
Crisis management in schools: evidence-based prevention

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Abstract

Critical incidents in or involving schools include shootings, stabbings, other forms of homicide, terrorist activity, suicide, road traffic accidents, major fires and natural disasters, which result or might result in death and/or serious injury to students and staff. Where crisis management plans exist, they might be based on 'common sense' or clinical judgement, risking worsening rather than improving outcomes. The relevant evidence base is scattered and of very various quality. This systematic review addresses these difficulties. This first part of the review considers definitions, prevention (resilience building and mental health promotion), preparation (planning, education, training and practice) and response (prompt implementation of effective actions and mobilisation of appropriate resources). The beginnings of an evidence base can be seen. In 'prevention', effectiveness has been demonstrated for some suicide prevention, anti-depression and resilience-building programs. In 'preparation', the literature is largely descriptive and founded mainly on clinical judgement. This is also true for 'response', but there is evidence that media portrayal of suicide generates more suicide. Although there is as yet no direct empirical evidence for the effectiveness of crisis management planning in schools, it would seem a wise course, provided it is not rigid and bureaucratic. Other implications for policy, practice and future research are outlined.

Introduction

Critical incidents in or involving schools include shootings, stabbings, other forms of homicide, terrorist activity, suicide, road traffic accidents, major fires and natural disasters, which result or might result in death and/or serious injury to students and staff. Of course emergency services are trained to deal with such events on one level (although accessibility is an issue in rural communities), but such services cannot have detailed knowledge of local context and needs, and do not have the resources to handle prevention and long term follow-up planning. Many local education

authorities (school districts) have consequently developed crisis management planning expectations and frameworks for schools. However, these are often based upon local received wisdom, ‘common sense’, clinical judgement or singular professional perspectives, rather than a systematic review of the evidence, carrying the risk that well-meaning intervention might actually worsen outcomes in the short or long run. Of course, local education authorities have little option when the evidence base is scattered, of very various quality and difficult to access. This review of the evidence addresses this difficulty, and has strong implications for policy and practice.

The review is in two parts. This first part focuses on prevention (although of course many of these incidents are not wholly preventable, so ‘risk reduction and management’ might be a more apposite concept). It considers definitions, prevention (resilience building and mental health promotion), preparation (planning, education, training and practice) and response (prompt implementation of effective actions and mobilisation of appropriate resources). The second part (published separately) focuses on ‘postvention’ (action after the incident).

Method

An extensive review of published works on school crisis management and intervention explored current theories, concerns, needs, empirical research and practical applications. We found a substantial volume of literature relating to events widely different in scale (from the macro, with profound effects impacting across the world, to the micro, with effects remaining within very limited boundaries). In this review, the main focus is on the micro level.

We performed electronic searches in PsychINFO, PsychArticles, PubMed and Web of Knowledge using search terms such as crisis, critical incident, suicide, trauma, PTSD (post-traumatic stress disorder), mental health **and** school **or** youth (Boolean operators in **bold**). We ran similar searches on the Google search engine to identify relevant websites. We also manually accessed a range of books by noted writers in the field in relation to content and citations. We prioritised items relevant to schools.

The review was systematic in the sense that all available evidence from extensive searching was considered for inclusion. It was in the tradition of a ‘best evidence synthesis’, that is, quality criteria for inclusion were applied, but not so narrowly that the review focused excessively on a very few studies showing the most rigorous research methods (but perhaps of doubtful external validity). This research field is still at an early stage of development, and a quantitative meta-analysis would add little value as yet.

Definitions

Events that cause severe emotional and social distress may occur at any time and without warning. Such occurrences have been variously called traumatic incidents, critical incidents, crises, disasters and emergencies. Whatever the terminology, there

is a clear need, arguably a legal obligation under 'duty of care' (Tronc 1992), for all schools to establish a crisis management plan. There are a number of writers who describe a crisis management process for schools, for example Sorenson (1989), Pitcher and Poland (1992) and Whitla (1994). Pitcher and Poland (1992) provide an analysis of forty years of crisis intervention, an overview of techniques applicable within the school environment and recommendations for approaches and necessary components to establish a comprehensive, preventive school crisis intervention program.

Raphael (1986, p 6) has identified the following characteristics of 'crises':

- rapid time sequences
- an overwhelming of the usual coping responses of individuals and communities
- severe disruption, at least temporarily, to the functioning of individuals or communities and
- perceptions of threat and helplessness and a turning to others for help.

Flannery and Everly (2000), in trying to clarify some of the terms that are often used interchangeably, define a crisis as a response condition where:

- psychological homeostasis has been disrupted
- the individual's usual coping mechanisms have failed to re-establish homeostasis and
- the distress engendered by the crisis has yielded some evidence of functional impairment.

Flannery and Everly (2000) propose that if the crisis is the response then the stressor event requires a different name. They suggest 'critical incident', a term that they note is frequently confused with the term 'crisis'. A critical incident may be thought of as any stressor event or stimulus that has the potential to lead to a crisis response in many individuals.

Brock, Sandoval and Lewis (1996, p 14), offering a definition applicable to schools, suggest that crises are sudden, unexpected events that have an 'emergency quality' and have the potential to impact on the entire school community. In schools, a crisis might be considered as any situation faced by staff or students causing them to experience unusually strong emotional reactions that may interfere with their ability to perform at the scene or later. Crises tend to be far outside of the normal experience of those involved and indeed of most of the population. Accordingly, the individual has little by way of guidelines from past experience on how to deal with or react to the event. Children have even less experience to draw on than adults and usually have a more restricted repertoire of coping responses. Their sense of control and self-efficacy are likely to be reduced. Children are likely to look to those adults who usually provide support, guidance, direction and leadership to continue to fulfil these roles. Problems can arise from a single highly traumatic event or from several less severe but emotionally taxing events spread over time. Exposure to crises can

also trigger normal but strong or heightened reactions and responses. These should decrease in duration and intensity over time. Best practice models suggest that appropriate support may minimise the duration and intensity of such reactions. Some individuals, both school staff and school children, may require more support over a longer time than others.

Background

In recent years, schools across the world have been increasingly required to respond to traumatic incidents impacting on the school and its community. Such events may be natural and/or human in origin (with terms such as industrial, technological or complex emergencies being used to describe those that are human-made). Along with a marked increase in those crises whose origins are human-made, a societal expectation has emerged that schools will be involved in the management of such situations when they have an impact on school children. The frequency and severity of some types of school crisis have increased (for example, Australian youth suicide rates trebled over a thirty year period, from one in 20 male deaths in the 15–19 age range in 1966 to one in 7 in 1987: Mason 1989).

