight-month follow-up compared to no contact (Hazell & Lewin, 1993).

The only significant effect of a youth group-based psychological debriefing and educational session aimed at close friends of the deceased sustained at the two-month follow-up was an increased score on a self-efficacy rating scale (Sandor et al., 1994).

Gatekeeper training for proactive postvention was effective in increasing knowledge pertaining to crisis intervention among school personnel (Grossman et al., 1995; Mackesy-Amiti et al., 1996).

5.2. Key Findings: Family-focused Suicide Postvention Programs

No protective effect of family-focused suicide postvention programs can be determined for number of suicide deaths or suicide attempts from the available studies.

Outreach at the scene of suicide was found to be helpful in encouraging survivors to attend a support group and seek help in dealing with their loss at a crisis centre (Cerel & Campbell, 2008).

Any contact with a nurse-led group counselling postvention (both minimal and intensive) for spousal survivors of suicide helped reduce depression symptoms, obsessive-compulsive traits, anxiety and phobic anxiety, and grief experiences (despair, anger/hostility, guilt, rumination, and depersonalization) immediately after intervention (Constantino & Bricker, 1996), with most effects sustained at one year (Constantino et al., 2001).

Although group treatment for parents bereaved by the violent death of their children had immediate positive effects on measures of overall mental distress and PTSD-like symptoms of mothers compared to controls, the effects were not sustained at the six-month follow-up. In contrast, positive effects on the grief experiences scale not immediately displayed were evident at follow-up (Murphy et al., 1998).

Participating fathers (in the above group treatment program) demonstrated significantly lower overall mental distress scores, and this effect was sustained at the six-month follow-up. However, there was no program effect on fathers' PTSD-like symptom scores or grief responses (Murphy et al., 1998).

A group intervention for children and adolescents bereaved by the suicide of a relative had positive effects on depression and anxiety scales immediately after the intervention. However, no program effect on post-traumatic stress reactions or social adjustment was observed (Pfeffer et al., 2002).

One study using non-validated measures reported conflicting findings of significantly higher "feelings" of depression and puzzlement in adult participants of a group-based intervention compared to controls, coupled with a reduction in severity of grief, shame, and guilt "feelings" (Farberow, 1992).

5.3. Key Findings: Community-based Suicide Postvention Programs

A report evaluating the effect of media guidelines for responsible reporting of suicide and suicide attempts in the Viennese subway noted a "sharp drop" in such events after initiation of the intervention (Etzersdorfer & Sonneck, 1998). However, this result should be interpreted with caution, since the report does not provide any critical appraisal of data.

An evaluation of a community-wide intervention to reduce youth suicide and lethal overdose (Hacker et al., 2008) did not report any program effects on any of the outcome measures.

5.4. Key Findings: Cost-effectiveness of Bereavement Programs

As far as this research could determine, there have been no cost-benefit analyses of any suicide postvention program. It is therefore not possible to make any comment about the cost-effectiveness of suicide postvention programs.

The available literature that addresses the issue of cost of other bereavement programs does not provide strong conclusions as to the weight of their costs and benefits.

6. LIMITATIONS

The main limitation of this report is the fact that it only evaluated suicide postvention programs that were reported in the scientific literature. This report's mandate was to determine the effectiveness of suicide postvention programs from the published scholarly literature. Thus, suicide postvention programs that are used in the community but have not been evaluated, or that have been evaluated but for which the evaluations have not been published in scholarly journals, were not included in this analysis.

While evidence to support the effectiveness of programs may be absent, it is important to note that absence of scientific evidence to support an intervention is not equivalent to evidence that the program is ineffective. The findings of this report should be understood as highlighting interventions that have been shown effective in the scientific literature, and cautioning against interventions that have been shown ineffective or harmful in that literature. This report does not and cannot comment on programs for which there is no published evaluation.

7. CONCLUSIONS

The literature does not provide support for any evidence-based suicide postvention program that reduces the incidence of suicide or suicide attempts.

The literature does not support sustained positive effects for school-based suicide postvention programs targeting youth, with one evaluation reporting serious negative effects. Importantly, while this report explicitly excluded psychological debriefing interventions, critical incidence stress debriefing (CISD), and critical incidence stress management (CISM) interventions, there is reliable evidence to indicate that they are ineffective and have potentially harmful effects (Roberts, Kitchiner, Kenardy, & Bisson, 2009; Rose, Bisson, Churchill, & Wessely, 2002; Szumilas, Wei, & Kutcher, In Press).

The literature supports the use of gatekeeper training to improve knowledge of crisis intervention among school personnel, and positive effects of gatekeeper training of other groups on depression and suicide rates lends further support to this strategy (Isaac et al., 2009).

The literature provides some evidence for family-based postvention programs—including even minimum contact interventions—for reduction in psychological distress among family members bereaved by suicide.

There is insufficient evidence to support the use of community-based suicide postvention strategies; however, media reporting guidelines for suicide and suicide attempt are promising.

