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# Managing the aftermath of critical incidents: Meeting the needs of health-care providers and patients

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Critical incidents may have serious psychological and health-related impact on patients, their families and the health-care providers involved. Exploring the needs of health-care providers and patients and their families in the aftermath of a critical incident, this article highlights a disconnect between the widely acknowledged ethical obligation for open disclosure and current practice, reviews the available evidence on effective disclosure and barriers to open disclosure and provides an overview of what health-care organisations can do to alleviate the impact of critical incidents on staff, patients and their families. The most critical elements are: (1) effective support systems for clinicians, (2) guidelines on critical incident management including immediate measures, disclosure standards and subsequent incident analysis and (3) educational interventions informing staff about disclosure standards and support systems and training critical disclosure skills. Significant leadership commitment is required to successfully implement such comprehensive incident management systems.

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Public interest regarding patient safety has increased significantly over the past 15 years. In the landmark report by the Institute of Medicine in 1999, the results of several studies were integrated providing estimates of the incidence and severity of adverse events in health care and of the associated costs.<sup>1</sup> These data have led to a broad range of improvement efforts, most of which have concentrated on the prevention and detection of medical errors.

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The aftermath of critical incidents is equally important because systematic incident investigation is a prerequisite for learning and prevention (see Staender, in this issue) and because there are enormous human costs associated with adverse events in health care. Patients, their families and health-care providers all suffer from these events.<sup>2,3</sup> Taking care of patients and their families or support persons after an incident is an ethical duty and an important element of how adverse events are handled effectively. Thus, significant commitment is required from health-care organisations and managers to develop frameworks for effective communication between health-care providers and patients and their families to take place (i.e., open disclosure) and to support health-care providers in this process.<sup>4</sup>

Integrating the perspective of health-care providers and of patients and their families, this article will explore the following questions: How do health-care providers respond to critical incidents? What do health-care providers need after critical incident involvement? What do patients and their families expect after a critical incident? What characterises effective disclosure? What is the current practice of open disclosure? How can health-care organisations meet the needs of health-care providers and patients after critical incidents?

The term 'critical incident' will be used throughout this article to refer to a deviation from the expected course with the potential for an adverse outcome.<sup>5</sup> This is done intentionally to explicitly include incidents in the discussion that lead to adverse outcomes as well as incidents that do not result in harm to the patient and incidents that either do or do not originate from medical error.

### **The 'second victim' – meeting health-care providers' needs**

The involvement in critical incidents and their (emotional) impact on health-care providers is often a taboo. However, studies show that critical incidents do have serious impact on health-care providers, such as negative emotional responses, psychological distress, serious health effects and performance decrements.<sup>6–10</sup> These negative consequences of critical incidents on health-care providers, particularly on physicians, are summarised under the umbrella term 'second victim' introduced by Wu.<sup>3</sup> Recently, the following definition has been proposed by Scott and colleagues<sup>11</sup>: "A second victim is a health-care provider involved in an unanticipated adverse patient event, medical error and/or a patient-related injury who become victimised in the sense that the provider is traumatised by the event. Frequently, second victims feel personally responsible for the unexpected patient outcomes and feel as though they have failed their patients, second-guessing their clinical skills and knowledge base" (p. 233). This definition summarises the most prominent psychological responses to critical incident involvement reported in empirical studies.

#### *How do health-care providers respond to critical incidents?*

Most studies addressing emotional and health-related effects of critical incident involvement on health-care providers investigate short-term outcomes. Emotional responses reported frequently include distress, fear, self-doubt, feelings of failure and inadequacy, shame and guilt.<sup>6,12–16</sup> These responses are often intensified in case of poor patient outcome, prior beliefs of infallibility, self-perceived responsibility and – in case of medical error – internal rather than systemic attribution of error causes.<sup>17,18</sup> Some health-care providers even report symptoms of post-traumatic stress disorder, such as sleep disturbance, nightmares, irritability and problems concentrating that may even lead to inability to work. However, even without these symptoms (especially) physicians frequently suffer from feelings of incompetence, anxiety about future errors and professional isolation, all of which were associated with higher job-related stress making it harder to continue working clinically.<sup>19</sup> Common coping strategies involve denial of responsibility, discounting of importance of the incident and emotional distancing.<sup>7</sup> While the acceptance of personal responsibility is strongly associated with initial emotional distress, it also seems predictive for effective coping, learning from errors and taking constructive changes to clinical practice by residents (e.g., confirming clinical data personally and seeking advice).<sup>13</sup>