While care is needed not to pathologise surviving participants in crises, some children show enduring and widespread effects. Bereavement is not unusual and can affect health and daily functioning (Silverman 2000). Trauma can induce post-traumatic stress disorder (PTSD), anxiety disorders and depression, and a decline in subsequent academic performance averaging half a standard deviation (Yule & Gold 1993; Yule 1998; Schwartz & Gorman 2003). Dyregov, Gjestad, Wikander and Vigerust (1999) found 20 per cent of students experiencing a classmate's accidental death remained highly distressed nine months later, with marked evidence of gender differences.

Many school managers and consultants still lack training in crisis intervention or in how to recognise and make effective decisions under conditions of stress and in the absence of sufficient information, time and resources. Poland (1995) noted that few schools were prepared to manage a crisis and little emphasis had been placed on prevention activities. Identifying the effective elements of crisis management seems fundamental. Current practice appears in the main to be based on clinical judgement as to what might work. The clinical judgement of those with significant experience in crisis management should not be under-estimated, but this is no substitute for rigorous, balanced research evaluating outcomes over time at a range of systemic levels from the individual through to the broader community.

There are significant difficulties involved in research into crises. These relate to the unpredictable nature of such events, the ethical constraints associated with research and the difficulty of measuring socio-emotional upheaval and recovery in the short and long term with adequate reliability and validity. The difficulty of persuading those actively dealing with crisis situations that there is a place for researchers may prove an even more challenging task.

Previous reviews

Allen, Marston and Lamb (2001) reviewed journal publications over a 31-year period (1970–2000). Abstracts from the following school psychology journals were coded to determine the type of articles that were published on crisis-related topics over the 31-year period: *School Psychology International*, *School Psychology Review*, *Psychology in the Schools*, *School Psychology Quarterly* and *Journal of School Psychology*. This study's main limitation is that it drew from a very narrow list of journals (the current review found relevant material in almost 30 additional journals, and many published books and dissertations). Allen, Marston and Lamb (2001) included as crisis topics in their coding: suicide, grief and death, aggression/violence, post-traumatic stress disorder (PTSD) and school phobia, dealing with the media during a crisis, natural disasters, development of crisis plans and crisis teams, abuse (physical and sexual), gangs, drugs/addiction, critical illness (cancer and AIDS were the primary subjects under this category), incidents involving guns and weapons, and 'other' crisis situations (eg war, crisis in general, etc). Approximately 4 per cent (215 from 5298) of the school psychology journal articles published over the 31 years dealt with these listed 'crisis' topics.

Allen, Marston and Lamb (2001) had very broad inclusion criteria, but failed to offer a definition of crisis. Using the definitions employed in the current review, and assuming an equal distribution of research across each area, this would narrow the field to 62 articles from 5298, or just over 1 per cent. About 0.5 per cent of the papers involved 'research' as considered in the current review. In broad terms, this equates to one research article per year. The survey by Allen, Marston and Lamb (2001) suggested that published works in the field are heavily weighted towards the anecdotal and best practice rather than research.

Models of crisis management

Within the current review, the widely adopted prevention, preparation, response, recovery model (PPRR) is used as a framework within which to categorise research studies, because it is widespread in use. Some authors refer to 'mitigation' rather than 'prevention' (eg Tierney 1989).

PPRR may have had its origins in the work of Caplan (1964), who described three levels of crisis intervention:

1. primary intervention, which consists of activities devoted to preventing a crisis from occurring (this would equate to prevention in the PPRR model);
2. secondary intervention or the steps taken in the immediate aftermath of a crisis to minimise the effects and keep the crisis from escalating (this would equate to response); and
3. tertiary intervention, which involves providing long-term follow-up assistance to those who have experienced a severe crisis (this would equate to recovery, dealt with in the second part of the current review).

There are other models of crisis management, perhaps the most well known being critical incident stress management (Mitchell & Everly 1995). A key element of CISM, 'debriefing', has become the centre of heated controversy about its effectiveness.

PPRR has also come under criticism. The PPRR model anticipates crises and includes sequential planning and implementation of actions before, during and after an event. Crondstedt (2002) suggests that this kind of comprehensive emergency management model has lost relevance to modern risk management. Crondstedt sees PPRR as a model that cannot be adapted to the way emergency management has evolved or is evolving.

Crondstedt (2002) identifies comprehensive emergency management as originating from work by the United States' State Governors' Association in 1978, since adopted as 'best practice' in many jurisdictions in Australia, the United States and Asia. He identifies two broad rationales for the PPRR model. First, PPRR has been represented as the sequence or stages of emergency incidents, describing events occurring before, during and after an event. Second, the model has been used to categorise a menu of emergency management strategies. Crondstedt asserts that within the emergency management community, there has been a general policy move associated with two key issues: the shift from an internal, agency focus to a community-centred focus and a shift away from delivering a limited range of services (usually response-based) to more intelligent resource allocation based on risk, business-like management and outcome-based performance. Crondstedt (2002) argues that with this shift there has been a concentration on best practice models of resource allocation and maximising return on investment.

The PPRR approach was developed nearly 25 years ago. Although it remains popular, it has inherent problems. First, it is argued that the PPRR model sets up artificial barriers between the four elements – prevention, preparation, response and recovery – and therefore implies a clear demarcation between the elements and a linear sequence. Crondstedt (2002) believes this leads to unnecessary debate about categorising actions into one of the elements, rather than debate about the effectiveness of specific actions. An example might be in considering whether psychological debriefing is a response action or a recovery action rather than considering whether such debriefing is even appropriate or useful. Second, it is argued that the four categories imply that each should be given equal weight in all circumstances, and further imply that there must always be strategies that fall under each element. This does not recognise risk management strategies that do not fit neatly, if at all, under the elements. Thirdly, it is argued that the elements assume a sequential consideration of the PPRR process and that they must be considered and implemented in the same order all the time. This assumes that any actions are inextricably temporally linked to identifiable points in the emergency cycle. Other risk management models appropriate to chaotic environments, such as encountered in a crisis, do not make this assumption and deploy a selection of the most appropriate actions, regardless of order and categorisation. All of these appear to be useful caveats.

Whitla (1994), though an advocate of PPRR, also offers criticism of the apparently linear nature of the PPRR model, stressing that it is inadequate as a model for a comprehensive school planning process. Whitla (1994) argues that, in planning emergency management procedures for a school, the preparation phase should be commenced only after a thorough investigation of all the implications for the school of the other phases: prevention, response and recovery. Using the model in this way is intended to encourage schools to focus on the ongoing process of planning and not merely on the product, especially not on a bureaucratised product that is simply a list of what should be done, when and by whom.

Fourth, in Crondstedt's argument, the elements appear biased towards physical actions, whereas there may be softer options involving social dimensions. The PPRR model tends to relate to activity and physical actions, which may be a carry over from the emergency management paradigm that focused on the hazard rather than the situational vulnerability. Emergency risk management now focuses on the interaction between the community and the hazard within the particular context. Such consideration goes well beyond the physical hazard and includes socioeconomic and psychological vulnerability factors such as income, perceptions, networks, support groups and similar variables – factors that do not easily lend themselves to categorisation within the PPRR framework.