8. RECOMMENDATIONS

- Do not use psychological debriefing or CISD/CISM interventions with adults or youth.
- Avoid the use of school-wide suicide postvention programs that require participation of all.
- Investigate gatekeeper training for school personnel.
- Provide outreach to family survivors of suicide that can inform them about grief counselling programs available in their communities.
- Provide group-based bereavement support using trained facilitators to those who request it.
- Investigate effectiveness of guidelines for responsible media reporting of suicide.
- Identify research into suicide postvention as a priority research area to be supported by existing provincial government funding sources such as the Nova Scotia Health Research Foundation.
- If suicide postvention programs are implemented in the province, ensure that methodologically sound evaluations are conducted.

Sometimes, interventions are implemented without substantive evidence of effectiveness because a community either demonstrates an emergent need or demands a rapid response to a problem. In those cases, the individuals or groups who have been called upon only have the current theories and ideas at their disposal for guidance in addressing the problem. It is especially important to be mindful of evaluation in these situations, and to be flexible to change if results of the evaluation show that the program has not been effective, or has indeed been harmful.

Table 1a. Characteristics of evaluations of school-based suicide postvention programs

Author/Year	Askland et al./2003	Callahan/1996	Grossman et al./1995
Title	A public health response to a cluster of suicidal behaviors: Clinical psychiatry, prevention, and community health	Negative effects of a school suicide postvention program—a case example	Strategies for school-based response to loss: Proactive training and postvention consultation (see Mackesy-Amiti et al., 1996)
Source database	My files	PubMed	PubMed
Target population	high school students	middle school students	school personnel
Study methodology	case report	case report	field experiment
Intervention: type	"3 phase community public health response: P1 educational debriefings for all students, P2 individual screening for referral of high-risk students, P3 crisis evaluation for students at immediate risk"	"standard postvention activities" including debriefing	crisis response training of high school personnel
Intervention: setting	1 junior-senior high school in rural Maine	1 middle school in midwestern USA	high schools in three counties in greater Chicago area
Intervention: duration/sessions	P1: 1.5 hours, P2: 25 minutes, P3: unknown	ND	19 x 3-hour sessions over 1 year (1 session=complete training)
Intervention: manualized?	P1: unknown, P2: yes, P3: NA	ND	based on "Preparing for Crisis" (Underwood & Dunne-Maxim, 1993)
Intervention: topics	P1: CISM derivative, info about suicide, suicide prevention, coping strategies, screening for "high risk," P2: DISC, Drug Use Screen Inventory; P3: Mental Health Services "standard evaluation protocol"	gave confirmed details to school population, support rooms staffed by school counsellors and social workers with invitation to students to attend if desired; ongoing support groups focused on suicide; teacher meetings to gauge students' response; details about funeral, parent meeting	preparing for crisis training, crisis plan training, crisis consultation
Intervention: proposed mechanism	ND	ND	ND
Subjects (n)	P1: n=307; P2: n=104; P3: n=8	400	400 "caregivers" in 53 schools
Subjects (age)	junior-senior high school students	grades 7–8	ND
Clinician type	psychiatrists, non-psychiatric physicians, licensed clinical psychologists, licensed social workers (all clinicians received 2 hours training)	"suicidologist" employed by community agency	"multidisciplinary team of experienced mental health and educational professionals as well as Ronald McDonald Children's Charities representative"
Control?	No	ND	no

Author/Year	Askland et al./2003	Callahan/1996	Grossman et al./1995
Randomization?	No	ND	no
F/U	NA	6 months	ND for all; outcome 1: immediate
Drop out (n, %)	NA	NA	knowledge test results available for n=263 (66%) participants (outcome 1)
Outcomes measured (1,2,3,4, etc.)	no outcomes of intervention measured; descriptive outcomes only	1: suicide attempts; 2: suicide deaths	1: changes in knowledge/skills; 2: participants' satisfaction, utility of training
Effect1		1: no statistical analysis reported, 6 hospitalizations (versus 0–1 per school year in past); 30 suicide gestures or attempts brought to attention of school SW (versus 1–2 per term/2–4 per year)	1: mean increase of 9.2% on knowledge test; no formal performance evaluation of skills
Effect2		2: no statistical analysis reported	2: satisfaction ratings >=80% except length (too short); half of participants reported highest possible rating for utility (no more specific data available)

Author/Year	Hazell & Lewin/1993	Mackesy-Amiti et al./1996	Martin/1992
Title	An evaluation of postvention following adolescent suicide	Assessment of knowledge gains in proactive training for postvention (see Grossman et al., 1995)	Adolescent suicide
Source database	PubMed	PubMed	referenced from Clark, 2001
Target population	high school students	school personnel	schoolmates of deceased
Study methodology	case-control study	pre-/post-test	case history
Intervention: type	counselling at school, groups of 20–30 students (close friends)	gatekeeper training	meeting with close friends of deceased 16 days after suicide
Intervention: setting	school	high schools in Illinois	school
Intervention: duration/sessions	90 minutes	12 x 3 hour sessions over 4 months (1 session=complete training)	1, 2 hour
Intervention: manualized?	described elsewhere (Hazell, 1991)	based on "Preparing for Crisis" (Underwood & Dunne-Maxim, 1993)	no
Intervention: topics	described elsewhere (Hazell, 1991)	preparing for crisis training	general topics (death and dying, process of grief, coping with bereavement); development of co-operative view of events leading up to suicide and dealing with individual grief issues
Intervention: proposed mechanism	ND	ND	ND
Subjects (n)	126 (Tx: 63 versus No Tx: 63)	205	19

