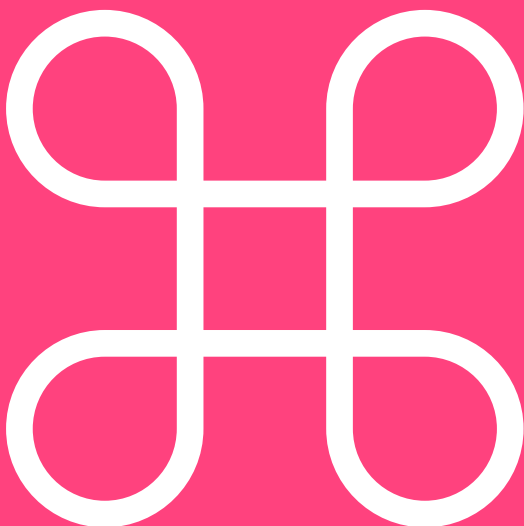


A Guide to Major Incident Management Command in the Healthcare Sector

An Overview of AIIMS (Australia) & MIMMS (United Kingdom)



The importance of incident command when responding to major incidents

In emergency management, major incidents are commonly defined as events that require an extraordinary allocation of resources, due to the location, severity, type, and/or number of victimsⁱ. The management of these incidents, which are varied by nature, usually involves responders coming together from multiple rescue services, including in the healthcare sector. Due to the severity of these incidents, agencies often come from different jurisdictions, even geographies.

However, inter-agency, inter-service cooperation to ensure optimal resource use and improved patient outcomes isn't simple. After all, responding agencies bring with them a unique set of competencies, experiences, systems, and terminology.

Melding everything together, especially in the midst of a disaster, can be an operational nightmare, often impeding the goal of rapid access to advanced major incident management.

Over time, though, it has become abundantly clear that major incident commandⁱⁱ, controlⁱⁱⁱ, and coordination^{iv} arrangements have to improve, especially to address pressing issues, like limited spans of control, a need for clearer lines of command within organisations, as well as communication across organisations^v. In turn, the incident management community has prioritised creating standardised incident command frameworks.

By in large, the developed frameworks serve the purpose of directing different actions in an affected region. They seek to organise command and scene assessment, such that an individual structure becomes the mode of handling an incident; and local directors within that region conform to the structure in place^{vi}.

But successful major incident command doesn't just happen. Participating agencies need to plan well ahead of time – healthcare organisations, specifically. Without a plan in place, those organisations are likely to face severe resource demands that strain capacity.

Fortunately, major players have caught on. The World Health Organisation, for one, has published technical guidance showing exactly where major incident command fits into the healthcare resilience planning process – usually right after situation analysis^{vii}.

Of course, numerous structures have proliferated in this space – regional, national, industry-specific, etc. In this guide, we examine two incident management frameworks that we think are most relevant to healthcare organisations in Australasia, discussing the roles, responsibilities, procedures and baseline functions they outline in support of a consistent, effective healthcare response.

AIIMS

MIMMS

All About AIIMS


Australasian **I**nter-Service
Incident **M**anagement **S**ystem

Explaining AIIMS


The first management system we discuss is AIIMS, the **Australasian Inter-Service Incident Management System**. Nationally recognised throughout Australia, AIIMS is an incident management structure, which provides all organisations, including in the healthcare sector, a common framework to manage all incidents (natural, industrial, or civil), be they emergencies or important non-emergency activities, like large sporting events or political summits^{viii}.

A foundation for a unified, consistent, all-agencies approach to disaster and emergency incident management, AIIMS enables multiple agencies engaged in incident response or planning to seamlessly integrate their resources (personnel, facilities, equipment, and communications) and activities. The management system can also be expanded or compressed, depending on the size and complexity of the incident, a key benefit for healthcare organisations, who often use AIIMS to tackle level one and level two incidents (See below).