Recent studies included mid- and long-term effects on health-care providers. For example, a prospective longitudinal cohort study by West and colleagues<sup>20</sup> showed that a self-perceived major error was associated with decreased quality of life, higher scores on the Maslach Burnout Inventory,

and signs of depression at the next measurement point (measurements every 3 months over a period of 3 years). These results, combined with the evidence on performance-decreasing effects of burnout (especially high values on the depersonalisation subscale), depression or substance use<sup>10,21</sup> highlight the safety relevance of effective interventions to support staff in the aftermath of an incident. To adequately support health-care providers, we have to understand more about their needs after a critical incident, their perceptions of various kinds of support and the evidence on the effectiveness of support interventions.

#### *What do health-care providers need after critical incident involvement?*

Compared with the needs of patients and their families, health-care providers' needs in the aftermath of a critical incident have rarely been addressed in empirical studies. A study of family physicians<sup>15</sup> identified four primary needs after critical incident involvement: talking to someone about the incident, validation of decision-making process, reaffirmation of professional competence and personal reassurance. These results have been supported by more recent studies including physicians from different specialities.<sup>13,17</sup> Empirical results suggest that colleagues and supervisors are perceived as the most valuable resource to clinicians after critical incident involvement. However, studies repeatedly show that clinicians only rarely get the support they need from within their organisation.<sup>12,15,19,22</sup> In a study of 3171 physicians from various specialities in Canada and the United States, only 10% agreed that they were adequately supported by health-care organisations after incident involvement.<sup>19</sup> Interestingly, negative emotional responses and psychological distress after involvement in a critical incident are more likely when clinicians perceive the organisation as unsupportive and are dissatisfied with the disclosure to patients.<sup>19</sup>

#### **Open disclosure – meeting the needs of patients and their families**

Open disclosure can be defined as the open and timely communication about adverse events to keep patients and family members informed, acknowledge suffering and grief and help reducing feelings of abandonment, and thus, patients' recovery and health.<sup>4,23</sup> Although different types of disclosure can be distinguished,<sup>24</sup> open disclosure generally includes: (1) an accurate information about the critical incident, immediate consequences and appropriate remedial action, (2) an expression of regret and (3) information as to what will be done to avoid recurrence.

#### *What do patients and family members expect after a critical incident?*

Research on the aftermath of critical incidents has largely concentrated on the expectations of patients and family members and their reasons for taking legal actions. Across health-care domains, studies show that open disclosure after critical incidents is crucial from the perspective of patients and their families.<sup>25–29</sup>

For example, a study surveying 958 adults (31% of whom reported experience with medical error that involved either themselves or a family member) showed that non-disclosure was associated with lower patient satisfaction, less trust in the physician and a stronger negative emotional response.<sup>27</sup> Only 7% of the respondents in this study agreed that some circumstances might justify non-disclosure. Similarly, results of a scenario-based survey of 149 Internal Medicine patients showed that almost all respondents (98%) expected an active acknowledgement after a critical incident, regardless of its severity.<sup>28</sup> A recent interview study with 23 persons involved in open disclosure after a critical incident supports these results.<sup>29</sup> All interviewees (except one) appreciated the opportunity to meet with staff and get an explanation of the incident.

The existing literature suggests that open disclosure plays an important role in how well patients and their families as well as health-care providers can cope with critical incidents in the course of patient care.<sup>2,25</sup> It has recently been argued that open disclosure – particularly a full apology that consists of an admission of responsibility, an expression of regret and action to remedy harm and prevent future occurrence – may moderate the recovery and health of patients after a critical

incident.<sup>23</sup> However, systematic studies on the psychological and physiological effects of open disclosure on recovery and health are lacking.