Crondstedt (2002) advocates using risk management methodology to guide the selection, application and review of risk treatments without the use of the PPRR model to categorise treatments. The selection of treatments should be based on criteria of effectiveness, efficiency and economy. Effectiveness provides the basis for impact on risk level and risk criteria set up in the context; efficiency provides the basis for cost–benefit comparisons across treatments; and economy is used as a basis for assessing resource implications for possible treatment selections. Crondstedt (2002) asserts that unconstrained thinking about possible treatments is critical in deriving innovative, new and possibly better ways of treating risk. Questions to test the appropriateness of treatments might include:

- What will the impact of the treatment be on the assessed risk and how will it meet the risk criteria established at the context stage?
- What is the cost–benefit ratio?
- What is its total cost?
- How acceptable will the treatment be in the light of the environment in which it will be implemented and monitored (organisational and political)?

Crondstedt's (2002) approach follows that developed by Helm (1996). Importantly, Helm went on to describe models for identifying the acceptability of risk. Risk is tolerable only if risk reduction is impracticable or if its cost is grossly disproportionate to the improvement gained. All proposed risk treatments should be subject to a cost–benefit analysis.

Crondstedt makes a strong argument, yet the PPRR model provides a simple, easily understood framework (an important consideration in schools where it is likely that few would have emergency management training), which has been widely adopted in emergency management throughout the world. Schools have to start somewhere.

Prevention

Prevention can be considered as taking steps to identify and then eliminate or reduce sources of risk. The use of the term ‘mitigation’, either instead of or in conjunction with prevention, serves to convey an additional focus on reducing any potential impact from a crisis when it is accepted that risk cannot be entirely removed.

Many kinds of risks and hazards are obvious and predictable regardless of the setting. Fire, for example, would be considered a risk factor in most kinds of building. Steps can be taken to reduce the risks associated with fire, for example, by reducing or removing readily combustible materials, having extinguishers, smoke detectors and alarms in place, and having comprehensive and practised evacuation procedures.

Suicide prevention

Risk can be identified and reduced in other areas and in other ways. In Western Australia, youth suicide prevention became a high priority in the late 1980s when there was a state-government-sponsored response to the dramatic rise in the incidence of young people taking their lives. The rate of suicide among youth in Western Australia increased from 6.1 in 1970 to 16.3 per 100 000 in 1989. In 1980, 1 in 10 deaths among Western Australian males aged 15–24 was due to suicide; by 1989 this proportion had increased to 1 in 5 (Silburn, Zubrick, Hayward & Reidpath 1991). The Western Australian state strategy gave particular attention to schools and, using a public health model, aimed to have skills available at the school level to identify and intervene with high-risk students. The key objectives for the strategy were:

- early identification of students at risk of suicide or self-harm;
- appropriate intervention using best practice guidelines to reduce risk;
- provision of sound, effective management based on an established crisis management plan that specifically addresses suicide in the event of a completed suicide or serious self-harm, to reduce the potential for contagion and facilitate a healthy resolution of issues; and,
- to promote primary prevention of youth suicide by enhancing mental health and well-being (WA Youth Suicide Advisory Committee 1998).

Formal evaluation had been planned for this program but outcome measures are not available at this point although coronial data do appear to show a plateau of suicide in the school-age population (Hillman, Silburn, Zubrick & Nguyen 2000).

Recognition that such ‘last minute’ interventions carry their own degree of risk has led to consideration and implementation of a number of programs, considered later in this review, that seek to intervene earlier, before any crisis is apparent. Suicide is usually an individual event, perhaps the last act in a life of despair, hopelessness and loss, accompanied by a belief that nothing can be changed. To prevent suicide, intervention should presumably occur well before a person begins to consider suicide as an option. But at what point should this intervention occur, how early does this have to be, and what should be the focus of action? The majority of literature on suicide prevention has focused on the individual and intervention at times of crisis. This can put immense strain on families and professionals who, after a death, focus on the central questions: ‘Should we have known? Could we have stopped him/her?’ Given that suicide appears an unpredictable behaviour, the answer to these questions is usually in the negative and just focusing on the time of obvious crisis may be too little too late.

To understand how and when to intervene effectively in relation to self-harm and suicidal behaviours, some understanding of causation is needed. Many writers have detailed the possible explanations for suicidal behaviour. In the United Kingdom, Scotland’s National Framework for the Prevention of Suicide and Deliberate Self-Harm in Scotland Consultation (Scottish Executive 2001) lists the following.

Societal risk conditions

- Availability of, and easy access to, lethal methods for suicide;
- irresponsible (factual) reporting and (fictional) representation of suicidal behaviour in the mass media;
- socio-demographic change, including marital breakdown/divorce, later marriage;
- adverse labour market conditions, including insecurity of employment;
- adverse economic conditions, including level of unemployment and business confidence;
- social attitudes to suicidal behaviour.

Psychosocial environment

- Impoverished social capital (low level of social cohesion, social integration and trust in the community);
- high level of social exclusion (eg neighbourhood poverty/deprivation);
- impaired community capacities, resources and resilience.

Individual risk factors

- Inadequate social support (low levels of practical, emotional, financial and other forms of assistance from family, friends and neighbours);

- socio-demographic characteristics (eg age (young–mid aged adult), gender (male), marital status (non-married), (lower) socio-economic status and (certain types of) occupation);
- serious mental illness;
- substance misuse;
- previous deliberate self-harm;
- recent discharge from psychiatric hospital, in particular following detention under mental health legislation;
- experience of abuse (sexual and physical);
- low educational qualifications, poor life skills and interpersonal skills;
- life crises, especially interpersonal loss.

Quality of services

- Inadequate prevention and treatment responses by health services (primary and secondary care);
- inadequate prevention and treatment responses by other services (eg welfare, social work and housing).

A recent focus has been on reduction of individual and accumulated ‘risk factors’ (Beautrais 1998). These biological, family, community or societal characteristics, which have been shown to be associated with suicidal behaviours, often feature in pathways that may reveal something about where and when to intervene (Davis, Martin, Kosky & O’Hanlon 2000). For example, it is known that people with a mental illness, particularly depression or a psychosis, are vulnerable to feelings of hopelessness. At times of stress or isolation, such as the few days after leaving hospital, they may feel such hopelessness that life seems not worth living. This places a special responsibility on mental health or community services to provide adequate supports.

