# Healthcare improvement based on learning from adverse outcomes

Vos, M.S. de

# Chapter 10

## A perspective on applying Just Culture and Safety-II principles to improve learning from sentinel events in healthcare

MS de Vos, SWA Dekker, L den Dijker, JF Hamming

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## ABSTRACT

Just Culture and Safety-II are gaining increased attention in healthcare, but it remains a challenge to translate these into clinical practice. Both provide principles that could be applied to how we learn from sentinel events as well as from things that go right; and how we deal with and care for those involved. This paper reflects on how to apply these principles and presents a different set of questions to focus on collective recovery, restoration and forward-looking accountability, rather than on individual culpability. We need to move away from a primary focus on culpability and retribution, instead directing attention to both first and second victims' hurts and needs. A most common need is the reassurance that the institution and those involved learn from the event and prevent recurrence. Subsequent learning reviews aim to shed light on the sources of resilience that make everyday practice usually go right, so that this can be enhanced. Together, Just Culture and Safety-II provide valuable guidance to improve learning from sentinel events, specifically by adding empathy, nuance and a sense of practical reality that facilitate restoration of those involved, and improvement processes. Research is warranted to further explore the benefits of applying these principles in the aftermath of sentinel events in healthcare.


**Key words:** patient safety; continuous quality improvement; sentinel events; Just Culture; Safety-II.

## JUST CULTURE AND SAFETY-II: NEED FOR PRACTICAL GUIDANCE

The concept of Just Culture, focused on harnessing a culture of trust and learning without blame, has gained increased attention in various industries and found its way to healthcare.[1] A Just Culture is difficult to build, as illustrated by a study revealing that many hospitals that are convinced to have established a 'blame-free' culture, also reported that culpability was of primary concern in their investigations of sentinel events.[2] This suggests that crucial aspects of Just Culture, such as that a safe, blame-free environment is an essential precondition for learning, may not be fully understood or really difficult to implement. A similar example can be found in a recent framework for accountability in healthcare.[3] While this framework attempts to incorporate Just Culture principles, it stipulates that the first question to be addressed after a patient safety incident is whether staff members' actions were "malicious" and "intended to cause harm" to patients.[3] This reflects a culture of mistrust rather than a Just Culture. Besides theories about culture, proactive approaches to safety are beginning to find their way to healthcare. An example is 'Safety-II', which focuses on facilitating things going right rather than preventing specific things going wrong.[4] This novel approach to safety is promising, but greater adoption requires practical proposals for implementing its principles in healthcare practice.

This article assesses how Just Culture and Safety-II principles can be applied to enhance investigations of sentinel events or other serious and harmful events in healthcare. A framework with a practical set of questions, drawn from the Just Culture and Safety-II literature, is presented to guide the process of learning from sentinel events in healthcare.

### Just Culture: victims first

A Just Culture balances safety and accountability, particularly in the aftermath of undesired events, such as sentinel events. Important aspects of a Just Culture include learning from mistakes without a focus on blame, as well as systems improvement instead of individual punishment. One of the first challenges one faces following a sentinel event, is the tendency to hold someone accountable for the situation (*retribution*), while there is also a great need to work on recovery for the future (*restoration*). Just Culture theory stipulates that learning and punishment are not a good match. If learning is the primary objective, such as in sentinel event investigations in healthcare, the focus should not be on retrospective culpability or retribution, but rather on forward-looking accountability, which includes everyone's tasks and responsibilities in the aftermath of the event.[1,5]



#### *Shifting focus from retribution to restoration*

Traditional proposals for a Just Culture suggest being clear about 'the line' between acceptable and unacceptable behavior. Many believe, for instance, that a question of culpability remains appropriate in case of 'reckless behavior'.[2] Recklessness and negligence are judicial terms,

**Table 1.** Phases and questions, based on Just Culture and Safety-II principles, to guide the process of sentinel event investigation in healthcare.