Author/Year	Hazell & Lewin/1993	Mackesy-Amiti et al./1996	Martin/1992
Subjects (age)	school A: mean age 15.1 years; school B: mean age 14.4 years	ND	mean age: 15.3 years
Clinician type	child psychiatrist or trainee psychiatrist, with assistance of senior school staff	"multidisciplinary team of experienced MH and educational professionals" + Ronald McDonald Children's Charities representative	2 psychiatric nurses + child & adolescent psychiatrist
Control?	yes	no	no
Randomization?	no	no	no
F/U	8 months	immediate	NA
Drop out (n, %)	0%	23% (n=58)	NA
Outcomes measured (1,2,3,4, etc.)	1: Youth Self Report Behavior Scale & Risk Behavior Questionnaire; 2: SI and behaviour profile; 3: drug and alcohol use	1: knowledge gain	no outcomes of intervention measured; descriptive outcomes only
Effect1	1: YRS and RBQ - NSD	1: mean increase of 8.9% on knowledge test (effect size = 0.79 = large)	
Effect2	2: "current suicidal behaviour" - NSD; hospitalization for SA - NSD; SI - NSD		
Effect3	3: drug and alcohol use - NSD		

Author/Year	Poijula et al./2001	Sandor et al./1994
Title	Adolescent suicide and suicide contagion in three secondary schools	Competence-building in adolescents, Part II: Community intervention for survivors of peer suicide
Source database	PubMed	Cinahl
Target population	schoolmates of deceased	peers of deceased (church-related youth group)
Study methodology	quasi-experimental	"descriptive comparative analysis"
Intervention: type	psychological debriefing	"supportive community intervention"
Intervention: setting	3 secondary schools in Finland	church
Intervention: duration/sessions	FTT ?hours/PD 2 hours	1: 2-hour debriefing on "evening following the suicide"; 2: educational session 2 days after suicide (t?); 3: memorial service 3 days after suicide
Intervention: manualized?	FTT ?hours/PD yes	no
Intervention: topics	FTT: "emotional first aid," "facts are shared," "mutual support can be activated"; PD: group discussion in class, "the phases of the PD in schools are introduction, facts, reactions, information, and closure"	1: accurate information about suicide, time to "express anger and question what the event meant for them" (debriefing); 2: how to get help for depression and suicide, suicide prevention hotline contacts
Intervention: proposed mechanism	"facts are shared, and mutual support can be activated"; "effort to prevent suicide contagion"	ND
Subjects (n)	89	15
Subjects (age)	range: 13–17	range: 14–17 (mean: 15.73)
Clinician type	MH professional (clinical psychologist), teachers	NA youth minister
Control?	no *a priori* control group	yes (n=19) *control had neither exposure nor Tx
Randomization?	no	no
F/U	4-year "surveillance of schools," no follow-up with debriefed students	t1: baseline; t2: 2 days; t3:2 months
Drop out (n, %)	NA	no ITT; 3 participants without complete data were dropped (17%)
Outcomes measured (1,2,3,4, etc.)	1: incidence of suicide	1: social acceptance; 2: athletic competence; 3: physical appearance; 4: job competence; 5: romantic appeal; 6: conduct/morality; 7: self-efficacy scale
Effect1	1: no new suicides appeared during 4 f/u period in schools where FTT and PD had been conducted by MH professional; where teacher had conducted Tx, also no new deaths; where no Tx in one class in school where all other involved classes had received intervention by teacher, student committed suicide at 2 month f/u	1, 4, 8 significantly better at t2 for Tx versus Cx
Effect2		8 significantly better at t3 for Tx versus Cx

Table 1b. Characteristics of evaluations of family-focused suicide postvention programs

Author/Year	Battle/1984	Cerel & Campbell/2008	Constantino & Bricker/1996
Title	Group therapy for survivors of suicide	Suicide survivors seeking mental health services: A preliminary examination of role of active postvention model	Nursing postvention for spousal survivors of suicide
Source database	PsycInfo	PubMed	PubMed
Target population	adult "survivors" (NOS)	adult "survivors" (NOS)	widow(ers) whose spouses died of suicide
Study methodology	case report	retrospective case control	RCT
Intervention: type	support group with informal educational component	outreach to survivors at scene of suicide	group-based supportive nursing intervention
Intervention: setting	ND	scene of suicide	ND
Intervention: duration/sessions	1.5 hours/week for 4 months, 1.5 hours/2 weeks for 4 months	1x outreach at scene of suicide	1.5 hours/1 week x 8 weeks
Intervention: manualized?	no	no	no
Intervention: topics	"psychodynamics of suicide, victim's motivations, survivor's relationship with victim, unresolved problems"	provide comfort; explain protocols in death investigation; answer questions	BGP: emphasizes Yalom's 12 curative factors of group psychotherapy; SGP: promotes principles of socialization, recreation, leisure
Intervention: proposed mechanism	catharsis through sharing with others	outreach would reduce the amount of time between death and seeking treatment by survivors	promotion of psychosocial well-being of surviving spouses by mediating grief reactions through therapeutic group interactions and activities
Subjects (n)	36	397	32
Subjects (age)	range: 14–66; average: 38	range 18–89 years	mean age 43
Clinician type	ND (Memphis Crisis Intervention Service)	crisis centre staff + trained volunteer survivors	psychiatric nurses (4, MN level)
Control?	yes, n=13	active postvention (n=150) versus passive postvention (n=206); 41 excluded	bereavement group postvention (n=16) versus social group postvention (n=16)
Randomization?	no	no	yes
F/U	immediate post-intervention	duration of study: 1999–2005	immediate post-intervention
Drop out (n, %)	n=17 attended 1–4 sessions only (n=47%)	NA	no