It has frequently been argued that a proactive approach to open disclosure is associated with fewer lawsuits and, thus, has financial and image benefits.<sup>30,31</sup> The available evidence on this issue does not yet allow for a definitive answer, especially as the decision to seek legal advice is influenced by multiple factors, such as specifics of the case and the severity of outcome.<sup>27</sup> However, open disclosure plays an important role. In a survey of patients and relatives taking legal action,<sup>25</sup> 70% of the 227 respondents were seriously affected by the adverse event (physically, financially and/ or socially). An explanation was given in 21% of the cases within the first week, in 16% within the first year, in 6% it took over a year and, in 37% of the cases, no explanation was given. This study identified four main reasons for litigation: accountability (i.e., wish to see staff disciplined), explanation (i.e., wanting an explanation and not wanting to be ignored), standards of care (i.e., ensuring that a similar incident never happens again) and financial compensation (see Table 1). The authors conclude that although in some cases the need for compensation may be the main reason for litigation, the desire for a full explanation and acknowledgement by clinicians was a major motivation.

In summary, open disclosure might decrease the likelihood of litigation under some circumstances.<sup>25–27,32</sup> What is important with regard to open disclosure is, that once a critical incident has occurred – of all the factors influencing the likelihood for legal consequences – only the level of disclosure can be influenced directly by health-care providers.

#### *What characterises effective disclosure?*

Accurate and timely information is a key element of open disclosure. Patients and their families need to understand what happened and what to expect in terms of immediate consequences and appropriate remedial action. Uncertainty in the aftermath of a critical incident is usually perceived as very disturbing and painful; unsatisfactory explanations have been shown to increase distress and hinder psychological adjustment.<sup>2</sup> Silence of health-care providers has been interpreted by some patients and families as hiding information, attempting a coverup or as a lack of respect and compassion,<sup>26</sup> and is, therefore, likely to undermine the patient–physician relationship.<sup>33</sup> In addition to the benefits for patients and their families, disclosure can be a relief for health-care professionals as well.<sup>3,34</sup>

Although protocols guiding clinicians through the disclosure process vary in detail, all focus on the well-documented needs of patients and family members after a critical incident:

- continuation of care;
- acknowledgement of the incident and the consequences for the patient;

**Table 1**

Reasons for taking legal actions.<sup>25</sup>

Reasons for litigation	Percent of respondents who agree
So that it would never happen again	91.4
I wanted an explanation	90.7
I wanted the doctors to realise what they had done	90.4
To get an admission of negligence	86.7
So that the doctor would know how I felt	68.4
My feelings were ignored	66.8
I wanted a financial compensation	65.6
Because I was angry	65.4
So that the doctor did not get away with it	54.7
So that the doctor would be disciplined	47.6
Because it was the only way I could cope with my feelings	45.8
Because of the attitude of the staff afterwards	42.5
To get back at the doctor involved	23.2

Note: *N* = 227 patients and relatives taking legal actions.

- information on what has happened and what to expect;
- apology (when appropriate)/expression of regret;
- advice about necessary treatment;
- information about changes and efforts to prevent recurrence; and
- tangible support concerning the physical, psychological, social and financial consequences.

Empirical results regarding patients' and family members' experience of open disclosure highlight the importance of how open disclosure is enacted. Confirming earlier studies,<sup>12,35,36</sup> Iedema and colleagues<sup>29</sup> showed that it is critical for open disclosure to occur promptly, not too informally, with the staff originally involved in the adverse event and to include an apology. The study also points out the importance of disclosure being followed up with tangible support or change in practice.<sup>29</sup>

### *What is the current practice of open disclosure?*

As documented by the medical literature as well as ethical and professional guidelines,<sup>37–39</sup> there is consensus among researchers, professional organisations, ethicists, physicians and the general public regarding the ethical duty to disclose. As stated by the American College of Physicians “Errors do not necessarily constitute improper, negligent, or unethical behavior, but failure to disclose them may.”<sup>37</sup>

