Government of **Western Australia**
Department of **Health**

Introduction to Disaster Management

Introduction to Disaster Management

This module has been developed to give you a better understanding of emergency management concepts and is divided into four units.

- **UNIT 1:** Introduction to Emergency Management Principles

- **UNIT 2:** WA Emergency Management Arrangements

- **UNIT 3:** Pre-Hospital Emergency Management

- **UNIT 4:** WA Health System and Hospital Emergency Management

UNIT 1: Introduction to Emergency Management Principles

UNIT 1 - Introduction to Emergency Management Principles

WHAT IS AN EMERGENCY?

Emergency Management Australia defines an emergency as:

> **"An event, actual or imminent, that endangers or threatens to endanger life, property or the environment, and which requires a significant and coordinated response".**

More simply, an emergency is a situation that is beyond the capacity of normal organisational arrangements to manage.

In emergency management in Australia, the terms 'emergency' and 'disaster' are often used interchangeably.

An emergency or disaster occurs when a hazard (a hazard is a situation or condition with the potential to harm people or the environment) impacts upon a vulnerable community.

UNIT 1 - Introduction to Emergency Management Principles

HAZARDS IN WESTERN AUSTRALIA

Western Australia (WA) covers nearly one third of the Australian continent.

The size, remoteness and diversity of the setting presents a variety of natural and technological hazards.

Natural hazards include those of climatic, geophysical or biological origin.

Technological hazards include those arising from nuclear, chemical and biological origins, human fault and hostile action.

UNIT 1 - Introduction to Emergency Management Principles

HAZARDS IN WESTERN AUSTRALIA

UNIT 1 - Introduction to Emergency Management Principles

EMERGENCY MANAGEMENT PRINCIPLES

Emergency management is a range of measures taken to manage risks to the community and the environment.

Australian emergency management concepts are based on the following principles:

- Risk management approach

- Shared responsibility for resilience

- All hazards approach

- Graduated approach

- All agencies coordinated and integrated approach

- Continuous improvement

- Community engagement

- Integrated information management

UNIT 1 - Introduction to Emergency Management Principles

COMMAND, CONTROL & COORDINATION

Command

Command relates to the direction of members and resources within a single organisation and operates vertically within an organisation. The person with overall responsibility for the activities and resources of a single organisation is the commander of that organisation

Control

Control relates to the overall direction of emergency management activities in an emergency situation and operates horizontally across organisations. It carries with it the responsibility for tasking and coordinating other organisations Control of an emergency is vested in the Hazard Management Agency (HMA) for that particular type of emergency.

Coordination

Coordination relates to the acquisition and use of resources in accordance with the needs of the emergency and operates as a function of command and control.

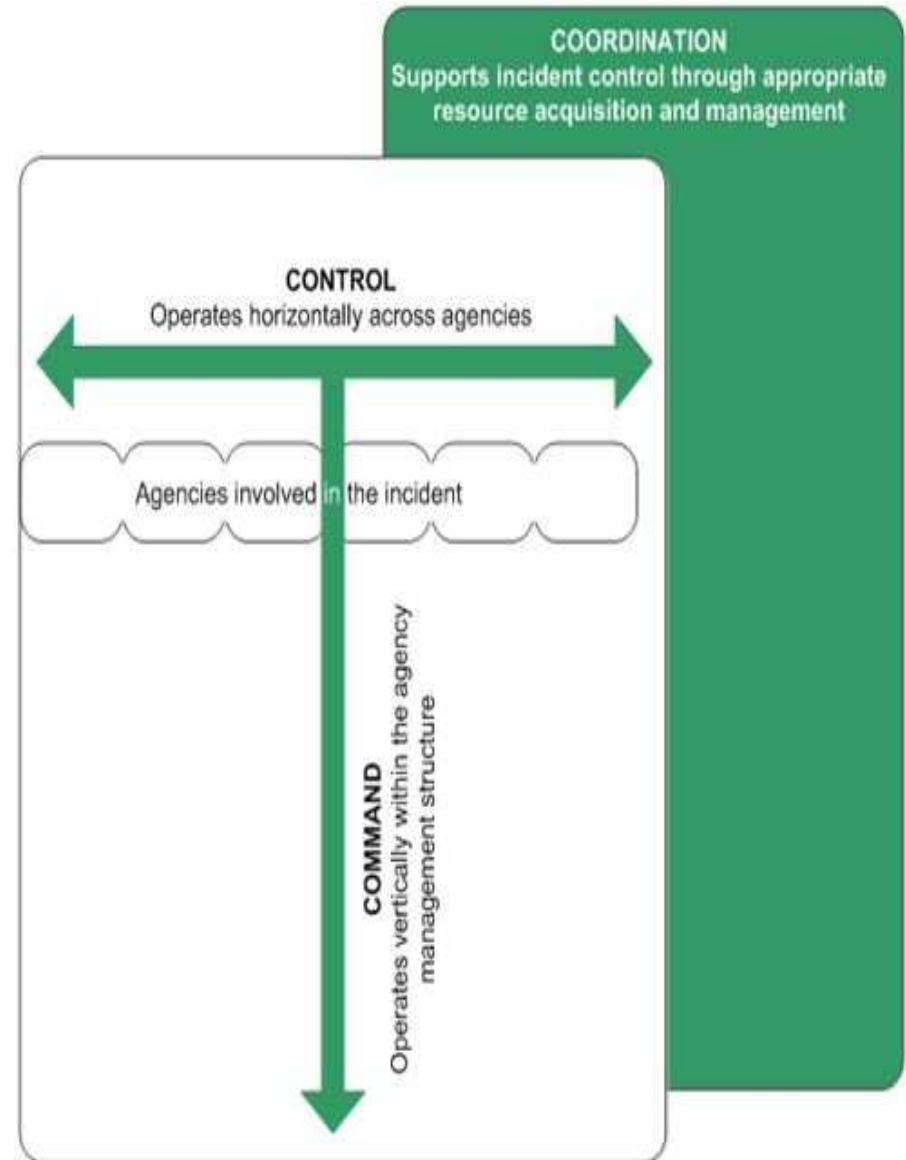# UNIT 1 - Introduction to Emergency Management Principles

Command
- The vertical line of authority within each agency & support service
- Each service has **ONE** individual who is in command

Control
- The horizontal line of authority across the emergency & support services
- The incident has **ONE** individual who is in overall control (the incident controller)

Coordination
- Primarily concerned with the systematic acquisition and application of resources

COORDINATION
Supports incident control through appropriate resource acquisition and management

CONTROL
Operates horizontally across agencies

Agencies involved in the incident

COMMAND
Operates vertically within the agency management structure

UNIT 1 - Introduction to Emergency Management Principles

REFERENCES

- Emergency Management Australia 1998, *Australian Emergency Management Glossary*, Emergency Management Australia, ACT

- Emergency Management Australia 1999, *Disaster Medicine; Second Edition*, Emergency Management Australia, NSW

- OEM WEBSITE https://www.oem.wa.gov.au/emergency-management/state-em-framework/em-principlesWA

- Risk Management https://www.oem.wa.gov.au/emergency-management/portal/risk

UNIT 2: WA Emergency Management Arrangements

UNIT 2 – WA Emergency Management Arrangements

GOVERNMENT RESPONSIBILITIES

Each level of government has its own clear roles in emergency management.