Author/Year	Battle/1984	Cerel & Campbell/2008	Constantino & Bricker/1996
Outcomes measured (1,2,3,4, etc.)	1: number of sessions attended, 2: reason for stopping/belief re: Tx outcome	1: time elapsed between death and intake for support services; 2: attendance at support group meetings; 3: intensity of attendance; 4: appetite, exercise, sleep, concentration; 5: current SI	1: BDI; 2: brief symptom inventory (somatization, OC, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism); 3: Social Adjustment Scale; 4: Grief Experience Inventory
Effect1	1: n=17 attended 1–4 session; n=8 attended 5–9 sessions; n=10 attended 10–14 sessions; n=1 attended 15 sessions	1: APM presented for intake significantly sooner than PP	1: SR in depression in both groups
Effect2	2: 61% reported they had been helped by the support group; 27% did not feel group could help them any further but were still suffering; 12% were not helped at all	2: APM significantly more likely than PP to attend support group meeting	2: BGP: SR in OC; SGP: SR in OC, depression, anxiety, phobic anxiety
Effect3		3: APM attended significantly more meetings than PP	3: BGP: NSD; SGP: SD in social adjustment scale
Effect4		4: no SD	4: SR in despair, anger/hostility, guilt, rumination, depersonalization; SGP: SR in despair, rumination, depersonalization
Effect5		5: no SD	

Author/Year	Constantino et al./2001	Farberow/1992	Murphy et al./1998
Title	Group intervention for widowed survivors of suicide	The Los Angeles Survivors-After-Suicide program: An evaluation	Broad-spectrum group treatment for parents bereaved by the violent deaths of their 12- to 28-year-old children: RCT
Source database	PubMed	referenced from Clark, 2001	referenced from Clark, 2001
Target population	widow(ers) whose spouses died of suicide	adult survivors (NOS)	parents bereaved by violent death of child (24% suicide)
Study methodology	RCT	controlled study	RCT
Intervention: type	group-based supportive nursing intervention	group discussion and readings for "help in working through their grief"	information-giving and skill-building support + emotion-focused support group provided 2- to 7-month post-loss
Intervention: setting	ND	ND	community-based (5–10 participants per group)
Intervention: duration/sessions	1.5 hours/1 week x 8 weeks	1.5 hours/1 week x 8 weeks + optional monthly meetings thereafter	2 hours/1 week x 12 weeks
Intervention: manualized?	no	ND	no

Author/Year	Constantino et al./2001	Farberow/1992	Murphy et al./1998
Intervention: topics	BGP: emphasizes Yalom's 12 curative factors of group psychotherapy; SGP: promotes principles of socialization, recreation, leisure	ND	topics: 1: emotional responses; 2: cognitive responses, 3: health responses, 4: parental role loss; 5: legal concerns; 6: marital or significant other relationships; 7: family relationships; 8: feelings toward others; 9: expectations for the future/skills: 1: active confrontation of problems; 2: assessment of progress on closure; 3: respecting others' grieving styles; 4: self-care
Intervention: proposed mechanism	promotion of psychosocial well-being of surviving spouses by mediating grief reactions through therapeutic group interactions and activities	ND	problem-focused support and mutual support
Subjects (n)	60	82 (Tx: 60, Cx: 22)	261 of 329 contacted (Tx: 153 versus standard care: 108)
Subjects (age)	range: 24–70 years	range: 10–60+	age 32–61
Clinician type	psychiatric nurses (n=4, MN level)	mental health professional (n=1) and trained post-program survivor (n=1)	"men-women pairs of group leader-clinicians who were psychologists, nurses, or family therapists"
Control?	yes (but combined for analysis)	yes: Tx versus no Tx	yes: Tx versus standard care
Randomization?	yes	no	yes
F/U	t1: immediate; t2: 6 months; t3: 12 months	t1: (retrospective) within 1 month of death; t2: baseline; t3: immediate post-Tx	t1 (immediate post-Tx); t2 (6 months)
Drop out (n, %)	13 did not complete, no ITT	completer analysis (no ITT)	retention: t1: 90% Tx + 83% standard care; t2: 86% Tx + 79% standard care
Outcomes measured (1,2,3,4, etc.)	1: BDI; 2: brief symptom inventory (somatization, OC, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism); 3: Social Adjustment Scale; 4: Grief Experience Inventory (no SD between groups on any measures, groups combined for t1 versus t2 and t3 analysis)	1: "feelings" = depression, grief, anxiety, shame or stigma, guilt, anger at self, anger at victim, puzzlement, suicidal ("estimate intensity of feelings: high, moderate, low") 2: satisfaction	1: mental distress (Global Severity Index); 2: post-traumatic stress symptoms (Traumatic Experiences Scale); 3: loss accommodation (Grief Experiences Scale); 4: physical health status (health status/health behaviors scale); 5: marital role strain (Dyadic Adjustment Scale)
Effect1	1: marked and SR in depression sustained to t3	1: feelings: Tx had significantly higher "depression" and "puzzlement" versus Cx at t3 (neither had been significantly different at t2); "grief," "shame," and "guilt" no longer significantly higher among Tx at t3	1: t1: mothers: Tx had significantly lower overall mental distress, not sustained at t2; fathers: no significant results; t2: mothers: no significant results; fathers: Tx had significant lower overall mental distress
Effect2	2: SD for OC, depression, anxiety, phobic anxiety, paranoid ideation, psychoticism to t3	2: 92% Tx rated experience favourably; all rated program at least moderately to very beneficial (4–7 on scale 1–7); 50% felt too few sessions; 89% would recommend program to others	2: t1: mothers: Tx had significantly lower PTSD score, not sustained at t2; fathers: no significant results