There are different considerations for certain groups who are at increased risk, for example young people who are severely abused or young people known to be abusing large quantities of illicit drugs. Here there is a responsibility for society to provide adequate services to ensure such people get back on track and never get to the point of thinking about suicide as an option. At another level, it is known that a societal issue such as unemployment can be important in making men in particular feel they can never measure up to expectations. Here it may take the whole community and some changes in national policy to change the risk factor and reduce its impact (Commonwealth of Australia 2000).

A review of the National Youth Suicide Prevention Strategy (NYSPS 1994–1998) in Australia showed that more than 70 programs were spread across the whole prevention spectrum (Mitchell 2000). It can be argued that the resulting increased skills of professionals, improved awareness in the community, and the improvements in accessibility of services have begun to show up in the outcome

figures. The reduction in young male deaths from 1997 to 1999 was 25 per cent, the first time for many years that a reduction had occurred.

Zenere and Lazarus (1997) studied a comprehensive suicide prevention and intervention program in a large, urban, multicultural school district. The program had been developed and systematically put into operation by the Florida Public School Department of Crisis Management. The program was maintained for six years in all secondary schools in urban/suburban counties that had an average of approximately 130 000 school-age youth. The program aimed to prepare schools and communities to identify, respond to, and obtain help for at-risk youth and included other health topics such as coping and self-efficacy. It promoted associations between school and community services and included school-based crisis teams, community crisis response capability, administrative policies and procedures, and training for school personnel, parents, students and community gatekeepers.

The curriculum component was delivered to grades pre-kindergarten through 12 by the 'To Reach Ultimate Success Together' (TRUST) program. The pre-kindergarten to grade five program covered a developmentally appropriate drug education curriculum that stressed topics relevant to making healthy and positive choices (eg self-awareness, communication skills, decision-making skills, drug information and development of positive alternatives). The curriculum provided to grades 6 to 12 again delivered developmentally appropriate subjects for those age groups, with the topic of youth suicide not formally introduced until the 10th grade in a compulsory 'Life Management Skills' class. A three-tiered approach of prevention, intervention and postvention services was used in a multi-faceted program involving teachers, parents and students.

Zenere and Lazarus (1997) describe how students were tracked over a five-year period. Evaluation of the program consisted of analysis of hotline data which included 2698 incidents of suicidal ideation, 699 suicide attempts, and 23 completed suicides of students during the first five years of the program. From 1980 to 1984 there were a total of 145 students who killed themselves. Between 1980 and 1988 (a 'baseline' period prior to the program's implementation) there was an average of 12.9 student suicides per year, with 19 occurring in 1988. It was found that, although suicide ideation (thinking about suicide) remained stable, the rate of attempts and completions was considerably reduced. The number of completed suicides dropped by almost 64 per cent, from an average of 12.9 per year (1980–1988) to 4.6 per year (1989–1994). Suicide attempts decreased from 87 per 100 000 students (1989–1990) to 31 per 100 000 (1993–1994). Follow-up compared suicide rates with the state and national suicide rates for the time periods before and after program implementation. The follow-up found a reduction in youth suicide rates subsequent to the program's propagation that did not occur at the state or national levels for the same time periods. There were two additional important findings associated with this program. First, no student who expressed ideation or attempts, and therefore received intervention, later went on to complete suicide. Those students who later took their own lives had never come to the attention of the crisis team members. Second, there was no significant reduction in self-reported suicidal ideation among students for

this period of time and accordingly self-reported ideation did not appear to predict suicide completion rates.

Zenere and Lazarus (1997) used a before and after study without a non-intervention control group, which was a weakness in the design. In the absence of any meaningful comparison group, it cannot be assumed that the program had a direct impact on suicidal behaviour. Other factors or changes (eg accessibility or quality of health care, other curricula within the school, community-based programs, alcohol/drug use patterns) occurring during the same period might account better or more directly for the measured reduction in suicidal behaviour. Although these data cannot be conclusively linked to the program, they appear to meet some epidemiological criteria for supporting the possibility of causal relationships including consistency of findings across studies, temporal sequence of exposure and outcome, and logical plausibility of the relationship.

Mental health promotion

Suicide is behaviour. It is hard to stop a suicide when it is impulsive or when someone has made a final decision to take his or her life. Mental health promotion programs may provide an opportunity to reduce the long-term, intergenerational burden of suicide. Universal, preventive interventions target the general population or a whole population group that has not been identified on the basis of individual risk. Because universal programs are positive, proactive and provided independent of risk status, the potential for stigmatising individuals is minimised and they may be more readily accepted and adopted. This blanket approach increases the likelihood that all at-risk persons will be 'inoculated' by the prevention activity, but at this broad population level it is difficult to control how much 'prevention dose' each person receives. The mass approach, simply because it has to target more people, may also be more expensive than the alternatives. The benefits of any prevention strategy should clearly outweigh the costs and risks of implementing that strategy. The burden of showing this positive balance is greatest for the universal group, because the costs are often high, the risks can easily be overlooked and the benefits may be difficult to measure.

The other kinds of prevention strategies are referred to as 'selective' and 'indicated.' Selective prevention strategies are targeted at specific subgroups known or thought to be at elevated risk for suicidal behaviour. 'Selective' strategies tend to address the risk factor(s) defining the subgroup at risk, directly or indirectly. A direct strategy might involve intervening to lower depression severity for a subgroup of young people who qualified for a diagnosis of major depression. An indirect strategy might involve offering support and education to a gay/lesbian/bisexual youth who was thought to be at risk by virtue of his/her sexual orientation and/or the environmental response to his lifestyle.

Indicated prevention strategies are targeted at individuals known or suspected to be at high risk for suicide. This approach presumes that tools exist for identifying individuals at high risk with good sensitivity and specificity, with few 'false positives' or 'false negatives'. Evidence suggests that young men with high self-

esteem, a sense of purpose, resilience, interpersonal skills, support from parents, family and community, a commitment to life and a connectedness to friends never consider suicide (Martin 2002). In order to reach this point, there has to be support for family life, school life and community life. Young people have to be supported and helped to find meaning in the transition to adulthood. In particular, resilience and connectedness may be key factors (Resnick et al 1997).

Schools are being encouraged to promote positive mental health (World Health Organisation 1986, 1994; Commonwealth of Australia 1996). Australian programs such as MindMatters (Curriculum Corporation 2000), the Resourceful Adolescent Programme (Shochet, Holland & Whitefield 1997) and Aussie Optimism (Hart 1998; Quayle, Dziurawiec, Roberts, Kane & Ebsworthy 2001; Roberts, Kane, Thomson, Bishop & Hart 2003) are research-based and target positive mental health at different levels of the school population. MindMatters describes a health promoting school as one that takes action and places priority on creating an environment that will have the best possible impact on the health of students, teachers and school community members; and that recognises the interaction and connection between its curriculum, policies, practices and partnerships.