Federal Government

The role of the Federal Government is to:

- Support the states in developing their emergency management capabilities across prevention, preparedness, response and recovery

- Provide assistance to the states during a disaster if required

- Provide financial relief following a disaster if required

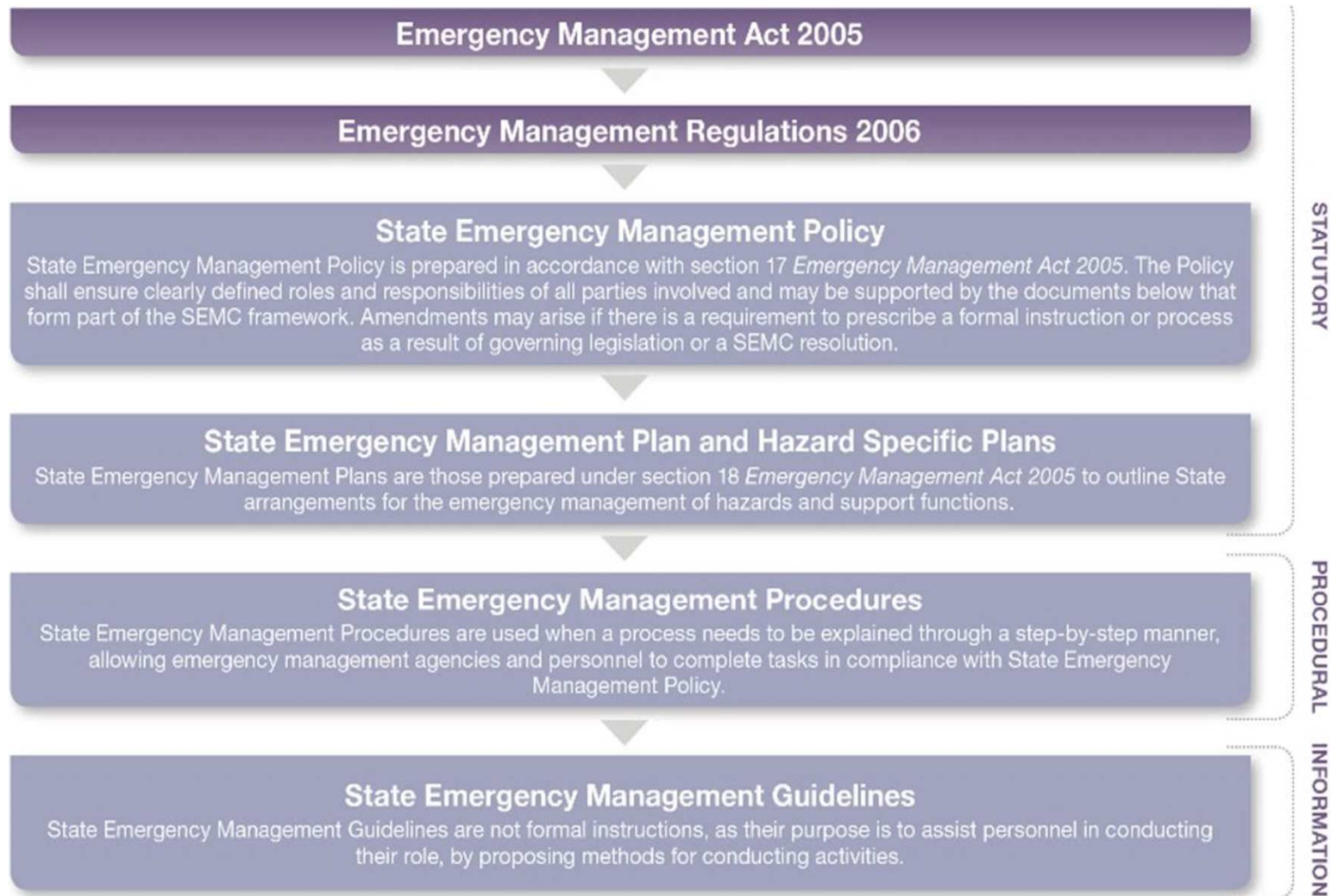- Provide assistance when emergencies occur overseas

UNIT 2 – WA Emergency Management Arrangements

State and Territory Governments

- Under the Australian constitution, State and Territory Governments have prime responsibility for the safety of life and property.

- Each State and Territory has its own emergency management legislation.

- In WA, the emergency management arrangements are governed by the *Emergency Management Act 2005* (the Act). The Act provides the framework for the prompt and coordinated management of emergencies requiring a significant and coordinated response.

- The Act is supported by regulations (*Emergency Management Regulations 2006*), by the State Emergency Management Policy, State Emergency Management Plan, State Health Emergency Response Plans (SHERP) and State Hazard Plans.

UNIT 2 – WA Emergency Management Arrangements

State Emergency Management Framework

Emergency Management Act 2005

Emergency Management Regulations 2006

State Emergency Management Policy

State Emergency Management Policy is prepared in accordance with section 17 *Emergency Management Act 2005*. The Policy shall ensure clearly defined roles and responsibilities of all parties involved and may be supported by the documents below that form part of the SEMC framework. Amendments may arise if there is a requirement to prescribe a formal instruction or process as a result of governing legislation or a SEMC resolution.

State Emergency Management Plan and Hazard Specific Plans

State Emergency Management Plans are those prepared under section 18 *Emergency Management Act 2005* to outline State arrangements for the emergency management of hazards and support functions.

State Emergency Management Procedures

State Emergency Management Procedures are used when a process needs to be explained through a step-by-step manner, allowing emergency management agencies and personnel to complete tasks in compliance with State Emergency Management Policy.

State Emergency Management Guidelines

State Emergency Management Guidelines are not formal instructions, as their purpose is to assist personnel in conducting their role, by proposing methods for conducting activities.

STATUTORY

PROCEDURAL

INFORMATION

UNIT 2 – WA Emergency Management Arrangements

Local Governments

Local Governments are required to ensure that effective emergency management arrangements are prepared and maintained for the area and to manage recovery following an emergency affecting the community.

UNIT 2 – WA Emergency Management Arrangements

THE HAZARD MANAGEMENT STRUCTURE

The hazard management structure describes the relationship between Emergency Management Agencies (EMAs) i.e. HMAs, Combat Agencies and Support Organisations. EMAs are established through legislation and are involved with preventing, preparing for, responding to and/or recovering from emergencies.