Classification of incidents in AIIMS

- 

Level 1 incident. Characterised by being able to be resolved through the use of local or initial response resources only. In a Level 1 incident, Operations is usually the main function needed to resolve the incident.
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Level 2 incident. More complex in size, resources, or risk. Characterised by the need for deployment of resources beyond initial response, sectorisation of the incident, establishment of functional sections due to the levels of complexity, or some combination of the aforementioned.
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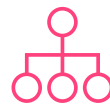
Level 3 incident. Characterised by degrees of complexity that may require the establishment of Divisions for effective management of the situation. These incidents will, usually, involve delegation of all functions

AIIMS – The CORE

Another benefit of AIIMS for healthcare organisations in Australia is that it is used throughout the country, not just in fire suppression incidents (where it is most prolific) but in emergency services, broadly. And that is because the system is so longstanding. AIIMS has adopted and regionalised many of the incident management principles first presented in the more than four-decades-old U.S. Incident Command System (ICS) – AIIMS itself has been in practice in Australia since the early 1990s^{ix}. Those principles remain highly relevant to healthcare resilience; they include:



Management by objectives. The Incident Control function, in tandem with the Incident Management team as a whole, will determine desired incident outcomes for the purpose of ensuring that all responders understand the direction taken during the response.



Functional management. AIIMS lays out four, broad functional areas: Control, Planning, Operations, and Logistics (more below). This organisational structure is intended to give full representation to all vital management and information functions, though the composition of the Incident Management team varies depending on the incident in question.



Span of control. A key AIIMS attribute is scalability: for some incidents, a full-scale response will not be necessary, but for others, it will. In this sense, span of control refers to the number of groups or individuals that can be successfully supervised by one person.



Flexibility. AIIMS can be applied to all hazards and used by all agencies.



Unity of command. Responders must work to achieve one set of common objectives. Similarly, individuals should report to only one supervisor^x.

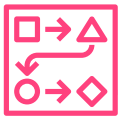
AIIMS – Roles and Responsibilities

AIIMS designates roles and responsibilities for personnel involved in incident response. It also formalises a cohesive chain of command, which should be comprehensible to all responders, irrespective of agency.

Clarifying response roles from the planning phase onward, as AIIMS does, helps to promote a safer working environment during an incident, a likely compliance mandate for most healthcare organisations. AIIMS roles include:



The **Incident Controller** heads the mission. This role has overall responsibility for the management of all activities and personnel deployed. The Incident Controller establishes systems and procedures for the safety, health, and welfare of all response personnel. And the role manages the relationship with agencies and people affected, or likely to be affected, by the incident.



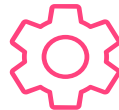
The **Planning Officer** heads up the Planning Section. This role consists of evaluating and analysing intelligence pertaining to the incident, preparing options analysis, and developing incident objectives and strategies. The role also prepares and distributes the Incident Action Plan, whose implementation the Planning Officer monitors and reviews. The Communications Plan is within the role's purview as well, as that plan is part of the larger Incident Action Plan. The Planning Officer also collects and maintains information on resources allocated.



The **Intelligence Officer** collects information on the current and forecasted incident situation. The role analyses and processes that information into timely, accurate, and relevant intelligence. The Intelligence Officer, then, organises and displays that intelligence in the form of a Common Operating Picture.



The **Public Information Officer (PIO)** disseminates information, advice, and safety messages to the public. The role is responsible for providing timely and relevant information, including safety messages to those who may be impacted by the incident. The Public Information Officer also liaises with the Incident Controller, whom the PIO has to consult before releasing media announcements.



The **Operations Officer** heads up the Operations Section, which is tasked with implementing strategies to resolve the incident. The Operations Officer, specifically, is responsible for managing, supporting, and providing advice and direction to sector commanders.



The **Logistics Officer** provides crucial support for control of the incident and is largely responsible for the provision of human and physical resources, facilities, services, and materials. Importantly, the role also provides support and control for the demobilisation of equipment and services.



