

**Diploma in the Medical Care of Catastrophes**  
**&**  
**Course in Conflict and Catastrophe Medicine**

**SYLLABUS 2022**

<b><i>Module 1: Epidemiology of Disasters and societies affected by Conflict</i></b> (defining the situation and gathering information)				
No	Topic	Definition/Key message	Main items	Components
(a)	(b)	(c)	(d)	(e)
S1:1	Disasters	<i>Disaster - a disruption of normal life and activities that requires the affected community to make extraordinary efforts to cope with it and usually requires outside help</i>	1) Types of disaster  2) Phases  3) Social, Individual & Public health implications I	Natural A) <i>Sudden or acute onset</i> B) <i>Slow or chronic onset</i>  Man-made <i>Industrial</i> <i>Transport accidents</i> <i>Deforestation</i>  Complex humanitarian emergencies Wars, civil strife etc  Emergency & Post emergency phases The Relief-Development Continuum  Characteristics of Fragile and Failed states Features of post-conflict societies Stabilisation of post-conflict states Urbanisation and disasters

				<p>Patterns of mortality &amp; morbidity</p> <ul style="list-style-type: none"> <li>- Immediate</li> <li>- Longer term</li> </ul> <p>Long term problems due to damage to social structures and infrastructure:</p>
S1:2	Risk	<i>The probability that an action or activity (including inaction) will lead to an undesirable outcome.</i>	<p>These risks are the product of:</p> <p>Risk assessment</p> <p>Risk reduction and mitigation (collectively termed risk management)</p> <p>The relationship of risk assessment and risk management in the planning process</p>	<p><b>Hazards</b> (damaging things that could occur) The likelihood of a hazard being realised. The potential impact on the population at risk and on infrastructure. Impact will be modified by the vulnerability of the population and infrastructure, which is a measure of how able they are to cope with unexpected events and stressors. This can also be referred to as <b>Resilience</b>. <b>Vulnerability</b> (</p>
S1:3	Epidemiology in disasters	<i>The use of epidemiological methods to study and manage the public health aspects of disasters.</i>	<p>Time, Person &amp; Place</p> <p>Numbers and rates</p> <p>Key indicators</p> <p>Data collection methods</p>	<p>Who, What, When, Where, Why, How</p> <p>Numbers required for staffing levels, bed spaces, supplies Rates give true indication of trends</p> <p>Mortality, morbidity:</p> <p>CMR, CFR, Age specific, Maternal, &lt;5YMR Morbidity</p> <ul style="list-style-type: none"> <li>• Incidence, Attack rate, Incidence rate</li> <li>• Prevalence</li> </ul> <p>Nutritional status Health services Vital needs</p> <p>Surveillance systems</p> <ul style="list-style-type: none"> <li>• Comprehensive</li> <li>• Sentinel</li> </ul> <p>Surveys</p>

				<p>Outbreak investigations</p> <ul style="list-style-type: none"> <li>• Cohort studies</li> <li>• Case control studies</li> <li>• Descriptive studies</li> </ul>
S1:4	Initial assessment (Needs assessment)	<p><i>Assessment provides an understanding of the disaster situation and a clear analysis of threats to life, dignity, health and livelihoods to determine, in consultation with the relevant authorities, whether an external response is required and, if so, the nature of the response”</i></p>	<p>1) Methods</p> <p>2) Content</p> <p>Systems for communicable disease control</p> <p>Health services and support infrastructure</p> <p>3) Sources of information Before deployment of team</p> <p>In the field</p> <p>Dissemination of results</p>	<p>Objectives, Preparation, Information sought, Obtaining information, Validity &amp; bias, Personnel, Deployment, Reporting</p> <p>Environmental &amp; population factors</p> <p>Epidemiology and morbidity factors</p> <ul style="list-style-type: none"> <li>• disease surveillance systems,</li> <li>• public health systems</li> <li>• laboratory services clinical and public health laboratory facilities</li> <li>• medical materiel (medications in use/licensed, availability, supply chain, storage)</li> <li>• blood banking,</li> <li>• vaccination programmes</li> <li>• cold chain arrangements</li> <li>• On line (New Humanitarian, CIA World Factbook, WHO website etc).</li> <li>• Embassy/consulate of affected country(s)</li> <li>• Libraries (Universities, medical schools etc)</li> <li>• Host government</li> <li>• Medical services in affected country</li> <li>• Local authorities</li> <li>• WHO &amp; Other UN agencies</li> <li>• Aid agencies in the field</li> <li>• Affected communities</li> </ul> <p>Reports to:</p> <ul style="list-style-type: none"> <li>• Agency HQ,</li> </ul>