Hazard Management Agencies

A HMA is a public authority or other person, prescribed by regulations because of that agency's functions under law or because of its specialised knowledge, expertise and resources. The HMA is responsible for prevention of, preparedness for, response to and recovery from emergencies caused by that particular hazard.

UNIT 2 – WA Emergency Management Arrangements

Combat Agencies

The role of a combat agency is to minimise the impact of an emergency by mitigating the ongoing hazards. This can be through performing tasks or activities, such as:

- Firefighting
- Rescue
- Temporary building restoration

- Evacuation
- Containment of oil spills
- Monitoring of radioactive materials, etc.

Support Organisations

A support organisation is an organisation whose role in an emergency is either to restore essential services (such as water, electricity, etc.) or to provide support functions such as welfare, medical and health, transport, communications, etc.

UNIT 2 – WA Emergency Management Arrangements

STATE HAZARD PLANS

- A full list of the State Hazard Plans in place in WA is available through the Office of Emergency Management website, under State EM Framework.

- An organisation designated as the HMA for any particular hazard is responsible for writing the State Hazard Plan for that hazard.

- Combat agencies are responsible for assisting the HMA in the development of state level hazard plans.

- Support organisations are responsible for developing their own plans.

- These plans are different to hazard plans in that they are written to be applied to a range of hazards, but cover only certain aspects of the emergency.

Government of **Western Australia**
State Emergency Management Committee

STATE HAZARD PLAN

Heatwave

UNIT 2 – WA Emergency Management Arrangements

INCIDENT LEVELS

Incidents are broadly classified into three levels. It is recognised that there will be some overlap between levels and the Incident Controller (IC) will determine the incident level based on the actual and / or potential impact of the incident. The operational level is broadly defined as including more than one of the following:

Level 1

- There are no significant issues
- There is a single or limited multi-agency response (day-to-day business)
- The incident area is limited in extent (i.e. to one jurisdiction or district)
- The response duration is within a single shift
- Resources can be sourced from one local government district
- There is minimal impact on the community and critical infrastructure
- The incident can be managed by a Controlling Agency IMT only
- There is a low level of complexity and / or
- There is potential for incident escalation

Level 2

- A limited multi-agency response is required
- Coordination of multi-agency resources is required
- There is a duration covering multiple shifts
- There is medium term impact on critical infrastructure
- Resources are sourced from district or State level
- There is a medium level of complexity
- One or two incident areas are involved
- There is a medium impact on the community (health, safety, economic, technological or other)
- There is potential for the incident to be declared an 'emergency situation' and / or the incident involves multiple hazards

Level 3

- Requires significant coordination of a multi-agency response
- There is a protracted response duration
- There is significant impact on critical infrastructure
- Resources need to be sourced from State, National and even International level
- There is a high level of complexity
- There is significant impact on the routine functioning of the community (health, safety, economic, technological or other)
- There are multiple incident areas
- Evacuation and / or relocation of community is required
- There is actual or potential loss of life or multiple, serious injuries and / or
- A declaration of an 'emergency situation' or 'state of emergency' is likely

UNIT 2 – WA Emergency Management Arrangements

THE OPERATIONS STRUCTURE

Operational groups are established only when an emergency occurs (or in anticipation of an emergency that is about to occur). They are involved primarily in the response phase and are made up of representatives from all agencies that need to be involved in the response.

ISG → OASG → SECG

Incident Support Group (ISG)

The ISG consists of representatives (liaison officers) from organisations involved in the incident and relevant service providers, such as ambulance and representatives for essential services (e.g. phone, water and electricity). The function of the ISG is to assist the IC through the provision of information, expert advice, support and resources relevant to their organisation.

UNIT 2 – WA Emergency Management Arrangements

Operational Area Support Group (OASG)

The HMA may activate an OASG to provide strategic support to the emergency response, when multiple agencies need to be coordinated at a district level or multiple incidents are occurring simultaneously within one operational area.

State Emergency Coordination Group (SECG)

The SECG coordinates activities throughout the State when required and liaises with the Emergency Services Minister. The operational management structure integrates the Hazard Management Structure and the Multi Agency Support Structure to manage a level 2 or level 3 multi-agency incident.

UNIT 2 – WA Emergency Management Arrangements

THE RECOVERY STRUCTURE

Local governments are responsible for managing recovery activities in their area.

The State level has a role in recovery as it may need to ensure that local governments have equitable and appropriate access to resources for recovery.

The Australian government has a number of recovery programs which provide financial assistance for disaster recovery:

- The **Natural Disaster Relief and Recovery Arrangements (NDRRA)**
    - A jointly funded program between the Commonwealth and the states and territories
- The **Disaster Recovery Payment (DRP)**
- The **Disaster Recovery Allowance (DRA)**

DRP and DRA are Commonwealth only funded programs , activated by the Minister for Justice, through which financial assistance can be provided directly to disaster affected individuals.   https://www.oem.wa.gov.au/funding

UNIT 2 – WA Emergency Management Arrangements

WA EMERGENCY MANAGEMENT ORGANISATIONS

The tables displayed over the following slides provide information on prescribed hazards and their associated HMA, organisation and controlling agency.

Hazard	Hazard Management Agency	Organisation
Air Crash	Commissioner of Police	WA Police
Animal or Plant; pests or diseases	Agriculture Director General	Department of Agriculture and Food WA
Injury or threat to life of persons trapped by the collapse of a structure of landform (**collapse**)	Fire and Emergency Services Commissioner	Department of Fire and Emergency Services
Cyclone	Fire and Emergency Services Commissioner	Department of Fire and Emergency Services
Earthquake	Fire and Emergency Services Commissioner	Department of Fire and Emergency Services
Loss of interruption to the supply of electricity that is capable of causing or resulting in loss of life, prejudice to the safety, or harm to the health, of a person (**electricity supply disruption**)	Coordinator of Energy	Public Utilities Office, Department of Finance

UNIT 2 – WA Emergency Management Arrangements

WA EMERGENCY MANAGEMENT ORGANISATIONS

Hazard	Hazard Management Agency	Organisation
Fire	Fire and Emergency Services Commissioner	Department of Fire and Emergency Services
Flood	Fire and Emergency Services Commissioner	Department of Fire and Emergency Services
Loss or interruption to the supply of natural gas, that is capable of causing or resulting in the loss of life, prejudice to the safety, or harm to the health, of a person (**gas supply disruption**)	Coordinator of Energy	Public Utilities Office
Actual of impending spillage, release or escape of a **biological substance** that is capable of causing loss of life, injury to a person or damage to the health of a person, property or the environment	**State Health Coordinator**	**WA Health**

UNIT 2 – WA Emergency Management Arrangements

WA EMERGENCY MANAGEMENT ORGANISATIONS

Hazard	Hazard Management Agency	Organisation
Actual or impending spillage, release or escape of a **(a) chemical, (b) radiological or (c) other substance (HAZMAT)** that is capable of causing loss of life, injury to a person or damage to the health of a person, property or the environment	Fire and Emergency Services Commissioner	Department of Fire and Emergency Services
Heatwave	**State Health Coordinator**	**WA Health**
Human Epidemic	**State Health Coordinator**	**WA Health**
Land Search – for persons lost or in distress, that requires a significant coordination of search operations	Commissioner of Police	WA Police