Despite this wide acknowledgement of the ethical duty to disclose, evidence suggests that open disclosure may be uncommon,<sup>25,40–43</sup> not always very systematic and that there is substantial variation in what health-care providers decide to disclose.<sup>40,44–46</sup> A study by Blendon and colleagues showed that only a third of the respondents, who had experience with an adverse event, reported that the physician involved told them about it or apologised to them.<sup>41</sup> In another study, the 114 responding house officers reported a discussion with the patient or family in only 24% of adverse events.<sup>42</sup> A survey of European intensive care physicians found that only 16% claimed to relate exactly what had happened to the patient or their relatives after a critical incident occurred, but 50% thought they should.<sup>43</sup>

The current practice of open disclosure is not only a result of clinicians' attitudes and fears but also of barriers at the organisational level. Thus, failure to disclose is a systemic problem that needs to be addressed at multiple levels.

At the organisational level, culture has a major impact on the practice of disclosure. It has been the prevailing culture of infallibility among health professionals that leads to a lack of open communication, a lack of support from colleagues and supervisors, sanctions or disapproval from senior management, unrealistic performance expectations and ultimately to a ‘culture of silence’.<sup>47</sup> For example, Wu and colleagues reported that nearly a third of surveyed house officers indicated that “the hospital atmosphere inhibited them from talking about the mistakes” and 20% reported that the “administration was judgmental about the mistakes.”<sup>13</sup> Research into organisational barriers to open disclosure shows that disclosure is less likely in hospitals concerned about malpractice and in case of preventable harm,<sup>32</sup> and that risk managers sometimes advise health-care professionals not to talk to patients and families after an incident.<sup>48</sup> This advice is mostly based on the few cases where offhand, casual remarks have prompted lawsuits against the hospital/health-care provider.<sup>26</sup> Paradoxically, non-disclosure seems to be an important contributor to patient dissatisfaction, need for accurate and reliable information and resulting litigation.<sup>25,49,50</sup>

At the individual level, Kaldjian and colleagues have identified four sets of barriers to disclosure: attitudinal barriers, helplessness, uncertainties and fears and anxieties.<sup>51</sup> Many of these barriers have overlaps with a lack of education and training and a lack of institutional support, personally and through effective incident management systems. Talking to patients after a critical incident is very challenging and often complicated by the uncertainty that accompanies many critical incidents. Most clinicians experience discomfort and a fear of unleashing a reaction (e.g., being blamed, anger and grief)<sup>52</sup> when talking to patients and family members after an incident. This can in part be attributed to a lack of knowledge and training in how to approach this situation.<sup>53</sup> Breaking bad news is rarely modelled by attending physicians,<sup>54</sup> has only recently integrated into curricula<sup>55,56</sup> and can be particularly difficult for specialities, such as anaesthesia, where contact with the patient is brief and lacks the benefits of an ongoing professional relationship.

## How can health-care organisations meet the needs of health-care providers and patients after critical incidents?

There is much that health-care organisations can do to alleviate the impact of critical incidents on staff and patients and their families. The most critical elements are: (1) effective support systems for clinicians, (2) guidelines on the management of critical incidents including immediate measures, disclosure standards and subsequent incident analysis and (3) educational interventions informing staff about these guidelines and support systems and training critical skills, such as disclosure.

### *Effective support systems for clinicians*

In a recent review, it has been pointed out that physicians, in particular those at the beginning of their career, need institutional and personal support by their peers and supervisors in coping with the aftermath of critical incidents.<sup>10</sup> Although informal support is often very valuable, adequate systems for team debriefing<sup>4</sup> should be in place to foster a climate supportive of open communication, to provide support for the team involved and provide information about organisational support and resources among which individuals can choose. Studies show that health-care providers are often unsure where to seek support after a critical incident.<sup>12</sup> Recent publications provide examples of support systems<sup>11,57</sup> that are based on an escalation model of support and take into account that everyone has different needs and preferences in the aftermath of a critical incident. Such comprehensive models are commonplace in many other industries and account for the concerns raised about the efficacy of compulsory single-session psychological debriefing interventions, such as Critical Incident Stress Debriefing.<sup>58–61</sup>

### *Guidelines on the management of critical incidents*

Health-care organisations should share the responsibility for managing critical incidents and establish guidelines including information about immediate measures and disclosure standards. Another crucial part of effective critical incident management is the process of analysing the event systematically from a systems perspective and learning from it and preventing future incidents.<sup>4</sup> This topic is discussed in more detail by Staender in this issue and is omitted here to avoid redundancy.