			Existing assessment systems	<ul style="list-style-type: none"> <li>• Key agencies requiring needs assessment information</li> <li>• Host government</li> </ul> <p>HESPER, MIRA</p>
S1:5	Public Health Intelligence	<p><i>Public health intelligence is involved with gathering and analysing information about the determinants of health, the causes of ill health and the patterns and trends of health and ill health in a population to support decision-making to improve the health of the population.</i></p> <p><i>Routinely gathered by agencies on countries and areas where they are working or may work in the future.</i></p>	<p>Sources Information sought</p> <p>Basic analytical techniques for use in predictive intelligence production.</p>	Very similar to those used in needs assessment (see above)
S1:6	Disease surveillance	<p><i>The ongoing systematic collection, analysis and interpretation of data in order to plan, implement and evaluate public health interventions (WHO).</i></p>	<p>Surveillance</p> <p>Essential principles for surveillance programmes</p>	<p>Provides information to:</p> <ul style="list-style-type: none"> <li>• Set priorities</li> <li>• Detect outbreaks</li> <li>• Plan, set-up and monitor programmes</li> </ul> <ul style="list-style-type: none"> <li>• Simple and flexible</li> <li>• Sustainable (long term, local resources)</li> </ul>

		<p><i>(Surveillance is a part of Health Intelligence gathering but not the whole)</i></p>	<p>Information</p> <p>Types of surveillance systems</p> <p>Emergency systems</p> <p>Case definitions</p> <p>Sources of data</p> <p>Dealing with data</p>	<ul style="list-style-type: none"> <li>• Appropriate (information &amp; resources)</li> <li>• Acceptable to those surveyed</li> <li>• Able to provide:             <ul style="list-style-type: none"> <li>○ essential minimum of accurate information</li> <li>○ timely reporting</li> <li>○ coverage of the whole affected area</li> <li>○ information regularly from defined sites</li> </ul> </li> <li>• Compatible with existing systems &amp; use existing records &amp; systems</li> <li>• Collaboration between agencies &amp; with local services</li> </ul> <p>Must be:</p> <ul style="list-style-type: none"> <li>• reliable</li> <li>• relevant</li> <li>• collected systematically</li> <li>• standardised enough to be collated</li> <li>• timely &amp; regular enough to be useful</li> <li>• acceptable to those surveyed</li> </ul> <p>Comprehensive Sentinel Clinical (symptom) based Laboratory based</p> <p>EWARN</p> <p>WHO, CDC, health facilities, individuals, aid agencies military, Ministry of Health, police, ambulance services Identify data sources</p> <p>Set up agreed case definitions</p> <p>Establish data handling systems</p>
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			<p>Dissemination of results</p> <p>Evaluation of surveillance systems</p>	<ul style="list-style-type: none"> <li>• Recording &amp; transferring data</li> <li>• Verifying data</li> <li>• Frequency of reporting</li> <li>• Data analysis (by whom, where &amp; how often)</li> </ul> <p>To whom How often How</p> <ul style="list-style-type: none"> <li>• Electronic</li> <li>• Radio/TV</li> <li>• Printed reports</li> </ul> <p>Evaluate the usefulness of the data &amp; the system in the context of two key surveillance functions</p> <ul style="list-style-type: none"> <li>• early warning</li> <li>• routine programme monitoring</li> </ul> <p>Determine the extent to which surveillance objectives are being met</p>
S1:7	Sources of information		<p>OCHA</p> <p>Other UN websites</p> <p>Subject specific websites</p> <p>Press Aid agencies</p> <p>Embassies/consulates of affected countries</p>	<p>Relief web IRINs The New Humanitarian</p> <p>BBC Country Profiles CIA World Factbook Wikipedia</p>