UNIT 2 – WA Emergency Management Arrangements

WA EMERGENCY MANAGEMENT ORGANISATIONS

Hazard	Hazard Management Agency	Organisation
Loss of or interruption to the supply of liquid fuel as defined in the Liquid Fuel Emergency Act 1984 (Cwlth) section 3(1), that is capable of causing or resulting in loss of life, prejudice to the safety, or harm to the health, of a person **(liquid fuel supply disruption)**	Coordinator of Energy	Public Utilities Office
Actual or impending spillage, release or escape of oil or an oily mixture that is capable of causing loss of life, injury to a person or damage to the health of a person, property or the environment **(marine oil pollution)**	Marine Safety, General Manager	Department of Transport (DoT), Marine Safety • State waters; • shipping and pilotage waters; and • port waters (Level 2/3). Port Authority • port waters (Level 1). Petroleum titleholder • State waters (Level 1).
Marine Search— for persons lost or in distress on inland waterways within the limits of a port or in a fishing vessel or pleasure craft within the limits of a port or at sea	Commissioner of Police	WA Police

UNIT 2 – WA Emergency Management Arrangements

WA EMERGENCY MANAGEMENT ORGANISATIONS

Hazard	Hazard Management Agency	Organisation
Actual or impending event involving a ship that is capable of causing loss of life, injury to a person or damage to the health of a person, property or the environment **(marine transport emergency)**	Marine Safety, General Manager	DoT Marine Safety • State waters; • shipping and pilotage waters; and • port waters (Level 2/3). Port Authority • port waters (Level 1).
Radiation Escape from a Nuclear Powered Warship	Commissioner of Police	WA Police
Rail Crash	PTA Network (passenger) - Public Transport Authority (PTA)	• PTA; or • WA Police or DFES, by agreement, following the declaration of an emergency situation or state of emergency or circumstance where the demands of the situation are deemed to exceed the capacity or capability of the PTA.

UNIT 2 – WA Emergency Management Arrangements

WA EMERGENCY MANAGEMENT ORGANISATIONS

Hazard	Hazard Management Agency	Organisation
Rail Crash	Brookfield Rail Network (freight) - Brookfield Rail Pty Ltd (Arc Infrastructure)	• Brookfield Rail (Arc Infrastructure); or • WA Police or DFES, by agreement, following the declaration of an emergency situation or state of emergency or circumstance where the demands of the situation are deemed to exceed the capacity or capability of Brookfield Rail.
Road Crash	Commissioner of Police	WA Police
Space Re-entry Debris	Commissioner of Police	WA Police
Storm	Fire and Emergency Services Commissioner	Department of Fire and Emergency Services
Terrorist Act	Commissioner of Police	WA Police
Tsunami	Fire and Emergency Services Commissioner	Department of Fire and Emergency Services

UNIT 2 – WA Emergency Management Arrangements

REFERENCES

- Government of Western Australia, *Emergency Management Act 2005*

- St John Ambulance Service (Western Australia) 2008, *Ambulance Emergency Management Plan 2014*, St John Ambulance (Western Australia), Western Australia

- WA Police - https://www.police.wa.gov.au

- Dept of Fire & Emergency Services - https://www.dfes.wa.gov.au

- Office of Emergency Management - https://www.oem.wa.gov.au

- Disaster Preparedness and Management Unit 2016, *State Health Emergency Response Plan Interim (SHERP)*, Western Australia Department of Health, Western Australia

- Disaster Preparedness and Management Unit 2016, *Infectious Diseases Emergency Management Plan (IDEMP)*, Western Australian Department of Health, Western Australia

UNIT 3: Pre-Hospital Emergency Management

UNIT 3 – Pre-Hospital Emergency Management

ST JOHN AMBULANCE

St John Ambulance WA Ltd (SJA) is the contracted provider of ambulance services in WA and is a prescribed combat agency under the emergency management regulations for health care provision in the pre-hospital environment.

During an emergency, the role of SJA will depend on the situation; however, their responsibility will be generally related to pre-hospital management of casualties and may include:

- Provision and coordination of a pre-hospital response to emergencies
- Provision of appropriate triage and treatment at the emergency site
- Provision of logistical support to the WA Health response to emergencies
- Management and transport of casualties in consultation with WA Health
- Provision of transport of initial hospital response team(s)
- Provision of trained specialist CBRN and urban search and rescue (USAR) paramedics as requested by the nominated HMA

UNIT 3 – Pre-Hospital Emergency Management

SJA emergency response arrangements are detailed in the *Ambulance Emergency Management Plan (AmbPlan – WA).* Under the *AmbPlan – WA*, the ambulance service director is responsible for the coordination of ambulance services during an emergency.

Metro Ambulance Service

- SJA supports the ever-growing Perth metropolitan area with 35 ambulance depots staffed by more than 720 paramedics and patient transport officers.

- The metropolitan area is serviced by 31 depots staffed day and night by rotating crews, as well as four which are day ambulance locations.

Country Ambulance Service

- There are 162 SJA locations operating in country WA, serviced by more than 3100 dedicated volunteer ambulance officers and 90 paramedics.

- In larger country areas where population and ambulance call outs are high, career paramedics work alongside volunteer ambulance officers to provide the ambulance service. These locations are Albany, Australind, Broome, Bunbury, Busselton, Collie, Dawesville, Geraldton, Hedland, Kalgoorlie, Karratha, Kununurra, Northam, Norseman and Pinjarra.

UNIT 3 – Pre-Hospital Emergency Management

ST JOHN AMBULANCE RESOURCES

Emergency Support Vehicles

Both the metro and country ambulance service are supported by emergency support vehicles (ESV) that are equipped and ready to be deployed to any mass casualty incident.

There are three ESV's based at Belmont:

- ESV1, a 6 tonne, 4WD truck with enough resources to treat up to 140 casualties

- ESV2, a 4WD quick response vehicle that hold enough resources to treat up to 40 casualties and offers an area where the Ambulance Commander can set a command post

- ESV3, a 4WD response vehicle with specialist equipment required by Special Operations Paramedics to undertake vertical rescue, confined space rescue, trench rescue, technical search and rescue, urban search and rescue and respond to hazardous materials or CBRN incidents

UNIT 3 – Pre-Hospital Emergency Management

Several country areas also have ESV's that are 4WD quick response vehicles capable to treat up to 40 casualties and offer an area where the Ambulance Commander can set a command post.

These are located in:

- Belmont
- East Bunbury
- Port Hedland
- Albany
- Broome
- Geraldton
- Kalgoorlie

UNIT 3 – Pre-Hospital Emergency Management

Mass Casualty Kits (MCK)

SJA MCK are pre-positioned throughout the state and are able to conservatively treat up to 20 casualties.

