

## Preventing lessons lost through an Evidence Based Dynamic Doctrine.

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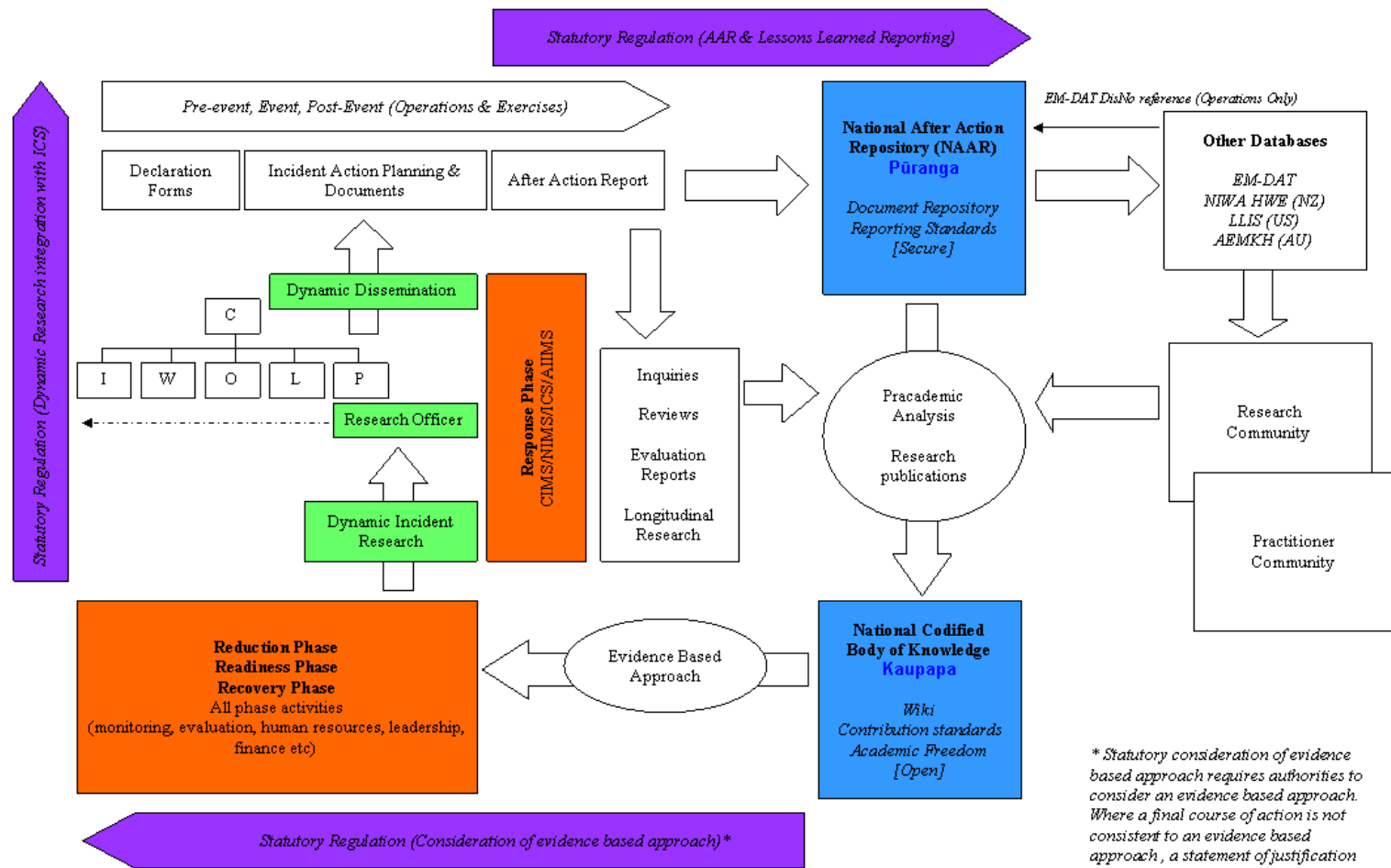
Even before the After Action Report (AAR) is compiled, we know that, if things did not go well, the same issues of leadership, role clarity, communications, and training are likely to rear their repetitive heads. In New Zealand, numerous incidents (from the Napier Earthquake (1931), Ballantyne's Fire (1947), Wahine Ferry Sinking (1968), Pike River Mine Disaster (2010) to the CTV building quake collapse (2011)) all share similar lessons learned - but are they really learned? Each inquiry, though different in circumstance and environment, make recommendations – recommendations that have been previously identified, but never institutionalised. We promise the affected families and the public that these deficiencies will never be repeated – but they are. Why do we make the same mistakes, over and over throughout time? How often do we read historical After Action Reports? The lack of institutional and social memory could certainly be a factor, but how do we ensure that lessons identified are actually turned into lessons learned? In a recent request of all After Action Reports for declared civil defence emergencies in New Zealand between 1960 and 2011(n=170), only 56 (32.9%) were provided, 80 (47%) were unable to be located, 14 (8%) were sourced from National Archive or private collections as the declaring authority did not have any records, 7 (4%) were merged with other requests due to declaration overlap and 8 (5%) could only provide peripheral information to the emergency. Some requests took several weeks or even months to locate, some were even withheld (rightly or wrongly under Local Government Official Information and Meetings Act 1987 exclusions). What this highlights is how can we learn lessons, if we don't even know what the lessons were if the reports are non-existent? Even the Ministry of Civil Defence & Emergency Management's "database" of declared emergencies omits events and despite the requirement to Gazette each declaration, the Gazette Office was unable to provide a summary of declared events too – what a mess!