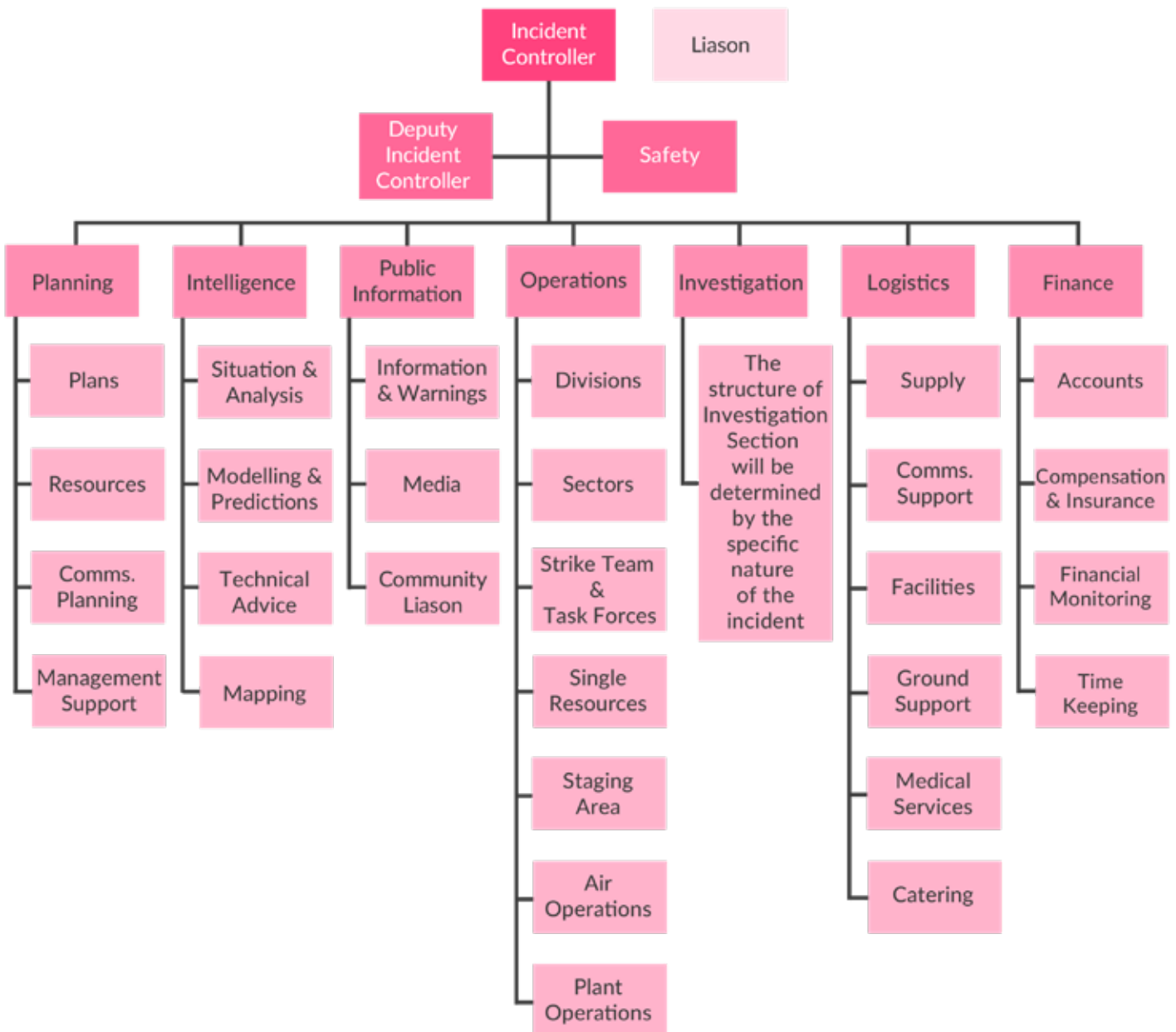
The **Investigation Officer** is responsible for conducting investigations to determine the cause of an incident and/or factors that contribute to the impact of the incident or specific events.



The **Finance Officer** has to account for expenditure during the incident and manage insurance and compensation issues during the incident. This can include collecting and recording cost data; cost estimation and recovery for the incident.

AIIMS - Incident Management Role structure

Figure 1. Incident Management Team.