They include an:

- Administration Tub
- Trauma Tub
- Cannulation/Fluids Tub
- Oxygen Tub
- Burns Tub

These kits are situated across Western Australia at numerous career ambulance and volunteer sub-centre locations

UNIT 3 – Pre-Hospital Emergency Management

ROYAL FLYING DOCTOR SERVICE

- The Royal Flying Doctor Service (RFDS) provides aero medical and primary health care in WA. The RFDS in WA has six facilities located in Jandakot, Kalgoorlie, Meekatharra, Port Hedland, Derby and Broome utilising multiple aircraft.

- The RFDS provide critical life saving intervention through Inter Hospital Transfers, flying patients between hospitals within the state and carrying out Primary Evacuations throughout WA as well as the Christmas and Cocos Islands.

- The RFDS usually deal with situations where a patient with serious illness or injury requires a medical transfer to a large regional or tertiary centre for definitive care.

- RFDS services operate 24 hours a day, seven days a week and are managed from their state-wide Coordination Centre at their Jandakot facility.

UNIT 3 – Pre-Hospital Emergency Management

RAC RESCUE HELICOPTER

- RAC Rescue was established as the State's only emergency rescue helicopter service in August 2003. In February 2016, a second RAC Rescue helicopter commenced service. The two helicopters combined now have the ability to cover 95 per cent of the State's population.

- The emergency rescue helicopter service is managed by DFES, and is funded by the WA State Government with Royal Automobile Club (RAC) WA as the principal sponsor. CHC Helicopters provide the helicopter and flight crew.

- Based at Jandakot and Bunbury, the crews include a pilot, air crew officer and SJA critical care paramedic. During critical hospital transfers a doctor may also be on board.

UNIT 3 – Pre-Hospital Emergency Management

RAC RESCUE HELICOPTER

- This vital air service transports critical care specialists to an incident and airlifts the injured to the nearest or most suitable hospital.

- Since inception RAC Rescue has responded to a diverse range of significant emergencies throughout WA including major traffic crashes, undertaking searches, and cliff and sea rescues.

- Working alongside the Perth-based helicopter, the second Bunbury-based helicopter not only benefits community members in the South West, but also increases the capacity of the vital emergency rescue helicopter service to respond to patients across our vast State.

UNIT 4: WA Health System and Hospital Emergency Management

UNIT 4 – WA Health System and Hospital Emergency Management

STATE HEALTH ARRANGEMENTS

In the previous unit we discussed the WA emergency management arrangements and the role of WAPOL, DFES and SJA. In this unit, we will be looking at the WA Health and hospital emergency management.

WA HEALTH SYSTEM

WA Health system's emergency planning framework aligns with Australian and State requirements, and is based on a graduated, all hazards approach. Accordingly, hospitals should align plans and procedures to this planning framework to ensure a consistent and coordinated approach.

Government of **Western Australia**
Department of Health

WA Health System
Emergency Management
Arrangements

UNIT 4 – WA Health System and Hospital Emergency Management

STATE HEALTH PLANS

State Health Emergency Response Plan (SHERP)

The SHERP is an *all hazards* response plan that outlines how WA Health responds to an emergency or disaster. This plan outlines how WA Health, as a combat agency, will respond to any emergency or disaster within the jurisdiction of WA. The plan provides the Director Generals delegate with the authority to coordinate all WA Health resources in order to minimise the health consequences that arise following a disaster or emergency.

Government of **Western Australia**
Department of **Health**

The SHERP may be activated by the delegate at any time for a State or National Health response.

SHERP

State Health Emergency Response Plan

UNIT 4 – WA Health System and Hospital Emergency Management

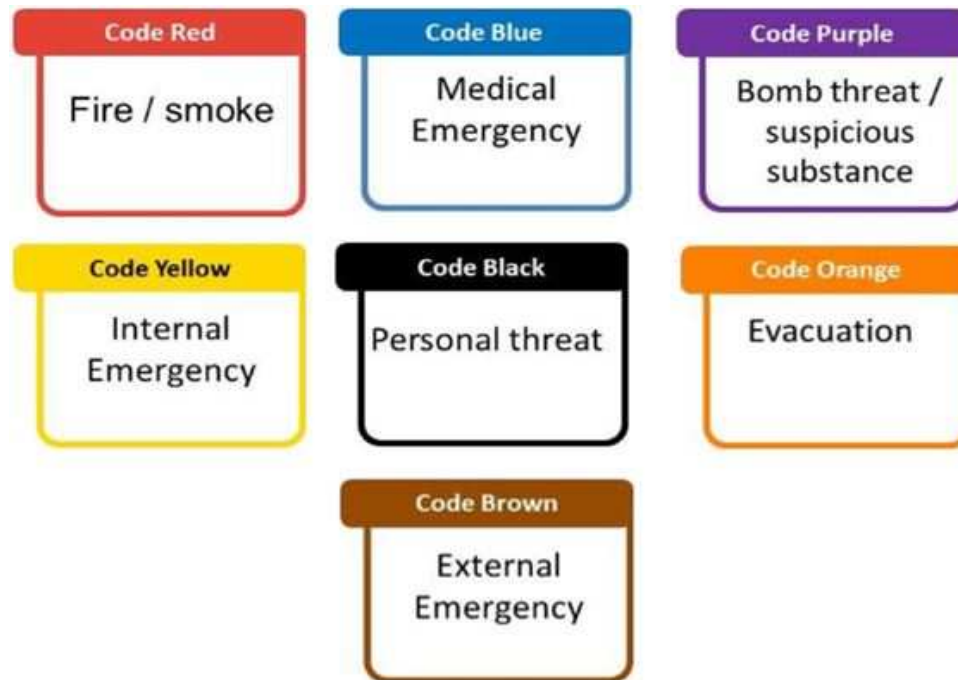**Infectious Disease Emergency Management Plan (IDEMP)**

- The State Human Epidemic Controller (SHEC) is the HMA for the hazard human epidemic.

- A human epidemic is the occurrence of more cases of an infectious or transmissible disease than would be expected in the State's population or a sub-group of the State's population during a given time period.

- The multi-agency responses are outlined in State Hazard Plan – Human Epidemic and the internal health system arrangements for infectious disease emergencies are detailed in the Infectious Disease Emergency management Plan (IDEMP).

- The IDEMP outlines how WA Health will undertake its combat agency duties, as directed by the SHEC, to prepare for and respond to any infectious disease emergency within WA.