Author/Year	Constantino et al./2001	Farberow/1992	Murphy et al./1998
Effect3	3: SD on most subsets of social adjustment scale to t3		3: t2: mothers: Tx had significantly lower grief responses score; fathers: no significant results
Effect4	4: SD for despair, loss of control, rumination, depersonalization, somatization, death anxiety to t3		4: no effect
Effect5			5: no effect

Author/Year	Pfeffer et al./2002	Rogers et al./1982
Title	Group intervention for children bereaved by the suicide of a relative	Help for families of suicide: Survivors support
Source database	referenced from Andriessen, 2009	PubMed, PsycINFO
Target population	families with children	adult immediate family members bereaved within previous 2 years
Study methodology	controlled trial	pre-/post-test
Intervention: type	manual-based bereavement group intervention	"non-professional, time-limited, structured program of support and assistance specifically directed toward understanding and resolving the stresses unique to bereavement by suicide"
Intervention: setting	ND	community (Metropolitan Toronto Distress Centre)
Intervention: duration/sessions	1.5 hours/1 week x 10 weeks	2 hours/1 week x 8 weeks + 4 x biweekly sessions (? hours)
Intervention: manualized?	yes	ND
Intervention: topics	themes focused on children's understanding of and responses to the death of a parent or sibling, unique features of suicide, and loss of personal and environmental resources	topics: 1) "Getting acquainted and remembering"; 2) "Understanding ourselves: Accepting and expressing feelings"; 3) "Understanding reactions to suicide"; 4) "Feelings of loss: Stress and coping"; 5) "Facts of loss: Role changes"; 6) "Reliving and family renewal"; 7) "Support systems: Recognizing and using them"; 8) "Summing up and going on"
Intervention: proposed mechanism	theoretical models of attachment, responses to loss, and cognitive coping used in developing Tx	ND
Subjects (n)	52 families, 75 children	53
Subjects (age)	children: age 6–15	range: 15–68 (median: 40.3)
Clinician type	group led by master's-level psychologist	lay volunteers (n=2) "selected,trained, and supervised by [mental health] professionals"
Control?	Tx versus no Tx	no
Randomization?	no	no
F/U	immediate post-intervention	t1: baseline; t2: 4–6 weeks post-intervention

Author/Year	Pfeffer et al./2002	Rogers et al./1982
Drop out (n, %)	Tx: 18%; no Tx: 75%; no ITT	37.7% (n=20)
Outcomes measured (1,2,3,4, etc.)	1: Childhood Post-traumatic Stress Reaction Index; 2: Children's Depression Inventory; 3: Revised Children's Manifest Anxiety Scale; 4: Social Adjustment Inventory for children and adolescents	1: Symptom Checklist-90 (SCL-90) (somatization, OC, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism, global symptom index); 2: satisfaction (goals met, format)
Effect1	1: no SD	1: no stats
Effect2	2: Tx group had significantly lower outcome depression versus no Tx	2: no stats
Effect3	3: Tx group had significantly lower outcome anxiety versus no Tx	
Effect4	4: no SD	

Table 1c. Characteristics of evaluations of community-based suicide postvention programs

Author/Year	Etzersdorfer & Sonneck/1998	Hacker et al./2008
Title	Preventing suicide by influencing mass-media reporting. The Viennese experience 1980–1996	Coping with youth suicide and overdose: One community's efforts to investigate, intervene, and prevent suicide contagion
Source database	referenced from Pirkis, 2006	PubMed
Target population	media	community
Study methodology	prospective field experiment	field experiment
Intervention: type	suicide reporting guidelines	community-wide intervention based on CDC recommendations for containment of suicide contagion: support services, youth development, media approaches, education
Intervention: setting	Vienna, Austria	Sommerville, MA (pop. 77,478)
Intervention: duration/sessions	development of media guidelines and media information campaign (mid-1987, duration not reported)	2 years (2003–2005)
Intervention: manualized?	NA	no
Intervention: topics	responsible reporting of suicide and suicide attempts	trauma response network, candlelight vigils, substance abuse "speak-out," trainings on signs and symptoms of SA, linking of individuals with SA with resources, "crisis counselling" (students and parents), expansion of school-based mental health services, dedicated beds in local hospital, provision of services to survivors by community mental health agency, youth development (youth worker network, recreation programs, after-school-activities), education of local media on CDC reporting guidelines, newspaper section dedicated to youth and families, publication of prevention articles around significant dates, creation of video on local cable channel, gatekeeper training