All About MIMMS

Major Incident Medical
Management and Support

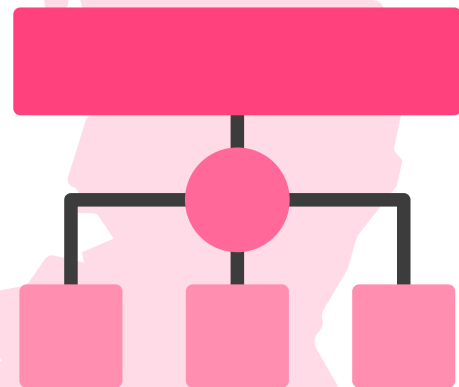
Although prolific, not all jurisdictions in Australia have adopted AIIMS as their preferred incident management command structure, especially for mass casualty incidents. From the global healthcare sector itself, there have been criticisms that health remains at the periphery industry-agnostic incident management structures, like AIIMS^{x1}. The thinking goes that an incident management framework purpose-built for healthcare organisations will be better suited to handle mass casualty incidents. In the next section, we discuss one such framework.

Explaining MIMMS

The incident management community in the U.K. has developed its own command structure and hierarchy for major incidents. It is the gold-silver-bronze (or strategic-tactical-operational) system.

Similar to the Incident Controller in AIIMS, the Gold Commander is in overall control of a mission. The Silver Commander works under the Gold Commander, managing the tactical implementation of the strategic direction the gold commander gives. In turn, the Silver Commander turns that strategic direction into actions that the Bronze Commander must carry out. Similar to the Logistics Officer in AIIMS, the Bronze Commander directly controls the organisation's resources.

This gold-silver-bronze structure underlies the major incident response process summarised in MIMMS, **M**ajor **I**ncident **M**edical **M**anagement and **S**upport. MIMMS is a course for doctors, nurses, ambulance clinicians, and all other health service operators involved in major incident response. The course provides a structured, "all-hazards" approach to major incident medical management and support. Variants of the course are taught throughout the world, including in Australia, where the core material remains the same.



MIMMS - Key themes and principles (CSCATTT)

The course's approach encompasses seven key principles, which have become the "ABCs" of major incident medical response, as they have gained wide acceptance across interservice, civilian-military, and international boundaries. Those (CSCATTT) principles include:



Command and control. Health Service command structures and levels must correlate with those of all the emergency services at the scene of an incident. The standard agreed levels of operational (Bronze), tactical (Silver), and strategic (Gold) are used widely by the Health Service both at the scene and in hospitals. As such, it is essential that Health Service plans incorporate the roles and requirements of each level; and detail the command and reporting structures to be followed locally, regionally, and nationally.



Safety. Risk assessment and management is encouraged throughout all current guidance and should form the basis for local planning activity. Significant local risks must be assessed, and multi-agency plans for their management should be developed. Incident-specific plans need to identify clear safety precautions and procedures for staff, together with training requirements.

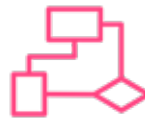


Communications. Standardised alert messages must be included in all plans and used to avoid any confusion. Plans must clearly identify what these messages are; what response is required when they are received; and that staff are aware of them, their meaning, and the implications.

The communications section of plans must also include arrangements for liaison with, and the provision of information to, the Police Casualty Bureau. Media impact should not be under-estimated and media management should be included in the communications plan.



Assessment. Plans should detail the amount and type of information required by senior officers and staff when scene assessment has been undertaken. Health Service Commanders should give early warning of any health issues as they arise using the HANE format (More below).



Triage. The triage algorithms used in a major incident setting differ from those used in normal health services emergency care. It is essential that plans identify which algorithms are to be used and that, wherever possible, validated and universally accepted systems are used to ensure consistency and accuracy. Staff must be regularly trained in their use to ensure skill retention.



Treatment. Major incident plans should be based on the premise that the standard of care will mirror the treatment that would be used in normal practice wherever possible. Medical equipment supplied to the scene should match that in regular daily use, although there may also be items specific to mass casualty emergency care. Training for staff should include an awareness of what equipment can be supplied to the scene, how to activate resupply, and the scope of the care that should be provided to ensure safe and appropriate initial resuscitation and transfer from the scene.