UNIT 4 – WA Health System and Hospital Emergency Management

Hospital Health Service Plans

All hospitals and health services entities are required by policy and accreditation bodies, to develop a suite of site-specific plans that outline how the entity manages emergencies. Hospitals and health care facilities utilise a nationally recognised set of coloured codes to respond to emergencies as per *AS4083:2010 Planning for Emergencies – Health Care Facilities*

These plans include:

Code Red	Code Blue	Code Purple
Fire / smoke	Medical Emergency	Bomb threat / suspicious substance

Code Yellow	Code Black	Code Orange
Internal Emergency	Personal threat	Evacuation

Code Brown
External Emergency

UNIT 4 – WA Health System and Hospital Emergency Management

STATE HEALTH COORDINATOR

The State Health Coordinator (SHC) is the HMA for a heatwave or biological hazard.

Heatwave

A heatwave is a period of abnormally and uncomfortably hot weather, which could impact on human health, infrastructure and services. Contributing factors include:

- Maximum daily temperature and the minimum night time temperature
- Duration of the high temperatures
- Humidity and air quality
- Urban and rural design
- Local acclimatisation

Heatwaves have killed more people in Australia than all other natural hazards combined. Climate change is expected to increase the frequency, duration, and intensity of heatwaves and lead to a doubling of heat-related deaths over the next 40 years.

UNIT 4 – WA Health System and Hospital Emergency Management

Actual or impending spillage, release or escape of a biological substance

Biological hazards, also known as biohazards, refer to biological substances that pose a threat to the health of living organisms, primarily that of humans. This can include medical waste or samples of a microorganism, virus or toxin (from a **biological** source) that can affect human health.

The SHC is the HMA for the prevention of actual or impending spillage, release or escape of a radiological substance, and the prevention, preparedness and response of actual or impending spillage, release or escape of biological substance, both of which are documented in State Hazard Plan - Chemical, Biological, Radiological and Nuclear (CBRN). A recent example of this was the response to Ebola.

In a heatwave or biological hazard the SHC is responsible for appointing an Incident Controller.

UNIT 4 – WA Health System and Hospital Emergency Management

STATE HUMAN EPIDEMIC CONTROLLER

The State Human Epidemic Controller (SHEC) is the HMA for the hazard human epidemic.

The multi-agency responses are outlined in State Hazard Plan – Human Epidemic and the internal health system arrangements for infectious disease emergencies are detailed in the Infectious Disease Emergency management Plan (IDEMP).

The IDEMP outlines how WA Health will undertake its combat agency duties, as directed by the SHEC, to prepare for and respond to any infectious disease emergency within WA.

A **human epidemic** is the occurrence of more cases of an infectious or transmissible disease than would be expected in the State's population or a sub-group of the State's population during a given time period.

UNIT 4 – WA Health System and Hospital Emergency Management

IMPENDING OR ACTUAL EMERGENCIES

In the event of an impending or actual emergency:

- Notification is most likely to come from a HMA, a Regional Health Disaster Coordinator, SJA, a Hospital Health Coordinator or one of a few National level agencies

- The SHC, supported by On-Call Duty Officers (OCDOs) and On-Call Operations Officers (OCOOs) is the first point of contact for notification of emergencies and will determine activation of the SHERP

- On activation of the SHERP the SHC exercises this authority through the State Health Incident Coordination Centre (SHICC)

- On receipt of notification from the SHICC, hospitals will activate their relevant plans

- The Hospital Incident Commander HIC will initiate the activation of the Incident Management Team (IMT)

- Members of the IMT will then attend the Emergency Operations Centre (EOC) to perform their allocated tasks

The OCDO can be contacted at all times via a paging service on (08) 9328 0553.

UNIT 4 – WA Health System and Hospital Emergency Management

WA HEALTH COMMAND SYSTEM

In the first unit we discussed command, control and coordination. In an emergency, what is WA's Health systems command system?
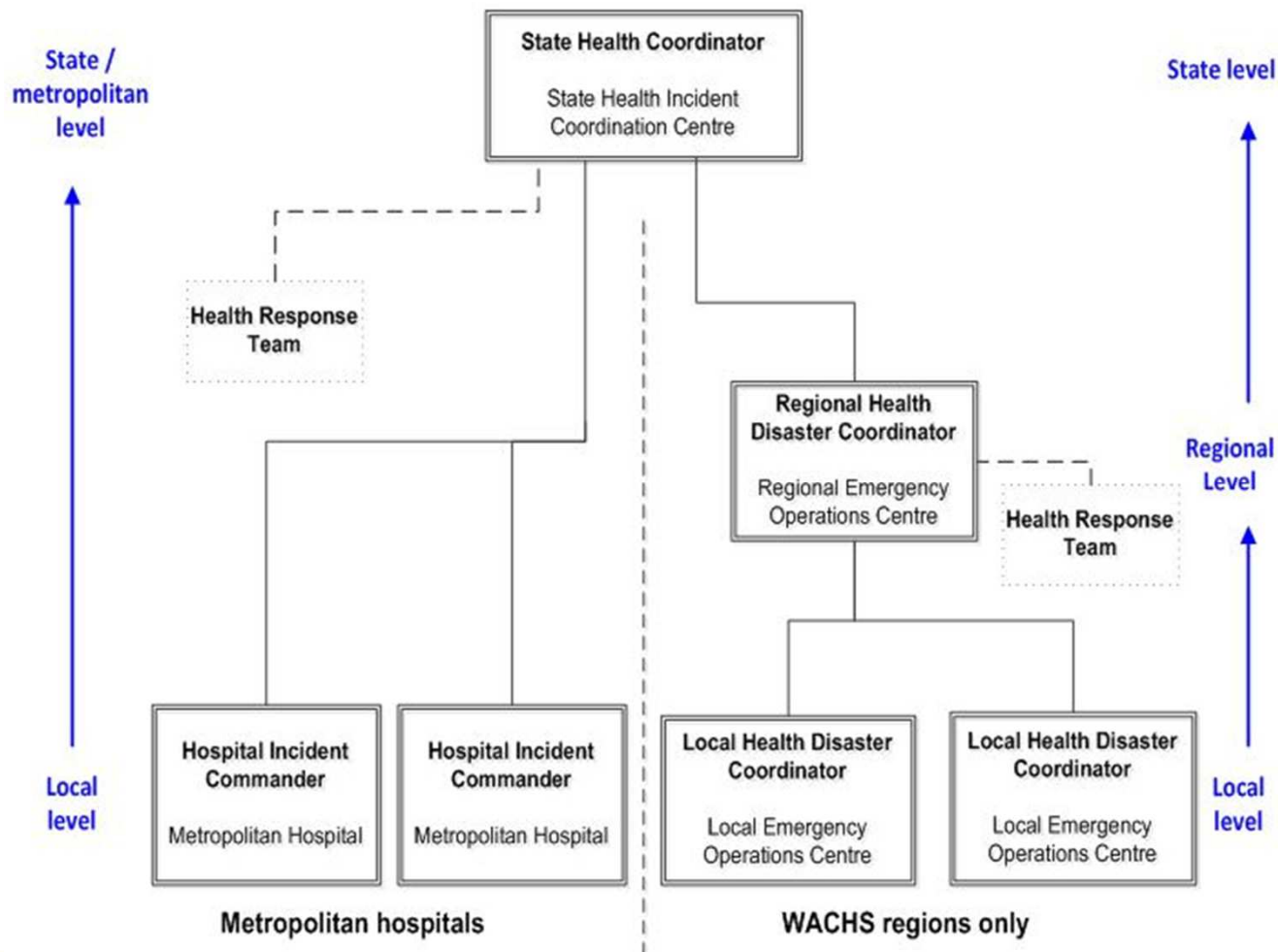
As you can see the command is divided into metropolitan and western Australian country health service (WACHS). Incidents occurring in the regional areas will be initially controlled by the Local Health Disaster Coordinator, then District health Disaster Coordinator and if required the Director Generals delegate

HEALTH RESPONSE TEAM (HRT)

- Health Response Teams are teams that can be deployed to an incident site to augment the pre-hospital response.