Author/Year	Etzersdorfer & Sonneck/1998	Hacker et al./2008
Intervention: proposed mechanism	reduce trigger-effect, reduce attention, reduce effect	community response
Subjects (n)	NA	youth
Subjects (age)	NA	range: 10–24 years
Clinician type	NA	NA
Control?	no	NA
Randomization?	no	NA
F/U	1980–1996	1994–2007
Drop out (n, %)	NA	NA
Outcomes measured (1,2,3,4, etc.)	1: number of subway suicides; 2: number of subway suicide attempts	1: number of suicide deaths; 2: number of lethal overdoses
Effect1	1: no statistical analysis reported, but drop visually "sharp"	1: no statistical analysis reported
Effect2	2: no statistical analysis reported, but drop visually "sharp"	2: no statistical analysis reported

Table 2. Levels of evidence of suicide postvention evaluations (Centre for Evidence-based Medicine)

	Author	Year	Level	Type of study
School-based	Askland et al.	2003	5	expert opinion with no critical appraisal
	Callahan	1996	5	expert opinion
	Grossman et al.	1995	4	single group pre-/post-test
	Hazell & Lewin	1993	3b	pre-/post-test with control group
	Mackesy-Amiti et al.	1996	4	single group pre-/post-test
	Martin	1992	5	expert opinion with no critical appraisal
	Poijula et al.	2001	5	expert opinion
	Sandor et al.	1994	4	single group pre-/post-test
Family-focused	Battle	1984	5	expert opinion
	Cerel & Campbell	2008	3b	pre-/post-test with control group
	Constantino & Bricker	1996	2b	low-quality RCT
	Constantino et al.	2001	3b	single group pre-/post-test with multiple follow-ups
	Farberow	1992	3b	pre-/post-test with control group
	Murphy et al.	1998	1b	RCT
	Pfeffer et al.	2002	3b	pre-/post-test with control group
	Rogers et al.	1982	4	single group pre-/post-test
Community-based	Etzersdorfer & Sonneck	1998	2c(-)	ecological study (no critical appraisal)
	Hacker et al.	2008	2c(-)	ecological study (no critical appraisal)

Table 3. Evidence of effectiveness of suicide postvention programs (Office of Justice Programs [OJP] What Works Repository Framework)

SCHOOL-BASED SUICIDE POSTVENTION

Author	Year	RCT	No known harmful side effects	Random assignment	Large sample	Intervention described	Independent evaluation	Adequate outcome measures	Differences described	Modest attrition (≤20%)	Intent-to-treat analysis	Accurate interpretation of results	Statistically significant positive effect	Effect sustained for ≥1 year post-program	≥1 external replication (RCT)	Quality rating
Askland et al.	2003	N	ND	N	N	Y	N	no outcomes of intervention measured; descriptive outcomes only	N	ND	N	NA	N	N	N	insufficient
Callahan	1996	N	harmful effects reported	N	Y for SI, N for SA	no detail	N	SI, SA	no statistical analysis	NA	NA	NA	N	N	N	insufficient
Grossman et al.	1995	N	ND	N	Y for knowledge, satisfaction	Y	N	Y (see above), but no direct outcomes for student suicidal behaviour	Y (pre-/post-)	N (-33% at post)	NA	overstatement of results: "The utilization of such an eclectic and pragmatic approach should add to the current literature on effective suicide prevention"	Y	N	N	insufficient
Hazell & Lewin	1993	N	ND	N	N	N	N	Y	Y (versus control)	N	N	Y	no difference in outcomes	N	N	insufficient
Mackesy-Amiti et al.	1996	N	ND	N	Y (for knowledge)	Y	N	Y but no outcomes for effect on student SB	Y (pre-/post-)	N (23%)	N	Y (appropriate discussion of limitations)	Y	N	N	insufficient
Martin	1992	N	N	N	N	no detail	N	no outcomes of intervention measured; descriptive outcomes only	NA	NA	NA	NA	NA	NA	N	insufficient
Poijula et al.	2001	N	ND	N	N	Y	N	Y, however unclear parameters of Tx time versus F/U time	no statistical analysis	NA	NA	overstatement of results: "An appropriate intervention FTT and PD by a trained MH professional seemed to be a factor in inhibiting new suicides"	NA	NA	N	insufficient --> inconclusive
Sandor et al.	1994	N	ND	N	N	Y	N	no outcomes relating to students' coping/mental health	Y	Y	N	Y (appropriate discussion of limitations)	Y but Cx had neither exposure nor Tx, difficult to attribute to program	N	N	