Transport. Arrangements for the transfer of casualties from the scene to receiving hospitals, and the provision of transport for health staff to the scene, must be clearly stated.

MIMMS – When can a major incident be declared?

CSCATTT principles are put into operation only when a major incident is declared. But when is a major incident declared? And who can declare it?

Here, MIMMS is explicit. Any member of responding emergency services can declare a major incident. However, they cannot do so at random. MIMMS puts forth the METHANE mnemonic, as a set of conditions to be met. METHANE also serves as a popular method for passing incident information between emergency services and control rooms in a consistent manner. METHANE stands for:



Major incident declared. Advise major incident “standby” or “declared.”



Exact location of the incident. Grid reference, road names, landmarks, etc.



Type of incident. With brief details, could include rail, chemical, road traffic collision, etc.



Hazards. Present and potential.



Access/egress. Routes to the incident and potential rendezvous points.



Number of casualties. An estimate in the first instance, then upgraded with their severity/type.



Emergency services. Present and those required, including specialist input.

MIMMS – Roles and Responsibilities

Roles, responsibilities, and procedures

In this sense, MIMMS picks up where generic incident management structures like AIMS leave off. It gives specific guidance to Health Services on how they should organise their structures and roles during a major incident, and what those structures should do. Like AIMS, MIMMS advises flexibility. Implicit in MIMMS is the understanding that each organisation will vary in the level of care that it will be able to provide in the event of a major incident.

So, what are the key roles? The on-scene Health Services response will likely be led by the Ambulance Commander and Medical Commander, who liaise closely between themselves as well as with their counterparts in Fire and Police.

For the purposes of this guide, we will just focus on the medical command structure. However, that structure is largely complementary to the ambulance services structure:



While not being directly involved with clinical care, the **Medical Commander** is responsible for managing clinical care at the scene. Besides liaising with counterparts in the Ambulance, Police, and Fire, the Medical Commander carries out the clinical assessment of the scene, delegates key tasks to clinical personnel, as well as establishes and maintains a flow of information to receiving hospitals.



The **Forward Medical Commander** is an optional role in the structure, dependent on available resources. Acting as the eyes and ears of the Medical Commander, this role supervises clinicians working in the forward area. Requests get transmitted through the Forward Medical Commander who relays them to the Medical Commander.



Hospital teams might also be present on site if requested to assist the Ambulance Services, whose responsibility it will be to arrange the former's transport. Each hospital team will have a designated leader, who accepts tasks (on their behalf) and is responsible for their safety. Hospital teams deploy to the scene without capabilities to sustain themselves in the field, so it's the responsibility of the Health Service's command structure to ensure communications, food and water, shelter, and any other potential needs.

Of course, in-hospital response is also a crucial component of major incident medical management. And MIMMS offers command and control guidance on that score, as well. Key points to remember for hospital planning include specifying who is in control of the response and how early controllers will hand over control to more senior personnel who arrive later. MIMMS prescribes that a senior doctor, nurse, and (administrative) manager work together to coordinate the response.

The senior nurse will ensure that clinical areas are prepared to receive casualties, relating the running of each clinical area (including triage, admissions, theatres, intensive care, etc.) to a senior nurse from that area. Meanwhile, the senior manager will be responsible for coordinating non-clinical areas and requirements, which are likely to include the following:

- Staff reporting
- Volunteer reporting
- Hospital information centre
- Discharge and reunion area
- Bereaved relative's area
- Hospital enquiry point
- Press area
- Blood donation (if required)

Further relevant concepts for major incident medical response

Documentation and information management figure heavily in MIMMS, as well. And it is important to understand why. Emergency services usually have a statutory responsibility to respond to and manage major incidents. That means that those services (including health services) will have to be in a position to provide written evidence (records) that they discharged their statutory duties. Inquires have tended to find written records insufficient.