| **Phase and questions** | ***Related concept*** |
|---|---|
| **I. Serious event** (e.g. sentinel event, serious incident/adverse event) | |
| **II. Victims first** | |
| - Who is hurt?*<br>- What are their needs?*<br>- Who should meet those needs (e.g. who talks to the patient and family, who takes care of colleagues involved, who else should be informed)? | *Just Culture: restorative approach, forward-looking accountability* |
| **III. Shifting the focus from culpability to learning** | |
| - Acknowledging the shared need for learning from the event<br>- What, instead of who, contributed to this event? | *Just Culture: blame and a focus on culpability hamper learning* |
| **IV. In-depth investigation** | |
| - How does this process usually go right? | *Safety-II: understanding how this usually goes right as a basis for understanding the event* |
| - How do we imagine this process to be? What do we expect or how is it designed? For example, are there any work instructions or 'rules' in place, and how legitimate, morally sound and workable are these? ‡ | *Safety-II: work-as-imagined* |
| - How is this process carried out in everyday practice? Are there any discrepancies with work-as-imagined? | *Safety-II: work-as-done* |
| - How does the event relate to work-as-imagined/-done? Can we use these insights to understand how this could have happened? | *Safety-II: specific event in relation to work -as-imagined/-done §* |
| **V. What can we learn from this event, and how can we improve? \|\|** | *Just Culture: forward-looking acccountability;*<br>*Safety-II: reconciling work-as-imagined and work-as-done, facilitating success* |

* This includes all involved, i.e. patients and their families as well as all care providers or other staff. Hurt refers to injury in the broadest sense of the word, e.g. physical injury, psychological trauma, reputational damage. Needs could include physical care as well as for example the need that the organisation learns from the event or the need that certain questions are addressed during the investigation.

† Just Culture theory also discusses that those responsible for making judgments about deviations from regular procedures (i.e. the line between acceptable and unacceptable behavior or performance) need to be well acquainted with the work processes and in the context of real everyday practice.

‡ For example, are there any goal conflicts or conflicting expectations?

§ Visualization of the work process, e.g. using the Functional Resonance Analysis Method (FRAM), reveals interdependencies and interactions between various activities (e.g. the physical exam and blood loss monitoring steps may affect the decision whether or not to test hemoglobin level). Moreover, these visual models can be used to study the event as a scenario within the more generic work process.

|| Reflective dialogue with staff and management to discuss what adjustments can be made to make success more likely. For example, how could work-as-imagined and work-as-done be reconciled? What expectations cannot be met in everyday practice, and why? Are there any activities that require an adaptive capacity from staff that is unrealistic or unfeasible, and how could this be organized differently? How reliable are outputs of activities (e.g. documents, measurements) that serve as the input for another activity?

however, and not psychological categories or clinical behaviors. It will always be difficult, disputable and context-dependent to differentiate between unacceptable and acceptable behavior.[5] The line between tolerable and culpable behavior is not fixed a priori. Instead, it needs to be drawn time and again by those with the position, capacity and responsibility to do so, and it is ultimately based on a host of subjective judgments about supposedly 'normal' clinical standards, practices, as well as prudence, foresight or expectations. In other words, there really is no line, there are only people who draw it.

A retributive approach is characterized by questions such as: 'Which rule is broken?'; 'Who did that?'; and 'How severe is that breach?'.[5] These judgments will be strongly affected by knowledge of the (severity of the) outcome (*outcome bias*), and the distortive effects of *hindsight bias* (i.e. perceived probability of events in retrospect) and *outside bias* (i.e. related to the position of observer instead of actor).[1] Moreover, the perspective of someone who judges a situation from an external, bird's eye perspective, such as during the case reconstructions in sentinel event investigations, will always be different from the perspective of the clinicians who faced the clinical dilemmas.

Retribution can satisfy some demands, but there is much to lose. Retribution is a process between two parties, mostly removed from the rest of the community and the victim(s). Openness to different accounts of what happened is easily sacrificed in an adversarial setting where one account wins, and one account loses. Patients and professionals involved may feel left out, sidelined, without much of a voice. Retributive approaches can also encourage 'offenders' to look out for themselves, and discourage them from acknowledging their responsibility out of fear of self-incrimination. Not much of value might be learned; not many systemic improvements may follow from retributive justice.