Legend **N**: No **Y**: Yes **ND**: Not described **NA**: Not applicable **Cx**: Control group **Tx**: Treatment group **NSD**: No significant differences **SR**: Significant reduction **SD**: Significant differences

FAMILY-FOCUSED SUICIDE POSTVENTION

Author	Year	RCT	No known harmful side effects	Random assignment	Large sample	Intervention described	Independent evaluation	Adequate outcome measures	Differences described	Modest attrition (≤20%)	Intent-to-treat analysis	Accurate interpretation of results	Statistically significant positive effect	Effect sustained for ≥1 year post-program	≥1 external replication (RCT)	Quality rating
Battle	1984	N	1 participant committed suicide 2 days after first meeting, 2 were hospitalized for suicidal depression and suicide attempt within 2 weeks	N	N	no detail	N	N (see above)	N	N	N	NA	N	N	N	insufficient
Cerel & Campbell	2008	N	ND	N	Y	Y	Y (pre/ post-)	Y (see above), no outcomes relating to survivor's coping/own mental health	Y (pre/ post-)	NA	NA	Y	N	N	N	insufficient
Constantino & Bricker	1996	Y	ND	Y	N	Y	Y	Y	Y	Y (0% reported)	NA	Y	Y for some outcomes	N	N	insufficient
Constantino et al.	2001	Y	ND	Y	N	Y	Y	Y	Y	N (22%)	N	Y	Y for some outcomes but groups combined after Tx so analysis not RCT	Y	N	insufficient --> inconclusive
Farberow	1992	N	ND	N	N	no detail	Y	N (many comparisons with very small samples)	Y	NA	N	Y (appropriate discussion of limitations)	N	N	N	insufficient
Murphy et al.	1998	Y	ND	Y	Y (for outcome measures used)	no detail	few details	Y	few details	Y	N	Y	Y for some	N	N	insufficient
Pfeffer et al.	2002	N	ND	N	N	Y	Y	Y	Y	N (Cx lost 75%)	N	Y (appropriate discussion of limitations)	Y for some	N	N	insufficient
Rogers et al.	1982	N	ND	N	N	few details	Y	no statistical analysis	Y	N (-37% at post-test)	NA	Y (appropriate discussion of limitations)	NA	NA	N	insufficient

Legend **N**: No **Y**: Yes **ND**: Not described **NA**: Not applicable **Cx**: Control group **Tx**: Treatment group **NSD**: No significant differences **SR**: Significant reduction **SD**: Significant differences

COMMUNITY-BASED SUICIDE POSTVENTION																
Author	Year	RCT	No known harmful side effects	Random assignment	Large sample	Intervention described	Independent evaluation	Adequate outcome measures	Differences described	Modest attrition (≤20%)	Intent-to-treat analysis	Accurate interpretation of results	Statistically significant positive effect	Effect sustained for ≥1 year post-program	≥1 external replication (RCT)	Quality rating
Etzerdorfer & Sonneck	1998	N	ND	NA	NA	Y	N	Y	no statistical analysis	NA	NA	NA	NA	NA	N	insufficient
Hacker et al.	2008	N	ND	N	Y	Y	N	Y	no statistical analysis	NA	NA	Y (appropriate discussion of limitations)	NA	NA	N	insufficient

Legend **N**: No **Y**: Yes **ND**: Not described **NA**: Not applicable **Cx**: Control group **Tx**: Treatment group **NSD**: No significant differences **SR**: Significant reduction **SD**: Significant differences

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APPENDIX 1: The Effectiveness and Safety of Suicide Postvention Programs

Research Literature Review & Recommendations: A Summary Report

Background

In 2006, the provincial government and community partners released a strategy designed to help reduce suicide and attempted suicide in Nova Scotia. To support the carrying out of this framework, a series of research reports is being prepared to give suicide prevention partners the best available research and recommendations on suicide prevention, intervention, and postvention. These papers are being prepared in partnership by the Nova Scotia Department of Health Promotion and Protection, the Nova Scotia Department of Health, the Canadian Mental Health Association (Nova Scotia Division), and the Sun Life Financial Chair in Adolescent Mental Health.

The following is a summary of a report prepared on the effectiveness and safety of suicide postvention programs.

Introduction

Postvention programs and services target individuals personally affected by a recent suicide. The intention of postvention programming is to help survivors (e.g.,families, friends, loved ones, work-/classmates) with the grieving process and to reduce the chance of suicide contagion (i.e., copycat suicide) through counselling and education.

An extensive literature review on suicide postvention programs was done between October 2009 and February 2010. The purpose of this study was

- to work out the effectiveness of suicide postvention programs on mental distress and mental health
- to gain a better understanding of the evidence for the effectiveness and safety of suicide postvention programs so that policy makers, planners, and service providers are told about interventions that may be helpful, that are unlikely to be helpful, and that may be harmful
- to work out the cost-effectiveness of postvention programs
- to use this information for developing policy, planning programs, and delivering interventions

Methodology

When developing and carrying out policies, programs, and practice, it is important to collect and use the most substantive, high-quality evidence.

When considering scientific evidence, it is important to remember that higher-quality research studies are preferred to those of lesser quality, and if the research is conflicting, evidence from higher-quality research should be used over evidence from lower-quality research.