Not just that, information management facilitates effective communication, with communication often cited as a key challenge in major incident response. So, what questions should incident records be able to answer? MIMMS suggests the following:





- Times at which events occurred
- What was decided and why
- Who was consulted and at what level
- How decisions were implemented
- Were decisions reviewed
- Did checks on implementation occurred

The requisite information to answer these questions might be spread through any number of records, written, control room, and electronic logs, voice recordings, and video evidence. As such, we suggest centralising the location of these records within a flexible digital emergency management platform you use to respond to major incidents.

One final aspect of MIMMS that bears emphasis in the age of COVID-19 is the management of so-called uncompensated major incidents. A major incident is uncompensated when the medical resources mobilised in its response are inadequate to deal with the number of casualties. Incidentally, incidents can also move from being initially uncompensated to becoming compensated as more resources are mobilised.

So, what contributes to an incident being uncompensated? MIMMS cites three factors: (1) a lack of surge capacity planning, (2) a lack of resources, (3) or compounding factors, e.g. transport, hospital, communication, or widespread infrastructure damage.

Of these three, surge capacity planning is the most important. Effective surge capacity planning will likely have factored in the potential effects of compounding factors, which are risks. Likewise, surge capacity planning involves adding the necessary slack, or resources, into the medical system, so that it is able to run at many times its normal day-to-day operational capacity. How, then to create surge capacity? MIMMS suggests the following:

<p>Command and control</p> 	<ul style="list-style-type: none"> • Intra- and inter -agency agreements and written protocols • Succession planning built into the command structure so that there is a wide pool to call upon rather than just a few individuals
<p>Communications</p> 	<ul style="list-style-type: none"> • Deploying a separate 'medical' radio net or having additional handsets to link into the ambulance radio net • Deploying satellite phones • Having protected mobile phone handsets if the cellular network is shut down in response to a terrorist event
<p>Treatment</p> 	<ul style="list-style-type: none"> • Equipment/consumables: disaster stockpiles or 'pods' • Bed spaces: rapid discharge rounds; buying step -down beds, e.g. in local hotels; sharing load amongst local and regional hospitals; sharing specialist unit (e.g. burns unit, intensive care unit) workload through a national network • Staffing: importing regional staff to fill rosters; using medical students as 'runners'; using GPs and retired medical practitioners
<p>Transport</p> 	<ul style="list-style-type: none"> • Using ambulances from the region • Using coaches/buses from commercial companies • Using military assets for transport

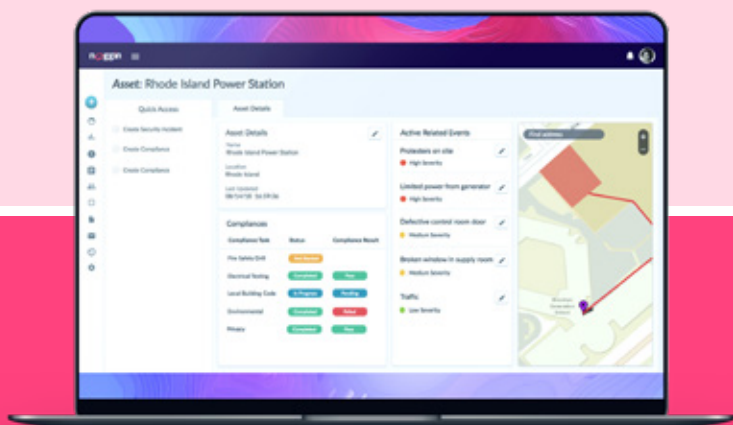
AIIMS and MIMMS bring structure to incident response

Finally, as the COVID-19 crisis has demonstrated, healthcare organisations, particularly hospitals, must plan for major incidents. For, only effective planning can ensure an optimal response to disasters, which will otherwise strain hospital resources. As documented, incident command systems, like AIIMS and MIMMS, help integrate activities and resources to guide a healthcare facilities' response to a major incident.

Wrapping it all together, though, will be the role of emergency coordination in overseeing hospital disaster response, training, and implementation, as well as emergency management software to seamlessly operationalise incident command roles, responsibilities, and functions, like plans and alerts, to build healthcare resilience.

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- iii *The overall direction of emergency management activities in an emergency situation. Control relates to situations and operates horizontally across organisations.*
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