The latter two programs build on Seligman's (1995) work on optimism and the notion of 'psychological immunisation' of young people against mental health problems. Seligman examined and designed an intervention program around 'potentially modifiable risk factors'. The Penn Prevention Programme, a precursor to the Australian programs, identified an approach to altering the cognitive distortions and improving the coping skills of at-risk youth (Gillham, Reivich, Jaycox & Seligman 1995).

Zubrick et al (1997) state: 'Different school contexts are associated with different patterns of problem behaviour in students.' And: 'It remains to be seen if the higher rates of problems reported in some school contexts constitute a mental health risk for students attending such schools.' Are schools in fact a mental health hazard? In terms of Helm's (1996) costs and benefits analysis, it would seem to make more sense to remove the hazard than to try to ameliorate the effects.

Research on the Aussie Optimism program (Quayle, Dziurawiec, Roberts, Kane & Ebsworthy 2001), which is aimed at young people identified as being at risk of depression, indicates that it has had some success in reducing depression and increasing self-esteem. Quayle, Dziurawiec, Roberts, Kane and Ebsworthy (2001) studied the short-term effectiveness of an Optimism and Life Skills program, an adapted version of the Penn Depression Prevention Programme (Jaycox, Reivich, Gillham & Seligman 1994) in a universal school-based context, for preventing depression in preadolescents. A randomised, controlled trial was conducted with students about to make their transition to high school in a private girls' school. All seventh grade girls (n=70) attending a private girls school in a high socioeconomic suburb of Perth, Western Australia, were invited to take part in the study. Informed consent to participate was obtained from 47 of the girls and their parents, a response rate of 67 per cent. The girls were aged between 11 and 12 years and were all completing their last year of primary school. Twenty-four students were randomly

assigned to the intervention condition, and 23 to the wait-list control condition. The intervention condition comprised two groups of 12 participants. The intervention was targeted at the cognitive and social risks and protective factors for depression, and included active skills training. Self-report questionnaires were used to assess the program's effect on depressive and lonely symptoms, attributional style and self-worth at post-test and six-month follow-up. The program was adapted to eight 80-minute weekly sessions (10 hours and 40 minutes in all) and the language was modified to make it more relevant.

There were fewer depressive symptoms and more positive self-worth in the intervention group compared to the control group at six-month follow-up. There was no significant difference in depressive symptoms between the groups at post-test, with both intervention and control group students reporting a reduction in depressive symptomatology. The authors suggest possible explanations for the program's lack of immediate impact: latency effects, low-symptomatic groups (floor effects), and a number of methodological limitations such as high attrition, less than optimal attendance, small sample size and limited outcome measures.

Roberts, Kane, Thomson, Bishop and Hart (2003), in a larger scale study of the same project, investigated the effectiveness of a targeted depression prevention program aimed at reducing depressive and anxious symptoms in rural school children in a randomised controlled trial conducted under normal service delivery conditions in 18 rural schools. Fifty-one per cent ($n=369$) of the available 720 seventh-grade students from 18 rural primary schools consented to participate in the screening phase, and 341 children aged 11–13 years completed the child depression inventory (CDI: Kovacs 1992). Trained research assistants who were blind to the condition read the CDI aloud to students in class groups. For the intervention phase, participating children in each class were rank ordered using their CDI scores, and 13 children with the highest scores from each class were invited to participate. In classes with 13 or fewer students, all children were invited. Sixty-one per cent ($n=208$) of children with CDI scores ranging from 1 to 37 ($m=11.01$, $sd=8.30$) were invited to participate in the intervention phase. Parental consent was obtained for the participation of 194 children (93%). Pairs of schools matched for geographical location, school size, distance from the nearest regional town, and socioeconomic status were randomly assigned to intervention or control conditions prior to pre-intervention. The final sample consisted of 189 children: 90 children (46 girls) in the intervention group and 99 children (48 girls) in the control group. Nine primary schools ($n=90$) were randomly assigned to receive the program, and 9 control schools ($n=99$) received their usual health education classes. Children completed questionnaires on depression, anxiety, explanatory style and social skills. Parents completed the child behaviour checklist (Achenbach 1991). Children and parents completed the pre-intervention assessments halfway through the 7th grade. The child assessments were read aloud to small groups during school time, whereas parents were sent the child behaviour checklist and demographic questionnaire to complete and return in prepaid envelopes. Post-intervention assessments were conducted in the same manner at the end of the school year. At the 6-month follow-up in 8th grade questionnaires were mailed separately to parents and children. They were

instructed to complete the questionnaires independently and mail their responses in separate prepaid envelope.

The results showed that intervention effects were found for anxiety, and internalising and externalising problems at post-intervention and that effects for anxiety were maintained at follow-up. The results relating to the primary outcome variable (depressive symptoms), were contrary to predictions with no significant differences between intervention and control groups at post-intervention or follow-up. Intervention group children reported less anxiety than the control group after the program and at 6-month follow-up and more optimistic explanations at post-intervention. Intervention group parents reported fewer child internalising and externalising symptoms at post-intervention only. The results contrasted with those of Jaycox, Reivich, Gillham and Seligman (1994), who found reductions in depressive symptoms at post-intervention. The Quayle, Dziurawiec, Roberts, Kane and Ebsworthy (2001) and Jaycox, Reivich, Gillham and Seligman (1994) studies both found group differences at 6-month follow-up.

Shochet et al (2001) evaluated an 11-session resilience-building program (the Resourceful Adolescent Programme: Shochet, Holland & Whitefield 1997), based upon cognitive behavioural therapy principles and interpersonal theories of depression and supported by a detailed manual. This school-based program was evaluated in a controlled trial using two cohorts of Year 9 secondary students from one school, totalling 260 adolescents. The two cohorts experienced the program in different years to prevent contamination from the active treatment group to the comparison group. All adolescents were assessed at pre-intervention, post-intervention and eight-month follow-up using a range of measures of depression and hopelessness including the child depression inventory (CDI: Kovacs 1992), the Reynolds adolescent scale (RADS: Reynolds 1987) and the Beck hopelessness scale (BHS: Beck & Steer 1988). The results indicated that students assessed as being at moderate and high risk for depression reported significant decreases in depressive and hopelessness symptoms compared with the control group at post-test and eight-month follow-up. An unexplained finding was that intervention effects were found on the BHI and the CDI but not on the RDI. The program also appeared to benefit those who were initially considered 'healthy'. This program was run during school time and designed to fit the constraints of the usual school term and lesson times. The use of only self-report measures of depression was a constraint of the study. Running the program in a single school was another methodological limitation, with potential confounding variables from cohort and time effects.