- The role of a HRT may vary; in the metropolitan area, a HRT may be requested by SJA to assist in providing treatment at a Casualty Clearing Post (CCP).

- In regional and remote areas the HRT may be the only health capability available, and may need to undertake triage, stabilising treatment, and transport. A specialist HRT may also be requested to perform specialist procedures, such as public health screening or amputations.

HEALTH RESPONSE TEAM (HRT)

- In the metropolitan area, any HRT deployment, including specialist teams, must be authorised by the SHC. In regional areas, the deployment of a HRT to an incident site must be authorised by the RHDC.

- SJA is generally responsible for transporting the HRT to and from the incident site.

- Alternative forms of transport may be utilised in difficult access areas.

- In some regional areas, the local hospital may operate the ambulance service, and will assume this responsibility.
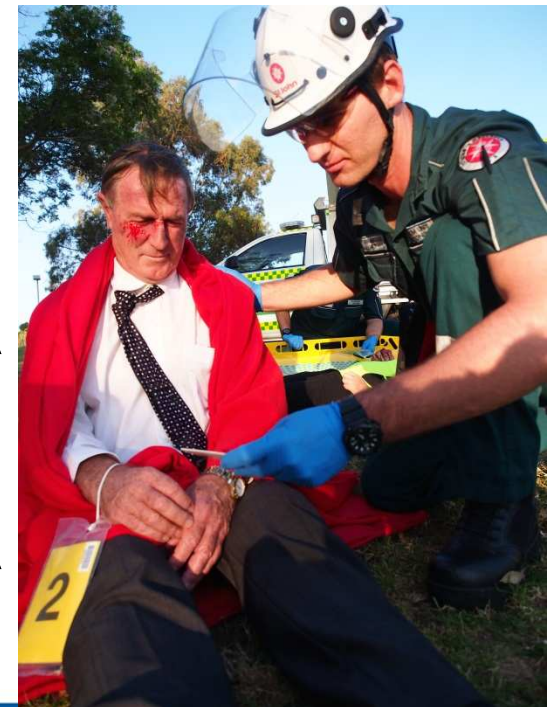
The role of the HRT

The roles of HRTs responding to an emergency include:

Triage

- The process of sorting patients according to their urgency and severity into categories to determine their immediate health needs.

- The aim of triage is to deliver the right patient to the right place at the right time, whilst doing the most for the most.

- The MIMMS triage principles of sieve and sort are followed when triaging mass casualties. A SMART triage label is used for the labelling of these casualties and one SMART triage pack is allocated per health disaster response kit. If further SMART triage cards are required, SJA will supply.

The role of the HRT

The roles of HRTs responding to an emergency include:

Treatment (basic and advanced life support)

- The general principle of pre-hospital mass casualty treatment is to provide enough support and treatment to allow a casualty to be safely transported to a hospital.
- The amount of treatment provided is generally reflective of the casualty's triage score with most treatments in the CCP focussing on airway, breathing and circulation.
- Treatment may also involve preparation for transport. Patients ready for transport should be moved to the Ambulance Loading Point.

Assisting with management of casualties at the incident site

Transport

UNIT 4 – WA Health System and Hospital Emergency Management

HRT Composition

The composition of the team is to be flexible to enable a context specific response. At all times, hospitals and health services are to provide a maximum HRT capability in line with their Clinical Service Framework (CSF) 2014 - 2024 capability.

CSF level (disaster response capability)	Hospital / health service	Team	Composition / maximum deployable requirements
CSF Level 6	Metropolitan tertiary hospitals	Team A	Doctor x 2 Nurse x 4
	Princess Margaret Hospital Perth Children's Hospital	Team B	Doctor x 2 Nurse x 3
CSF Level 5, 4, & 3	Metropolitan general hospitals with emergency departments, Regional Resource Centres, Rural and remote hospitals	Team C	Doctor x 1 Nurse x 2
Varies	Dependent on location, nature and magnitude of incident.	Specialist team	Assessed on a case-by-case basis.

Note: The above team compositions are the maximum deployable requirements; however, the HRT authorising delegate may request an abridged or hybrid team to deploy, depending upon the nature of the incident. Hospitals and health services should arrange staffing profiles to fulfil the maximum deployable requirements.

UNIT 4 – WA Health System and Hospital Emergency Management

KEY MEMBERS OF A HOSPITAL RESPONSE TEAM

Health Commander

The HRT is commanded by the Health Commander. The Health Commander is responsible for the health resources at the scene, but is not directly involved in clinical care. The Health Commander provides advice to the Incident Controller on the health response to the incident, and serves as an information conduit between the scene and the SHICC (metropolitan incidents) or REOC (regional incidents).

Senior Doctor

A Senior Doctor may be appointed by the Health Commander (where staffing permits) to provide clinical governance to the CCP, in collaboration with the Ambulance Casualty Clearing Officer and Senior Nurse. The Senior Doctor serves as the eyes and ears of the Health Commander, relaying information on the operations of the CCP, number of casualties, logistical requirements and staff welfare.

UNIT 4 – WA Health System and Hospital Emergency Management

KEY MEMBERS OF A HOSPITAL RESPONSE TEAM

Senior Nurse

A Senior Nurse may be appointed by the Health Commander (where staffing permits). Together with the Senior Doctor and Ambulance Casualty Clearing Officer, the Senior Nurse is responsible for the coordination and management of the CCP. The Senior Nurse has overall responsibility for nursing care and allocation of nursing resources.

Communications Officer

The communications officer assists the Health Commander with relaying information relating to the incident. The communications officer may be deployed to the CCP to relay information from the Senior Doctor to the Health Commander, or assist the Health Commander with relaying information between the SHICC and CCP.

UNIT 4 – WA Health System and Hospital Emergency Management

SPECIALIST TEAMS

Specialist teams may be deployed to provide specialist advice or treatment. Team composition may vary depending upon the nature and magnitude of the incident.

Environmental Health

- The Environmental Health Directorate (EHD), Public Health Division, is the principal regulatory and advisory body on environmental health in WA. The EHD may be requested to provide specialist advice and assistance in an emergency where a hazard(s) poses an imminent threat to the health of humans and the environment.