As well, research used to develop policy, programs, and practice must be considered within frameworks designed to help policy makers, programmers, and practitioners decide if the evidence supports an intervention's effectiveness, safety, and cost-effectiveness.

Given this, evidence-based policies, programs, and practices must be based on the most substantive and highest-quality research available, and must pass the test of reasonable applicability (e.g., is the evidence strongly or weakly supportive?). A number of research methodologies address both of these criteria. First are methods that verify the quality of individual research studies. Second are methods that decide the weight of the evidence around effectiveness, safety, and cost-effectiveness.

The systematic review of the research literature on suicide postvention used both of these methods to produce a summary of the most substantive and high-quality evidence needed to develop policy, planning, and practice. Two evidence quality frameworks, the Centre for Evidence-based Medicine (CEBM) and the Office of Justice Programs (OJP) What Works Repository Framework, were used to evaluate the evidence.

Results

For reporting, areas of focus coming out of the literature review were categorized by settings: school-based programs, family-based programs, and community-based programs.

School-based Postvention Programs

Based on the available evidence, it is not possible to state that any school-based suicide postvention program has shown safety or effectiveness in preventing suicide attempts, preventing completed suicide, improving emotional distress, or preventing long-term mental health problems or mental disorders.

Findings:

- School-based postvention programs were not shown to prevent suicide attempts or completed suicides.
- There was no substantive evidence that any of the programs reviewed resulted in significantly improved outcomes in emotional distress or preventing mental health problems and/or mental disorders.
- There was limited evidence that school-based suicide postvention programs may have harmful effects; in one case report, rates of suicide attempts increased.
- There was limited evidence that one type of intervention, gatekeeper training of educators, was effective in increasing knowledge of crisis intervention in school personnel. This training did not address the issue of effectiveness or safety for preventing suicide attempts, completed suicide, emotional distress, mental health problems, or mental disorders.

Family-based Postvention Programs

Family-based suicide postvention studies addressed a variety of different interventions across many sectors. Based on the available evidence, it is not possible to state that any family-based suicide postvention program has shown strong evidence for reducing symptoms, preventing suicide attempts, preventing completed suicide, or preventing future mental health problems or mental disorders.

Overall, however, there is some promising evidence that both outreach to family members immediately post-suicide and bereavement support groups led by trained facilitators may be helpful for some individuals.

Findings:

- There was some promising evidence of positive effects of two types of interventions:
  - Outreach services to family member survivors resulted in increased use of services designed to help in the grieving process, compared to no outreach.
  - Group interventions conducted by trained facilitators resulted in some positive short-term reduction in emotional distress.

Community-based Postvention Programs

The available literature on community-based suicide postvention research is extremely limited and the studies available are not of high quality. Any interpretation of these findings must be made with great caution.

Findings:

- There is some promising evidence that guidelines for responsible media reporting of suicide may be associated with decreases in suicide attempts and in completed suicide.

Cost-effectiveness

Due to very limited available research, it is not possible to make any comment about cost-effectiveness. The report does note that this is a fundamental gap in the evidence base and needs further research.

Findings:

- No studies describing the cost-effectiveness of postvention programs for individuals bereaved by suicide were found.
- The few studies that discussed cost-effectiveness of bereavement programs for other groups found that costs were generally not higher than normal care or comparable outpatient therapy. Outcomes for these programs depended on individual or group characteristics at the start of the program.

Report Limitations

The quality of existing research is generally low and much of what is available in the suicide postvention literature is descriptive or theoretical. Evaluation studies, when conducted, were generally weak in design, methodology, and analysis. As well, there are many suicide postvention programs that have not been independently analysed. Without appropriate evaluation, the effectiveness, safety, or cost-effectiveness of any intervention cannot be worked out.

In many of the studies reported, there was no attempt to address the bias of researchers themselves. Studies that demonstrated potentially positive results were often conducted by individuals or groups who had either created the intervention under study or were closely related to those who had created it. This lack of independent assessment poses a considerable problem.

Conclusions and Recommendations

Given that good policy, planning, and practice must be based on the most substantive, high-quality, and appropriate evidence, this review of research about suicide postvention programs has led to two overarching recommendations:

- Government and its many suicide prevention partners should focus efforts to develop and carry out suicide postvention activities on those that show evidence of effectiveness and safety.
- Further research is needed about the cost-effectiveness of postvention programs.

Specific recommendations include

- Do not use psychological debriefing or critical incidence stress debriefing/critical incidence stress management interventions with adults or youth.
- Avoid the use of school-wide suicide postvention programs that are based on everyone taking part.
- Look into gatekeeper training for school personnel.
- Reach out to family survivors of suicide to tell them about grief counselling programs in their communities.
- Offer group-based bereavement support using trained facilitators to those who ask for it.
- Look into effectiveness of guidelines for responsible media reporting of suicide.
- Identify research into suicide postvention as a priority area to be supported by existing provincial government funding sources, such as the Nova Scotia Health Research Foundation.
- If suicide postvention programs are carried out in the province, make sure that methodologically sound evaluations are done.

NOVA SCOTIA