*Looking after all victims*

An alternative response following a sentinel event, or other events that clinicians and/or patients consider serious and important, is to focus on hurts, on what is needed to restore the damage, trust and relationships, and on who has the obligation to help meet those needs.[5] This approach gives rise to the following questions (Table 1, box II):

- Who is hurt?
- What are their needs?
- Who should meet those needs?



The 'who is hurt' question calls attention to those who have been damaged, in the broad sense of the word (e.g. physically, mentally) (Table 1, box II). This includes the patient and the family, but also the healthcare professionals, commonly referred to as 'second victims'.[6–9] Thereby, this approach aligns with second victim or peer support programs that are increasingly implemented in healthcare.[10] To illustrate, it was our local experience that patients and families were often told to await formal investigation of the event, with too little attention to

their needs, such as early disclosure and apology. Recently, our surgical department put up a poster in the auditorium for daily meetings to remind everyone of the important steps in the first response to a sentinel event, such as 'who talks to the patient and family members?', and 'who takes care of the colleagues involved?'. A focus on recovery should be the first response, and should precede the in-depth investigation with staff interviews. In other words, 'victims first, analysis second'.

*Can somebody, or some act, be beyond restoration?*

Retributive theory believes that responding to hurt with more hurt will somehow equalize or even eliminate the injustice that has been inflicted. Restorative theory, instead, believes that pain requires healing. But clinicians, patients, even colleagues can all point to cases where they might feel a retributive response is the only appropriate one. This raises the question whether there cases where those who have inflicted the pain are beyond the reach of restorative justice?

It is not the case itself, nor its consequences, that determine whether it is beyond restoration. This is determined by our reading of, and judgment, about the case—which in turn are driven by the professional, organizational and cultural fore-structure of which we are part, and which we might well have helped create. It can be very difficult to determine how much responsibility individual professionals have when more system-level problems are in play, such as when admitting a patient to a ward that is understaffed. The important question is: who gets to decide whether a case is beyond the reach of restorative approaches, and what are their stakes (if any) in saying it is so?

Restorative theory should not be interpreted as a means to provide with immunity from prosecution of criminal behavior of professionals. Separate processes are, and should remain, in place to enable investigations of suspected criminal acts or misconduct in hospitals. The main objective in these investigations, however, is to answer questions from criminal law, whereas the main objectives in sentinel event investigations are learning and improvement. Therefore, these judicial questions do not have a place in the learning reviews that are started following severe incidents to prevent recurrence and improve the safety of future patients.

*Promote restorative practices internally*

Just Culture strives to restore the relationships that have been disturbed by the event, thereby trying to find a solution that meets the needs of all parties involved. Studies have shown that patients who experience harmful events or errors often want apologies, explanations and assurances that lessons are learned from their experience[11–13]– all of which could be achieved with a restorative rather than a retributive approach. It will likely require active effort to resist a natural tendency to search for a cause and to hold someone accountable. Staff, patients, and administrators may be less familiar with these theories and may still seek more traditional kinds of accountability. Not only investigation teams,[14,15] but also providers themselves are known to have a tendency to seek accountability, often resulting in self-blame.[6]

Finding ways to mitigate the negative aspects of retributive justice is essential to help others see responses as more 'just.' Whatever is done, ask who is hurt and give a voice to all involved. Identify responsibilities and obligations of various parties—not just the 'offender' or second victim. Try to socially embed your responses, so that the organization and its community feel part of the solution. External judicial authorities, as recently occurred in the UK[16] may come to a different conclusion from what the institution itself decided to do. While rare, this can of course put significant downward pressure on people's honesty and disclosure. This makes it even more important for hospitals themselves to have the courage to keep promoting restorative practices internally, as far as their discretionary space to do so stretches.