'Resilience is the ability of rebounding or springing back after adversity or hard times. It is the ability to bungy jump through life. It is as if the person has an elasticised rope around their middle so that when they meet pitfalls in their lives they are able to bounce back out of them' (Fuller 1999, page?). Young people who are resilient often have stronger connections to school, family and peers, and young people with these links are less likely to develop mental health problems. Enhancing resilience in young people develops their ability to cope with change and challenge. Research indicates that the factors that promote resilience in young people include family connectedness, peer connectedness and fitting in at school (Fuller, McGraw

& Goodyear 1998). The benefits should be twofold. First young people should be less likely to develop the kind of mental health problems that can lead to crisis situations such as suicide. Secondly, when facing a potential crisis, the young person should be able to cope with the challenge more successfully. An as yet unanswered question is whether greater resilience will lead to better outcomes in crisis situations which are, by definition, those that overwhelm the individual's usual coping mechanisms.

Resnick et al (1997) suggested that the main risks to adolescent health are the health risk behaviours and choices made by the adolescents. Some children who are at high risk for health-compromising behaviours successfully negotiate adolescence, avoiding the behaviours that predispose them to negative health outcomes; while others, relatively advantaged in relation to health-compromising behaviours, sustain significant morbidity. Caring and connectedness to others, particularly parents and school, were found to be important protective factors that apply across major risk areas. Those who were academically at risk were at high risk in other ways too. The 'full-service' or community school is advocated as a means of delivering educational, social and health services for community planning and action to address the needs of distressed young people engaging in health-compromising behaviour.

Preparation

Preparation involves planning, training, education and practice. Eaves (2001) proposed that school crisis response plans should be a mandatory aspect of effective educational planning and administration. Poland (1997) felt that schools can improve their management of school crisis situations through advance planning and constantly evolving crisis plans. Poland stressed the importance of the leadership of the school crisis team in addressing areas such as school crisis history, gaining administrative support for planning, and organisation of school crisis response.

Disaster sociologists have proposed many disaster classification systems (eg Barton 1989). A fundamental principle of disaster theory is that disasters are defined not in terms of the nature or magnitude of the event or the extent of the resulting damage, but rather according to the degree of social disruption caused. In order to determine the degree of social disruption brought on by a crisis, it is necessary to know something about the pre-crisis state of the community (Britton 1986). According to this contention, the severity of the effect of a crisis on a school will be significantly affected by its pre-crisis state as well as the nature of the presenting crisis situation. Preparation for crisis management in schools should therefore include a review of the pre-crisis social climate of the school and a consideration of the current level of social stability.

Paton (1992) outlined a comprehensive process to develop an effective crisis management plan. For schools, this involves:

- School senior management should be committed to the process.
- Resistance to plan development should be addressed before beginning the planning process.

- The plan should be developed in a consultative, participative manner to ensure its realism and the commitment to act.
- The individuals and agencies who will be involved in implementation should be involved in plan development.
- The plan should be accompanied by a commitment of resources.
- The plan should focus on realistic events.
- A risk assessment should be undertaken to aid the planning process.
- The plan should address events involving multiple casualties/fatalities.
- The plan and the training program it stimulates should focus on those common key characteristics and common key problems of trauma events and tasks.
- Procedures should be adapted from applications used for 'routine' emergencies.
- Organisational leaders should be aware of: liability issues, response plans, their role during and after the incident, and the support resources available.
- The plan should address and define the tasks and responsibilities of all positions and all organisations likely to become involved.
- The plan should identify positions of responsibility rather than people.
- The plan should be based on appropriate expectations of how people are likely to act/react.

Intuitively, it makes sense that to manage large-scale crises such as the 11 September 2001 terrorist attacks on the World Trade Centre and the Pentagon a coordinated management plan is essential. One must be 'wise before the event' (Yule & Gold 1993). But key questions remain unanswered for those whose work generally involves the smaller scale crises that may impact on schools. For example, in relation to implementation, is it 'better' to have a good plan badly enacted or to have no plan at all with a flexible and sensitive school administration responding on an ad hoc basis? Does having a plan really produce better outcomes?

Crisis management plans for schools have been recommended by many writers (eg Pitcher & Poland 1992; Brock, Sandoval & Lewis 1996; Western Australian Youth Suicide Advisory Committee 1998; United States Department of Education 2003), with a high degree of consistency in relation to the recommended components and content. Yet it appears that there has been no assessment and evaluation of the application or effectiveness of either the individual elements or of crisis plans as a whole. For example, crisis drills are one of the components often cited as an important element of the preparation phase but some have cautioned that these may create unnecessary anxiety or cause children to be more fearful of a possible crisis (Kramen, Kelley & Howard 1999; Missouri Department of Elementary and Secondary Education and Department of Public Health 1999). Tronc (1992) has argued that there is a legal obligation for schools to have crisis plans

under their ‘duty of care’ but there is no apparent research base to support their effectiveness or even to confirm that components of any plan, such as crisis drills, do no harm.

Crisis management teams are widely advocated (Paton 1992; Pitcher & Poland 1992) yet there is no research that indicates whether certain members are more effective than others, for example, whether a school psychologist is more effective than a deputy principal, or whether particular combinations of members are more effective than others.

Ganz (1997), focusing on the effects of violence, argued that schools can no longer look solely to outside agencies, social institutions or other resources to deal with emotional and psychological trauma within the school and its community. Ganz contended that discussions and actions should involve the confirmation of the presence of trauma within the school venue, that this trauma is impacted by a variety of influences including culture and any ambivalence on the part of school staff as to the role of the school in responding to violence.

Brock (2000) described a case study of efforts to initiate, implement and continue a school district crisis intervention policy. He identified the change environment and barriers to the school change effort. He discussed policy development and other actions that helped to overcome barriers. An important lesson learned was that a necessary change (such as a crisis intervention policy) will eventually come to be viewed as essential by the school community. Brock concluded that planners should anticipate this and be prepared to respond quickly when the time is right. People are more interested in preparing for potential crises when there is some kind of proximity, whether temporal, physical or emotional, to a real event – a clear and present danger.

Cornell and Sheras (1998) used case studies to support the assertion that the qualities of leadership, teamwork and responsibility are essential ingredients of successful crisis management. The qualities of effective teams are described in the Gatekeeper Training Manual (Western Australian Youth Suicide Advisory Committee 1998):

- integration of government/non-government, medical/non-medical staff;
- clearly identified client group;
- clear, negotiated vision that is shared, valued and attainable;
- written, operational policy with clear statement of aims, objectives and functions of the team so members’ responsibilities and accountability are clear;
- negotiated best practice model to be used for intervention;
- team coordinator responsibilities defined by team;
- democratic and collaborative leadership through identified team coordinator;

- non-judgemental communication that identifies problems and generates action strategies;
- an expectation of high standards;
- recognition of supervision/training needs for team members and action to achieve these;
- provision of support for team members;
- conflict resolution process in place for team and for issues between team and other agencies;
- provision of support and professional development to assist other community professionals who are involved with the same client group;
- continuity of care, assisted by integration of services.