Like a stone being dropped into a pond, the ripples fade the farther away from the point of impact – just like lessons learned, the closer (geographically, politically or emotionally) we are to the lesson identified, the more likely we are to know of it. We simply do not learn from our lessons and we need a mechanism to identify the issues in real-time during an emergency, not realising in hindsight that yet again, the lesson identified has been repeated. How can we move from a culture of identifying lessons, to actually learning them dynamically and in a sustainable fashion?

In New Zealand, the term “doctrine” has started to emerge, with it formally being introduced in the revised Coordinated Incident Management System (CIMS) manual (2014 edition) and defined as “the body of principles and practices that guide an agency’s actions in support of their objectives. It is authoritative, but requires judgement in application” (Department of Prime Minister and Cabinet, 2014). The section explaining Doctrine provides a flawed and over simplified model that assumes that doctrine informs training, which is applied in operations, which is updated from operational learning. There is no evidence to suggest this model is valid; In fact a workshop of experienced emergency managers (including military and civilian personnel) concluded that emergency management “doctrine” was vague at best. If such a model is in effect, why do we repeat over and over the same mistakes operationally? There are different types of doctrine including religious, political and military, the common characteristic of which is that they are written and codified – something that emergency management “doctrine” is not. Who controls doctrine? Is it formal or informal? Do we have a codified body of knowledge for emergency management? Is it evidence based, tradition or historically based? The continual use of doctrine in emergency management is meaningless, unless we define it – which, to date, we have not done. Evidence based doctrine refers to a codified body of knowledge, based on evidence – not political or preferential views. The Prime Minister’s Chief Science Advisor, Professor Sir Peter Gluckman has criticised New Zealand government officials for providing advice based on personal views, without any evidence (TV3 News, 2013). Evidence based doctrine, commits to ensuring the codified body of knowledge is based on empirical research, not personal beliefs, opinions or agendas. However, doctrines are typically not updated in real-time which are the flaw in their existence, particular in an emergency management context. The development of an Evidence Based Dynamic Doctrine (figure 1), uses active research during an emergency to inform in real time better decision making and reduce the size of the lessons identified loop.





Evidence Based Dynamic Doctrine (Glassey, 2014) v1.4©

\* Statutory consideration of evidence based approach requires authorities to consider an evidence based approach. Where a final course of action is not consistent to an evidence based approach, a statement of justification (i.e. Lack of resources) must be disclosed.

Figure 1: Evidence Based Dynamic Doctrine by Glassey, 2014.



The Evidence Based Dynamic Doctrine (EBDD) has five key elements:

1. Dynamic Incident Research within Incident Management Team
2. Centralised Repository for After Action Reporting (*Puranga*)[*secure access*]
3. Pracademic Analysis
4. Codified Body of Knowledge (*Kaupapa*) [*open access*]
5. Evidence based approach to comprehensive emergency management

### Centralised After Action Reporting

Following the response (and later recovery too), a standardised after action reporting system ensures all incidents are captured in a secure document depository, where other officials can access reports. Incident data can also be shared with international databases such as EM-DAT. However, After Action Reports are subject to bias and are generally not independent. In New Zealand, there is no requirement for authorities who declare a state of emergency to compile an After Action Report, and even if they do, there is no document standard, nor obligation to share it with the rest of the emergency management sector. A regulatory instrument should be created to ensure that After Action reporting is conducted in a standardised fashion and ensure these updates can be centrally stored and shared securely within the sector.

### Pracademic Analysis

The *Pracademic* analysis is jargon for a process of analysis of research and other sources of information that is conducted jointly by practitioners and academics. Often there is a significant divide between these two groups and the lack of requirement for emergency managers to have a higher education compounds this



division. Using a panel of practitioners and academics, After Action Reports along with other sources of information (such as research projects, inquiries, evaluations) are a codified into an online body of knowledge (i.e. such as a wiki) which is regularly reviewed. This approach encourages practitioners and academics to work more closely together.

### **Codified Body of Knowledge**

This codified body of knowledge (CBOK) is open and available to the public and end users. It is hosted in an academic environment to afford it academic freedom and ensure it confirms to set contribution standards. It is this CBOK that is used in applying an evidence based approach to emergency management, including in emergency management teaching curricula. Over time, the CBOK will grow in volume making it an up-to-date and authoritative source of evidence based practices.