<b>Module 2: Priorities for intervention in disasters</b>				
S2:1	Priorities for intervention	<i>What needs to be done immediately</i>	Top 10 priorities (as defined by MSF in the textbook "Refugee Health")	<ol style="list-style-type: none"> <li>1. Initial assessment (Section 1)*</li> <li>2. Measles immunisation (Section 2)</li> <li>3. WASH (Section 2)</li> <li>4. Food &amp; Nutrition (Section 2)</li> <li>5. Shelter &amp; site planning (Section 2)</li> <li>6. Health care in the emergency phase (Sections 3 &amp; 4)</li> <li>7. Control of communicable diseases &amp; epidemics (Sections 3 &amp; 4)</li> <li>8. Public Health Surveillance (Section 1)</li> <li>9. Human resource training (Section 6)</li> <li>10. Co-ordination (Section 5 &amp; 6)</li> </ol> <p>(*Refers to Section in this syllabus)</p>
S:2:2	WASH	<b>Water, sanitation &amp; hygiene</b> <i>requirements for those affected by disasters</i>	Provision of security  Water  WHO Drinking Water Guidelines Local Water Supply legislation  Sphere Standards	Water requirements, <ul style="list-style-type: none"> <li>• Quantity</li> <li>• Quality</li> <li>• Availability</li> </ul> Extraction: <ul style="list-style-type: none"> <li>• Types of sources</li> <li>• Ownership of sources</li> <li>• Other users</li> <li>• Continuity of supply</li> <li>• Security of supply</li> </ul> Purification: <ul style="list-style-type: none"> <li>• Removal of solids</li> <li>• Disinfection</li> <li>• Removal of heavy metals, toxins</li> </ul> Storage & Distribution <ul style="list-style-type: none"> <li>• Mass storage</li> </ul>

			<p>Sanitation</p> <p>Hygiene</p>	<ul style="list-style-type: none"> <li>• Individual storage</li> <li>• Piped systems</li> <li>• Tankers</li> </ul> <p>Disposal of waste water</p> <ul style="list-style-type: none"> <li>• Systems</li> <li>• Risks</li> </ul> <p>Latrine types (including cultural &amp; gender considerations)                  Numbers required                  Location and spacing of latrines                  Anal cleansing                  Waste disposal</p> <p>Cultural &amp; Gender considerations                  Hand-washing                  Bathing                  Laundry                  Supply of soap, washing materials</p>
S2:3	Shelter and site planning	<i>Requirements for provision of shelter for those affected by disasters</i>	UN and WHO guidelines Sphere Standards	<p>Areas required per individual</p> <p>Basic construction specifications</p> <p>Layout of camps, including minimising of vulnerability of individuals/sections of populations.</p> <p>Spacing between dwellings</p> <p>Provision of facilities</p> <p>Cultural &amp; Gender considerations</p>
S2:4	Food and nutrition	<i>Requirements for provision of food for those affected by disasters, both normally nourished and malnourished</i>	UN and WHO guidelines Sphere standards  Identification of vulnerable groups	