The preparation phase of crisis management covers multiple elements. The possible interconnections and co-dependency of these elements, which range from policy to school-based programming, remain unclear. The widely accepted and published strategies for this preparation phase appear to be largely based on best practice, clinical judgement or personal preference rather than a systematic accumulation of evidence.

Response

Response involves prompt implementation of effective actions and the mobilisation of appropriate resources. The response phase might be considered as having three objectives:

- developing options based on the information gathered,
- selecting the appropriate responses, and
- implementing these.

Developing options is based on focusing on the problem and a determination of the level of response required. Selecting a response also requires that account be taken of community culture and values and the values of those directly affected by the problem. Although in school-based crisis situations there is often a commonality of values, this should not be assumed always to be the case. Consideration must be given to the people and financial resources required and how the response might reduce the effects of the crisis. Implementing the response requires a clear view of the tasks required to carry it out, staff to see that it happens, timelines to accomplish the tasks and a determination of whether there will be any ongoing or follow-up assessment to gauge the effectiveness of the response. The task is to select the responses that seem most likely to be practical, effective and cost-efficient for the crisis within the prevailing context.

Newgass and Schonfeld (2000) asserted that a school-based crisis intervention team composed predominantly of school-based staff is ideally suited to coordinate crisis prevention activities and to provide intervention services to

students at the time of a crisis. However, Crondstedt (2002) argued for a move from such an internal focus to a community-centred approach. Johnson (2000) considered that, while community-based crisis response teams offered needed resources to schools impacted by crisis, often they were not asked to help. Johnson contested that unfamiliarity with school organisation, culture and procedures limited the usefulness of community-based teams and argued that key differences in principles, decision making and ways of responding made team coordination difficult. If representatives of agencies external to the school were involved in the planning process, it was more likely that their services could be accessed at the time of a crisis for the mutual benefit of the students and the community. However, the absence of any empirical evidence in regard to the most effective composition of school-based crisis teams has been noted earlier.

Klingman (1993) focused on the school-based intervention used by a mental health team to enhance the school as a social support system so that it might better adjust to the taxing demands of the crisis. The preventive intervention aimed to keep stress within manageable limits on the assumption that the crisis would prove less intense and there would be a better chance of adaptive responding by the adults and children involved.

Underwood and Dunne-Maxim (2000) emphasised the importance of acknowledging the event when a school community experienced the sudden traumatic death of a student or faculty member. Wraith (1991) outlined a case study where failing to give attention and pushing an event ‘under the carpet’ had serious, long-term, negative effects on a whole community. Pitcher and Poland (1992) found negative effects sustained from childhood through to adulthood when traumatised children were encouraged to go home and forget about an incident.

In their study of critical incident stress volunteers, Werner, Bates, Bell, Murdoch and Robinson (1992) identified six factors associated with a critical incident that increased the difficulty for workers of coping:

- the involvement of children or young people
- the worker’s first experience with death or multiple deaths
- the goriness or enormity of the incident
- being unprepared for the incident
- the presence of multiple deaths or injuries and
- an existing association with the victim or their family.

Critical incidents in schools generally involve at least one of these factors, namely the involvement of children or young people. Incidents involving events such as death, serious illness and abduction within the school population are likely to be particularly stressful for the school and for the professionals supporting individuals and groups within the school.

Newman (2000) reviewed suicide and attempted suicide during adolescence. Regardless of whether the suicide attempt culminated in death or an unsuccessful attempt, the school should be prepared for the impact on the adolescent group and staff. Friends and family members could become the unwilling and vicarious victims of the suicide attempt. Newman recommended a rapid and assertive emergency mental health response to any given suicide or attempt.

Media coverage of a suicide can be a causal factor in suicide 'contagion' or 'clusters' (Pirkis & Blood 2001). According to the American Foundation for Suicide Prevention (2003), after a film or news story on suicide, suicide rates tend to increase. There are documented accounts of young people committing suicide shortly after viewing or reading media coverage of a suicide. A well-known instance of this kind of contagion was investigated to consider a possible association between the broadcast of an episode of the BBC television drama *Casualty* and changes in presentation to general hospitals for deliberate self-poisoning including changes in the substances taken (Hawton et al 1999). The storyline to the episode included a serious overdose of paracetamol, providing the opportunity to conduct a large-scale prospective study of any possible effects on subsequent suicidal behaviour. This study found that portrayal of self-poisoning in a popular television drama was associated with a short-lived increase (17% and 9% in the first and second weeks after the broadcast) in presentation of self-poisoning patients to general hospitals. The choice of substance taken was also influenced by the broadcast. Two effects may apply. One is the modelling effect where a vulnerable individual identifies with someone, their situation or circumstances and their suicidal behaviour, and imitates the behaviour. This is sometimes called a copycat effect. The second is a normalising effect where the suicidal behaviour is seen as a normal and therefore acceptable response to despair or crisis resulting in a general acceptance of suicide as an option.

Although there appear to have been no studies of the effects on young children of fictitious depictions of suicide on television, research in Canada (Mishara 1999; Normand & Mishara 1992) indicated that half of children aged from 5 to 7 years reported seeing at least one suicide on television, and all of the older children could report on at least one such incident and usually several deaths by suicide in television programs. These studies found that conversations with older children, television depictions of suicide and the occasional depiction of suicide in films were the primary sources of information on suicide for children of all ages. The exception to this was among the small number of children who had experienced a death by suicide in their own family.

A number of studies have implicated the media in the emotional distress of children and their families (Pfefferbaum 1998). Pfefferbaum et al (2003) examined indirect interpersonal exposure to the 1995 Oklahoma City bombing. They studied exposure to broadcast and print media in the aftermath of the explosion in relation to emotional reactions and post-traumatic stress reactions to the coverage in children distant from the explosion. A survey was administered to 88 students in the 6th grade of the public middle school in a community 100 miles from Oklahoma City two years after the bombing. Many children reported indirect interpersonal exposure

and most reported bomb-related media exposure. Print media exposure was more strongly associated with enduring post-traumatic stress symptomatology than broadcast exposure. Indirect interpersonal exposure and the interaction of media exposure with emotional reaction to media coverage in the aftermath of the explosion each predicted ongoing post-traumatic stress. Results suggested that children might have lingering reactions to highly publicised terrorist incidents. This kind of research might be more revealing if carried out as a longitudinal study, with the initial measurements taken soon after an event and with a systematic attempt to gauge the degree and kind (eg video footage, spoken commentary, printed word, newspaper pictures, etc) of the exposure across different media.