Although a number of 'templates' for guidelines on the management of critical incidents have been published at the national medical society level (e.g., recommendations specifically for anaesthetic practice),<sup>62,63</sup> adaptations at the departmental level that take into account the organisation-wide approach as well as local specifics are crucial. In the following, key issues to be considered in this adaptation process will be highlighted.

### *Immediate measures*

The first and foremost goal after a critical incident is the continuation of patient care – initially by the same team – and all drugs, equipment and supplies should be sequestered for further investigation.<sup>62</sup> One topic that has generated some debate, particularly in surgery and anaesthesia, is the appropriateness and practicability of a mandatory 24-h period of abstention from practice after critical incident involvement, particularly after intra-operative death.<sup>22,64</sup> This would clearly give clinicians time to deal with the immediate aftermath, including debriefing and disclosure and with the frequently reported physiological responses, such as extreme fatigue. However, one should be aware that psychological distress to a degree that requires abstention from professional practice may not be immediately obvious and will most likely be more prolonged than just 24 h. It has also been pointed out that guidelines on this issue should differentiate between intra-operative death during elective or emergency cases and between likely and unexpected intra-operative death.<sup>22,65</sup> Although, for many specialities, there are no clear guidelines available and a scientific basis for such a decision is mostly lacking,<sup>65</sup> hospitals should make provision to accommodate for the need to discontinue clinical practice and take into account the individual clinicians' wishes.

## Disclosure standards

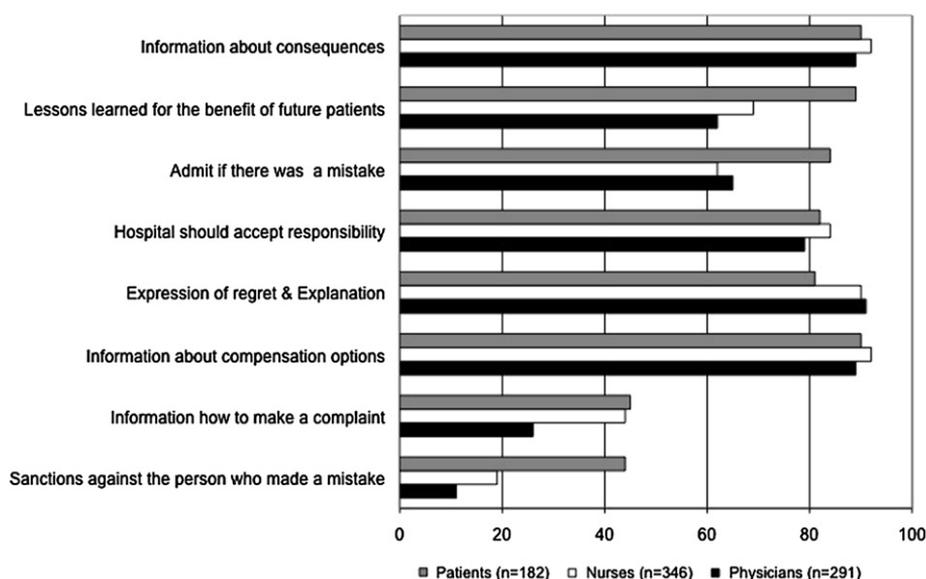
There is a need for adequate systems to support the process of disclosure, to monitor its occurrence and to assure its quality. The requirement for open disclosure in some national standards<sup>38,66</sup> has been viewed as a major driver for the implementation at the hospital level. In 2003, a survey showed that most surveyed hospitals had a disclosure policy in place (36%) or under development (44%).<sup>32</sup> Recent publications have described innovative approaches to develop and implement disclosure standards.<sup>67,68</sup> However, it has also been pointed out that the uptake of disclosure policies has been slow and that many physicians do not hold favourable attitudes towards disclosure guidelines.<sup>69</sup> To increase acceptance by health-care providers, they need to be included in the development process of disclosure standards, and a critical incident management system that allows for 24/7 access to resources facilitating the disclosure process and providing support for patients and family members, and educational interventions have to complement this process.