Two strategies, based on Just Culture principles, may help emphasize that recovery and learning are the primary objectives. First, the shared need for learning from the event could be emphasized and used as a starting point or trigger for an in-depth investigation (Table 1, box III). After all, the first and second victims may have different needs (e.g. treatment versus peer support), but all share the need that the hospital and its professionals learn from the event and that future recurrence is prevented.[5] Specifically, we could start asking patients and families, e.g. during disclosure conversations, if they have any specific questions or concerns that they would like to be addressed. Second, actively asking *what* instead of *who* was responsible may help to underline that solutions are sought at the system rather than individual level.

**Safety-II: everyday practice as the basis for investigations**

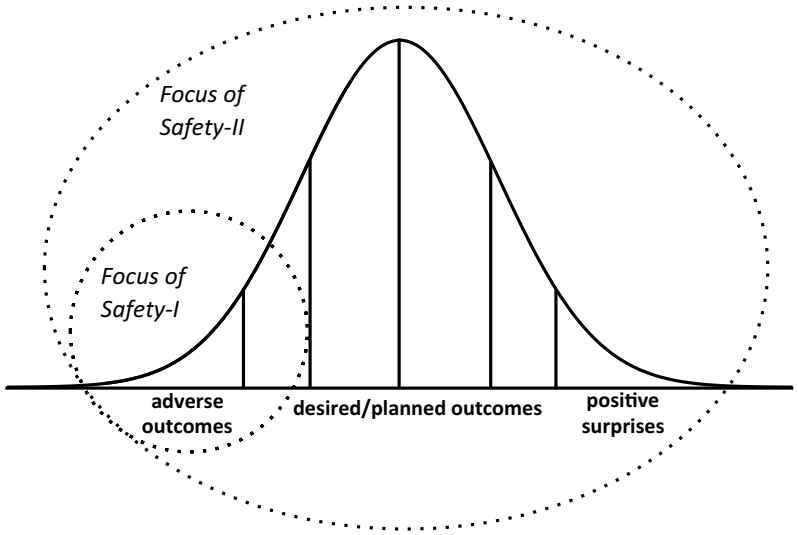
Once the hurts and needs of those involved have been identified in a way that is respectful to all the parties involved, an in-depth investigation can be initiated using the Safety-II approach (Table 1, box IV). This approach can be regarded as a natural extension of the current approach to safety (Safety-I), which is focused on negative outcomes, thus situations in which safety was *absent*. Safety-II expands the focus of learning because it aims to understand the ability to ensure safety, by examining how work processes in everyday practice usually go right, thus situations in which safety is *present* or 'created' (Figure 1).[4,17,18] This is based on the notion that greater understanding of how a process usually functions in everyday practice provides a better basis for understanding a specific occurrence (e.g. a sentinel event) as well as for finding ways to support the ability to achieve success.



Safety-II underlines that both desired and undesired outcomes result from the same underlying work process. This process may go right, as well as wrong, due to the natural variations in complex adaptive socio-technical systems (which include humans), and the resource limitations and goal conflicts that constantly operate within them. Flexibility and adaptability (*resilience*) are essential capacities to ensure success and safety, since work-as-imagined or planned seldom ends up being work-as-done. At the same time, these adjustments can be insufficient or unsuccessful and give rise to unsafe conditions or events.[17] By only assessing a sentinel event, it will be difficult to appreciate that certain deviations from protocols may also be present in everyday practice (e.g. because of trade-offs or goal conflicts), also in the many

cases with positive outcomes. When we identify a 'human factor' as root cause for a sentinel event, we fail to appreciate that this same factor more often has positive contributions, and has essential adaptive capacities in many other situations.[19] In short, Safety-II argues that to understand how 'safety' is ensured, we should not only assess the unsafe situations, but also how our professionals and systems manage to create safety in so many other cases (Figure 1).

**Figure 1.** The normal distribution of outcomes in everyday practices with the focus of Safety-I and Safety-II (adapted from Hollnagel[17]).