### **Evidence Based Approach**

A regulatory instrument then requires mandated organisations to consider an evidence based approach, as ultimately in a democratic environment decisions are often made based on politics, not evidence. The regulatory instrument should require decision makers to publicly disclose when they are not taking an evidence based approach and outline their justification to do so. By doing so, it also protects policy makers as often they are constrained by budgets and this disclosure puts the decision making back to communities to determine what they want from their community leaders – For example, if citizens are told there is no budget for an early warning system, but their municipality instead is upgrading a swimming pool, citizens are empowered to advocate for the warning system or accept they will have a reduced level of warning, in lieu of having a renovated pool. It is about encouraging communities to make informed decisions about the hazards they live with and choosing how best they are managed.



It also encourages policy decisions makers to greater engage with communities through deliberative democracy. The evidence based approach applies to all phases and cross cutting themes in comprehensive emergency management. It means from public education campaigns to human resource recruitment and selection, an evidence based approach is taken. Pilot projects which may not be evidence based can still continue to ensure innovative and creative solutions are trialled, however they would be done so in a more structured and validated fashion, in which results would be formally evaluated through Pracademic analysis to determine whether it is added to the codified body of knowledge.

### **Dynamic Incident Research**

The system closes the loop, based on all the previous after action reports and research, starting at the time of a response. A Research Officer is embedded in the incident management team (generally in the Planning cell) who dynamically identifies critical evidence based considerations for the incident management team. The Research Officer primarily sources such considerations from the codified body of knowledge, or uses their independent research skills to investigate novel problems. Their goal is to identify the issues whilst the incident is unfolding, rather than to identify problems after the fact in the post mortem phase. This creates real-time risk management within the incident management system, rather than researchers only being engaged after the response to review in hindsight areas for improvement, as has been the case traditionally.

Every time the journey is made around the evidence based dynamic doctrine circuit, the lessons learned circle size reduces as previous mistakes and lessons should not be repeated. Additionally, the focus of the Dynamic Research should evolve from being less reactive, to being more proactive, with a reduction in the same issues being re-experienced during the response phase. As a result the Incident Research Officer will have more time to look at forecasted issues to resolve.

Without embedding dynamic research into the Incident Management Team, this model would only be a evidence based doctrine (which is better than just a doctrine, which is not necessarily evidence based). The Dynamic Research process carried out by the Incident Research Officer evolves the model to be an



Evidence Based Dynamic Doctrine, it provides real-time correction and support to incident planning to avoid the same mistakes from occurring time after time. It requires a special kind of researcher that has credibility and a personality compatible with front line responders – this will require specialised training for researchers, careful selection and plenty of exercising to create solid pre-event relationships so that research officers are seen as valuable contribution to the incident management team, not a hindrance with bad fashion sense and over philosophising in verbose academic ramblings.

The Evidence Based Dynamic Doctrine model finally creates a holistic solution that joins up fragmented but important elements. We do have after action report repositories, we do have researchers talking to practitioners, we do try to have scientific advice in response, and we do endeavour to follow best practice – but have been unable to draw the connections across these elements in a meaningful way.

### **Lessons Identified, lost, buried and learned**

In reality, we don't produce lessons learned reports. They are more likely to be lessons identified reports, as though there may be recommendations, they are not always practical to implement due to financial, social, political, environmental, cultural or other considerations. Lessons learned is a misnomer.

We generally have the following types of lesson related reports:

- Lessons Identified
- Lessons Lost
- Lessons Buried
- Lessons Learned



*Lessons Identified* are the most common, though they generally lack any consistent format or content (unless part of a system like the Lessons Learned Information Sharing or LLIS operated by the US Department of Homeland Security). They are generally produced by the agency and highlight areas of improvement, though there should be a greater emphasis to include what went well too.

*Lessons Lost* reports are those that have been compiled, but unable to be found or retrieved. The example of 47% New Zealand's declared civil defence emergency reports since 1960 being inaccessible highlights the need for a centralised repository.

*Lessons Buried* are not common, but they are the reports that contain criticism that is politically unpalatable and the agency goes to great lengths to prevent the report from being disclosed. This however does create the need for discussion around what should be included in reports, the frankness of opinions and criticisms and the tension between openness and public accountability through freedom of information instruments.

*Lessons Learned*. Though many agencies tout their after action reports as lessons learned reports, they are generally just lessons identified. Lessons learned reports generally take some years to truly compile as they not only show the lessons identified, but the changes recommended, implemented and most importantly evaluated.

In summary, lessons learned are a misnomer. We don't really learn them, we state them and over time social and institutional memory fades them into irrelevance. We fail to learn them in a sustainable manner because we do not have a system in place to store, analyse, disseminate and dynamically apply them. The development of the Evidence Based Dynamic Doctrine aims to develop a philosophy around real time correction and support to incident action planning during response, whilst providing an evidence based approach across the phases of comprehensive emergency management.





## References

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