## Educational interventions

Even under ideal circumstances and with effective critical incident management systems in place, disclosure is difficult and stressful. Health-care professionals need training in what to say and do when disclosing an adverse event and how to deal with reactions of patients and family members. This includes the familiarisation with disclosure standards and the training of specific communication skills in breaking bad news. Moreover, the discrepancies between patient expectations and health-care providers' assumptions about these expectations indicate a need to learn what patients expect and find most important in the aftermath of an adverse event<sup>52,70–73</sup> (see Fig. 1).

Examples of specialised training modules that could be integrated in other medical curricula are:

- the Program to Enhance Relational and Communication Skills (PERCS) at Children's Hospital Boston, which offers training courses on communication in critical care situations using teaching methods such as lectures, short films, and role-play experience<sup>74</sup>; and
- the Anaesthesia Crisis Resource Management courses at Stanford University that have integrated a role-play module on breaking bad news immediately after experiencing the death of a (simulated) patient.<sup>75</sup>



**Fig. 1.** Discrepancies between clinicians' perception of patient expectations and patients' expectations after an adverse event.<sup>70</sup> Note: survey results given in % of responses judging item as "extremely important" or "very important".

There is growing evidence on negative psychological and health-related effects of critical incident involvement on health-care providers. Combined with results on physicians' safety-relevant attitudes showing that many still believe that their performance is not negatively affected by psychological stressors or fatigue,<sup>76–78</sup> this points at a need for education to increase the awareness of “perfectly normal” psychological and physiological responses to critical incident involvement, their potentially negative consequences on patient safety and of support available to staff.

## Conclusions

Health-care providers as well as patients and their families suffer from critical incident involvement. For quite some time, the focus on medicolegal risks has diverted attention from the system-wide improvements that have the potential to meet the needs of patients and health-care providers. This includes open disclosure that takes place systematically and based on agreed protocols, tangible support in case of psychological health-related problems and efforts to learn from these events and make the system for providing health care safer. In this area, much could be done relatively quickly. Hospital management and department leaders are key in implementing such comprehensive incident management approaches, educating staff in collaboration with professional organisations and medical schools and promoting an organisational culture that supports open communication and learning from critical incidents.

### Practice points

- Critical incident involvement has serious psychological, performance- and health-related impact on health-care providers.
- Patients and family members clearly expect open disclosure after a critical incident.
- A major motivation for taking legal action is the lack of reliable information and a perceived lack of respect and feelings of abandonment.
- Open disclosure can benefit everyone involved in a critical incident: patients and family members, health-care providers and health-care organisations.
- A systematic approach to the management of the aftermath of critical incidents should be an integral part of every patient safety strategy.
- Hospital leadership plays a central role in this process by providing clear guidelines, implementing effective support structures and actively promoting a culture that furthers open communication.

### Research agenda

- The impact of the psychological, performance- and health-related consequences of critical incident involvement on health-care providers on patient safety indicators needs to be assessed using objective measures instead of self-reports.
- There is an urgent need for the empirical validation of systematic incident management systems that include guidelines on immediate measures and disclosure as well as access to comprehensive support for clinicians and patients.
- Future studies should explore the mechanisms through which open disclosure can alleviate the psychological and health-related consequences for patients, their families and for the health-care providers involved.
- The impact of organisational culture and leadership styles at the hospital and departmental level on open disclosure practice needs to be explored.

## Conflict of interest statement

None.

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