Brent, Bridge, Perper and Cannobbio (1996) followed-up 166 friends of 26 adolescent suicide victims over a three-year period, with an unexposed community control group comparison. There were no significant differences found in exposure to life stressors between groups over the follow-up period. They found that exposure to suicide increased the risk of suicidal behaviour. The exposed group showed a higher rate of any psychiatric disorder ($p < 0.0001$), as well as major depression ($p < 0.0001$), generalised anxiety disorder ($p = 0.04$), and PTSD ($p = 0.001$). Those exposed to suicide continued to show high current rates of depression, anxiety and PTSD symptoms, although the differences in the incidence rates of depression and anxiety between exposed and control youths converged after approximately 18 months. The incidence of PTSD was high, initially and during the last half of follow-up. A question left unanswered is whether these symptoms left to develop over a longer period would still result in suicidal behaviour. Depression is a known high risk factor for suicide. Unfortunately, the social network of the victims was not comprehensively explored. This is an important factor, as some studies have shown that exposed peers who were not close friends may be at greater risk of imitative suicidal behaviour (eg Gould, Forman and Kleinman 1994).

Conclusion

One might be inclined to agree with the United States Department of Education: 'The research on what works in school-based crisis planning is in its infancy. While a growing body of research and literature is available on crisis management for schools, there is little hard evidence to quantify best practices' (2003, page?).

Much of current practice is based on clinical judgement. Clinical judgment is, and will remain, a significant asset. However, the effectiveness of a number of current practices is being questioned and, as yet, they are unproven.

Nonetheless, the beginnings of an evidence base can be seen. In prevention, effectiveness has been demonstrated for some suicide prevention, anti-depression and resilience-building programs. In preparation, the literature is largely descriptive and founded mainly on clinical judgement. In response, the latter is still largely true, but there is evidence that media portrayal of suicide or local exposure to it increases the incidence of suicide and associated mental health problems.

Although there is as yet no empirical evidence for the effectiveness of crisis plans in schools, it would seem a wise course for schools to continue such preparations, given that the legal view may well be that not having such a plan is a failure of the duty of care owed by schools to students. It might also be prudent for schools to ensure that these plans are flexible and open to change during the course of a crisis.

Implications for future research

Prevention

Youth suicide prevention has become a significant area of activity in schools. Research into the effectiveness of these strategies is complicated by issues such as a multi-factorial aetiology, ethical constraints and the difficulties of tracking change in relatively low numbers of deaths. The prevention of suicidal behaviour does not lend itself readily to randomised controlled trials. The ethical dilemma of not providing a service militates against such an approach. Intervention programs might be considered 'high risk' in that they could easily make the situation worse. Future research might best focus on attempting to reduce accumulated biological, family, community or societal risk factors and enhancing protective factors (Beautrais 1998). Other areas of prevention are in severe need of rigorous research.

Preparation

The importance of having crisis management plans and crisis management teams are two of the fundamental tenets widely advocated in the best practice literature, although there is no empirical evidence to support this. If plans are to be mandated, as some have argued (Tronc 1992; Eaves 2001), it is vital that they can be shown to be effective and lead to better outcomes for those involved. Research into the effectiveness of crisis plans could operate at a number of levels and need not be constrained by the need to wait for a crisis to occur. The judicious use of simulations or drills may be a way to allow some insights if suitable outcome measures can be developed. Simulations and drills might also be evaluated in terms of whether they produce not only a better state of preparedness but better outcomes when a crisis presents. A difficulty is that many schools already have plans in place, but this might be overcome by using those who are untrained in the school's procedures to compare whether an effective response is more likely when a plan is in place. This would have value as any crisis plan should remain functional when alternate personnel are fulfilling the key roles. Particular combinations of school personnel making up the crisis team (eg the principal, deputy principal, school psychologist), whether particular professional roles are best suited to particular crisis team roles (eg school psychologist as counsellor or media liaison), whether there are optimal combinations of crisis team roles (eg family liaison, medical liaison, intervention support) could be evaluated for effectiveness.

Response

When a plan is in place, a key question is whether or to what degree the plan is actually followed during a real crisis. A plan should not be a constraint to effective action, but it would seem important to know whether the efforts put into planning are justified by observable benefits when the plan is enacted. Is the plan a help or a hindrance? Are some parts of a plan more useful or successful than others? Following from this, do team members fulfil their roles as designated? How much freedom do individuals have to adapt their roles or make decisions without consultation? Does the team operate effectively and efficiently? Is information shared effectively? Are there tasks that are not allocated or that have been allocated yet are not performed? Most importantly, how can such questions be answered? The debate on psychological debriefing has shown how essential it is to establish that widely accepted practices have a founding in theory and/or systematic research. Other research shows that unintended events (such as media coverage) can have damaging and indeed life-threatening consequences, so strategies for damage limitation need considerable forethought.

There are a number of other crisis response practices that must be questioned. For example, the model of modern risk management advocated by Crondstedt (2002) emphasises the interaction between the community and the hazard within a particular context. This brings to bear questions on how the community should be involved, not only in planning but also in response. Some writers have advocated reliance on the resources available within the organisation, that is, the school (eg Caplan 1964; Newgass and Schonfeld 2000), while others consider that response is more effective when the community is involved (Johnson 2000; Crondstedt 2002). Factors such as unfamiliarity with school organisation, culture and procedures have previously been discussed as having potential to limit the usefulness of community-based teams. While it is easy to foresee the potential for problems in interaction of multiple agencies unfamiliar with one another's work and organisation, it is possible that these same factors of school versus community team precepts, decision making and strategic paradigms might have a positive effect on planning and response processes, bringing new ideas and innovative methods into the school.

Implications for professional action

At the present, there are few simple clear action implications from research on school-based crisis management. However, familiarity with that research should enable practitioners to ask more intelligent and more joined-up questions. Until a sound and unambiguous research base is established, professionals will as always have to fill in the gaps by reliance on best practice models. Yet even achieving best practice can be more complex than it might appear. Practice may often be driven by policy direction from a department or school and/or by legislative requirements, in a non-evidence-based manner.

It is probably fair to assume that those involved in crisis management in schools are used to making decisions. But how many decision makers have training and experience of making effective decisions while under stress and in unpredictable situations where there may be limited information, time and resources? The

psychological preparation of crisis management team members is an area that requires attention. The interaction of individuals in such situations where stress, fatigue and fear can create an emotionally charged atmosphere would be a new experience to most members of school crisis management teams. It may be that expertise from other areas such as police, fire and emergency, and the military, where these situations may be more familiar, can help inform training programs for school personnel.

How to best effect training is another critical question for practitioners. Robert and Lajtha (2002) felt it is important to move away from the negative perception of crisis management. They were not simply arguing that crises should be seen as learning opportunities, but rather they were also promoting the positive attributes that investment in crisis management training can bring to management flexibility, teamwork, organisational resilience and strategy.

The present authors are developing an evidence-based framework for school risk management audits, coupled with the development and evaluation of an evidence-based training program in crisis management for school staff and students.

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