- An environmental health team may be deployed to provide advice or assistance to the HMA, Local Government or Health Service - Population Health Units in relation to certain hazards.

- Any Environmental Health personnel deployed to an incident site must be authorised by the SHC (metropolitan area) or RHDC (regional areas).

- Any deployed environmental health personnel remain accountable to the authorising delegate.

UNIT 4 – WA Health System and Hospital Emergency Management

SPECIALIST TEAMS

Environmental Health

- Hazards where an environmental health team may be deployed to assist the HMA, Local Government or Health Service - Population Health Units include:

  - Water safety (drinking water and recreational waters)
  - Food safety
  - Radiation contamination
  - Human waste
  - Vermin and vector control
  - Pesticide misapplications and toxicology (non-clinical)
  - Hazardous materials (hazmat) contamination or release
  - Hazardous materials management (e.g. Asbestos);
  - Chemical toxicology (non-clinical toxicology)

UNIT 4 – WA Health System and Hospital Emergency Management

SPECIALIST TEAMS

Burns Team

- Tertiary burn services are responsible for developing and maintaining a pool of specialist staff that are able to be deployed at short notice to an incident site. The composition of the specialist burn team will be decided at the time of the incident. The team should generally comprise of burn or trauma expertise and members should be capable of performing:

  – Burn triage
  – Initial burn management including:
    - Resuscitation
    - Analgesia
    - Dressings

UNIT 4 – WA Health System and Hospital Emergency Management

SPECIALIST TEAMS

Specialist Trauma

- A specialist trauma team can be deployed to the incident site in the following circumstances:

  - To perform field amputations on trapped victims
  - To provide surgical management at the scene, due to the number of patients; overwhelming the capacity to transport victims to hospital

UNIT 4 – WA Health System and Hospital Emergency Management

OTHER CONSIDERATIONS

CBRN / HAZMAT HOSPITAL RESPONSE

The WA health system plays a critical support role in treatment of casualties exposed to a CBRN or HAZMAT incident. Hospitals involved in the response must activate their CBRN/HAZMAT plans. This may involve:

Lockdown of facilities to protect staff, facilities and non-affected patients, relatives and visitors from contamination	Provision of expert advice to the HMA
Deploying a HRT to an incident site for treatment of decontaminated patients in the cold zone	Donning of appropriate Personal Protective Equipment (PPE)
Decontamination of contaminated casualties arriving at hospitals (if not already undertaken prior to arrival at hospital)	Treatment of affected casualties, including symptomatic and definitive treatment
Isolation of casualties who are at risk of causing further contagion or contamination, including communicable biological agents and off-gassing chemical agents	Radiation monitoring of radiologically contaminated casualties
Detection of the agent through symptomology or biological sampling and analysis	Cohort casualties in one hospital to preserve the integrity of other nearby hospitals

HAZMAT incidents are usually considered accidental.

A CBRN event is associated with a deliberate release of a hazardous material.

UNIT 4 – WA Health System and Hospital Emergency Management

Detection and Treatment of the Agent

Detection of the agent may be through physical detection systems, symptomology or biological sampling and analysis.

Upon recognition of the agent, hospitals or health services are to immediately notify the SHC. In a large scale incident, the SHICC will notify other health services of the agent, PPE requirements, and treatment regimen.

Treatment regimens are to be based on expert advice from appropriate specialists, and in accordance with CBRN treatment protocols.

UNIT 4 – WA Health System and Hospital Emergency Management

BURN CAPACITY

In a mass burn casualty incident or disaster, a large influx of burn patients may overwhelm the normal capacity of specialist burns units. In circumstances where large numbers of burn patients are expected, burn units and Intensive Care Units (ICUs) should implement departmental surge management strategies to increase bed capacity. In WA there are two dedicated burns units with capacity below:

Hospital	Dedicated burn beds	Pre-identified burn surge capacity (beds)	Ventilated ICU Beds	Pre-identified ICU surge Capacity
Fiona Stanley Hospital (adults)	10	26	30	10
Perth Children's Hospital (paediatrics)	8	16 (further beds may be negotiated)	10	10

Where the facilities' surge capacity is exhausted, burn patients may be transferred to other tertiary burn facilities throughout Australasia under the auspices of AUSBURNPLAN.

UNIT 4 – WA Health System and Hospital Emergency Management

EMERGENCY WELFARE SUPPORT SERVICES

- Under current WA emergency management arrangements, the Department for Communities has been assigned responsibility for the provision of emergency welfare support services.

- They provides a range of services such as:

  - Evacuation Centre management

  - Emergency food and clothing

  - Counselling services

  - Other personal support services

UNIT 4 – WA Health System and Hospital Emergency Management

REGISTRATION AND REUNIFICATION

- WA Health has an obligation under *"The Plan - Registration and Reunification"* to identify, track and record all patients admitted to hospitals in a disaster or major incident.

- Where there is a need to reunify displaced people and casualties, the Australian Red Cross may be requested to activate the Register.Find.Reunite service on behalf of the DCS to assist with registration and reunification of displaced persons.

- Hospitals should have processes in place to cater for the reception and registration of relatives and casualties presenting to hospitals.

MANAGEMENT OF THE DECEASED

- Management of deceased at the incident site is the responsibility of WA Police under the State Disaster Victim Identification (DVI) Plan.

- Victims who die *en route* to, or at, a health care facility should remain at the health facility until such time as WA Police can arrange transfer to the State Mortuary.

- Depending on the number of fatalities, and the storage capacity of the State Mortuary, there may be a requirement for temporary mortuary facilities to be utilised.

- WA Police will organise temporary mortuary facilities and liaise with the SHICC accordingly.

UNIT 4 – WA Health System and Hospital Emergency Management

REFERENCES

- Office of Emergency Management WA - https://www.oem.wa.gov.au
- WA Police - https://www.police.wa.gov.au
- Disaster Preparedness and Management Unit 2016, *State Health Emergency Response Plan Interim (SHERP)*, Western Australia Department of Health, Western Australia
- Disaster Preparedness and Management Unit 2016, *Infectious Diseases Emergency Management Plan (IDEMP)*, Western Australian Department of Health, Western Australia

FURTHER READING

- [Department of Fire and Emergency Services](#)
- [Office of Emergency Management WA](#)
- [Saint John Ambulance](#)
- [Risk Management](#)
- [State Risk Project](#)
- [WA Health Department](#)
- [WA Police](#)
- [Attorney - General's Department Emergency Management](#)
- [Bureau of Meteorology](#)
- [Australian Health Emergency Preparedness and Response Plans](#)
- [Red Cross](#)
- [Emergency WA](#) provides a map based display with up to date emergency information across the state
- All staff members of the Department of Health have access to one of the libraries of the [WA Health Library Network](#)
- https://www.flyingdoctor.org.au/wa/#