*'The book' versus 'the messy reality'*

Safety-II underlines that modern clinical practice is not linear but dynamic, and hence can no longer be reduced to neatly aligned domino tiles or cheese slices. Accordingly, the 'messy reality' of everyday practice may serve as a more realistic and representative starting point for sentinel event analysis than the single points in time that led to the undesired outcome. As an alternative to our efforts to prevent the *specific* type of event, we could invest in ensuring that this process goes *well*, which also entails that such negative events do not emerge.[4,17,18] This approach requires a different set of questions (Table 1, box IV) aiming to understand how the work is carried out in everyday practice, what capacities allow it to usually go right, and how this relates to expectations or protocols:

- How does this process usually go right?
- How do we imagine this process to be? (i.e. work-as-imagined)
- How is this process carried out in everyday practice? (i.e. work-as-done)

An analysis of work in everyday practice reveals gaps between work-as-imagined and work-as-done that are daily routine in clinical practice.[20] After all, clinical practice is not always 'by

the book', and can be full of unexpected and undesired conditions for which protocols (can) not always accommodate. In these situations, professionals adjust to match the situation.[4] These adjustments may be common and often result in good outcomes, but run the risk of being considered 'protocol violations' when examined without sufficient insight into everyday practice.

*Interviews with the front line*

Both Just Culture and Safety-II theory emphasize that input from the workforce is essential for identifying improvement strategies that are both effective and workable. Therefore, the questions that guide these investigations (Table 1, box IV) should be asked to those at the sharp end as well as leadership. This will not only help collect information that is unique to those who do the work on a daily basis, but also produce improvement strategies that are internally generated, which will ensure that they are feasible within current resources.[21] Protocols or work instructions may serve as additional sources of information on work-as-imagined. Depending on local procedures in the hospital, in-person interviews with staff can be informal or conducted by a formal investigation committee. Because Safety-II research primarily focuses on everyday practice, these interviews could also be conducted with colleagues who are acquainted with the work process, but not directly involved in the sentinel event. In this manner, interviews may be less affected by feelings of shame, guilt and self-blame, and directly involved providers can receive peer support. Potentially, this may reduce or eliminate the need for interviews with the directly involved professionals, and hence the negative emotional consequences that these investigation interviews can have for them.

*Visualization of the scenario*

Once insight into the everyday work process has been obtained, the specific event can be investigated as a scenario within that generic process. A method to visualize work processes is the 'Functional Resonance Analysis Method' (FRAM), developed by Hollnagel, who also developed the Safety-II theory. A FRAM model depicts all activities and their (inter)dependencies within a work process and can be developed on the basis of data collected through various methods such as interviews, document review or observations.[22] These models can be used to study how a process functions in everyday practice,[20] but also to evaluate changes to these processes in advance,[23] or to study incidents in relation to the everyday process.[24] FRAM is increasingly used in healthcare,[20,23,24] but has been more commonly applied in other settings, such as aviation or air traffic management.[25,26]



**Next steps**

Local clinical leadership and researchers involved in sentinel event investigations could use Just Culture and Safety-II principles to shape accountability and investigations differently, by asking different questions in the aftermath of these events (Table 1). This approach supports

a climate of psychological safety that facilitates learning by actively shifting the focus from individual culpability to collective recovery. It furthermore addresses the needs of involved staff members, who share the need that the institution and its professionals learn from the situation with patients and families. Subsequently, an in-depth investigation with a Safety-II approach will focus not only on the specific event, but also seeks to understand how the underlying process in everyday practice usually goes right, which can be used as the basis for explaining how the event could have happened. This adds more nuances and a sense of practical reality to the investigation, yielding lessons that are closely aligned with the 'messy reality' of everyday practice.

Future research is warranted to study the benefits of this approach to sentinel event investigations, including effects on patients and staff (e.g. feelings of psychological safety), and the subsequent learning process. These studies should examine whether, for example, interviews with colleagues instead of directly involved professionals provide sufficient information for the investigation, and whether the involved professionals indeed suffer less emotional damage when they are no longer asked to recount the event in interviews.

Both Just Culture and Safety-II provide valuable principles that can be applied to improve how we learn from sentinel events, and how we deal with those involved, so that the professionals will soon be able to provide safe and high-quality care to patients in the future.

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