			<p>Daily calorific requirements</p> <p>Micronutrient requirements Types of malnutrition and clinical features</p> <p>Clinical &amp; other complications</p> <p>Main causes of death</p> <p>Assessment</p> <p>Management of malnutrition in populations</p>	<p>2100Kcal/person/day</p> <p>Vitamin A, Zinc, Iron, Iodine</p> <p>Kwashiorkor</p> <ul style="list-style-type: none"> <li>• bloated appearance due to water accumulation (oedema) (protein, antioxidant &amp; micronutrient deficiency)</li> </ul> <p>Marasmus</p> <ul style="list-style-type: none"> <li>• severe weight loss leaving "skin and bones" shortage of proteins &amp; calories</li> <li>• Mild growth retardation and weight loss</li> <li>• Later stages:             <ul style="list-style-type: none"> <li>○ Apathy</li> <li>○ Lack of facial expression</li> <li>○ Loss of appetite</li> </ul> </li> <li>• Damage to immune system             <ul style="list-style-type: none"> <li>○ more severe disease episodes</li> <li>○ more complications</li> <li>○ longer duration of illness</li> </ul> </li> </ul> <p>Hypoglycaemia Hypothermia Infection Dehydration</p> <p>Weight for height (Z scores) Weight for age Mid Upper Arm Circumference (MUAC)</p> <p>Types, clinical implications and requirements</p> <ul style="list-style-type: none"> <li>• Selective (lacks evidence base)</li> <li>• Therapeutic</li> <li>• Community based</li> </ul>
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			Foods	<p>Other activities:</p> <ul style="list-style-type: none"> <li>• Breast feeding</li> <li>• Extra rations for pregnant and lactating women</li> <li>• Support other vulnerable groups</li> <li>• Treat infectious disease</li> <li>• Vaccination (measles)</li> <li>• Vitamin A</li> </ul> <p>Local customs - palatability and suitability for local tastes/religious requirements</p> <p>Local availability/risk of damage to local stocks/risk of inflating prices for locals</p> <p>Food delivery – World Food Programme (WFP), agencies, logistic considerations, risk of damaging local trade due to reduced local vehicle availability</p> <p>Food security and vulnerable elements</p> <p>Rationing</p>
S2:5	Evaluation of interventions	<i>Evaluation of effectiveness of interventions with respect to donors, recipients and agencies</i>	Principles and methods of evaluation	<p>Means of evaluating single projects and programmes</p> <p>Reporting</p>

<p align="center"><b>Module 3: Recognition, prevention, treatment and control of communicable diseases.</b></p> <p align="center"><b>Recognition, prevention and control of epidemics</b></p> <p align="center">[Communicable diseases of importance in disasters and societies affected by conflict Morbidity and mortality Causes, measurement and reporting Natural history of disasters and societies affected by conflict In terms of disease]</p>				
S3:1	Important vector-borne diseases and zoonoses	<i>The most important vector borne and zoonotic diseases likely to affect those involved in disasters</i>	Arthropod vectors  Rodent vectors  Reservoir hosts  Important vector borne diseases  Vector control measures:	Mosquitoes, Sandflies, Ticks, Lice  Rats (brown, black, multimammate), mice, bats  Species that maintain the disease/ are the normal hosts  Malaria, Yellow Fever, Dengue, Typhus (Tick and louse borne), Leishmaniasis, Plague Viral haemorrhagic fevers (Yellow fever, dengue, Ebola, Marburg, Lassa fever, CCHF)  Hygiene, site selection & management, sanitation, safe and effective use of Insecticides (larviciding, residual spraying, fogging, baiting, impregnation of bednets), rodenticides and traps, waste disposal Control of breeding sites Limiting access to buildings (rodent proofing, control of vegetation around buildings, insect screens) Safe storage of food
S3:2	Individual protection against insect vector-borne disease	<i>Measures to prevent or limit the incidence of insect vector borne disease</i>	Chemoprophylaxis  Vaccination  Vector avoidance/Bite avoidance,	Anti-malarials  Yellow fever, Ebola  Protective clothing, bednets (preferably impregnated with an appropriate insecticide), insect repellents

S3:3	Important oral route diseases	<i>Important diseases transmitted via the mouth</i>	<p>Important infectious diseases</p> <p>Toxins in food and water</p> <p>Prevention &amp; Control</p> <p>Treatment:</p>	<p>Cholera, typhoid, dysentery, hepatitis A &amp; E, food poisoning (<i>Salmonella</i>, <i>Campylobacter</i>, <i>E.coli</i>, viral pathogens [norovirus, rotavirus etc]), polio, Shigella, cholera, bacillary dysentery, traveller’s diarrhoea, amoebic dysentery,</p> <p>[Diarrhoea caused by non GI organisms]</p> <p>Botulism, <i>Staphylococcus aureus</i>, <i>Bacillus cereus</i>, scombrotoxins, ciguatera,</p> <p>Clean water and safe food, insect control, waste control, Personal hygiene (handwashing)</p> <p>Rehydration (oral, IV) Oral zinc supplement Appropriate use of drugs: Antibiotics Antimotility agents (and when to avoid use of these)</p>
S3:4	Important airborne diseases	<i>Important diseases acquired primarily by inhalation</i>	<p>Important diseases</p> <p>Control</p> <p>Mechanisms of transmission</p> <p>Health implications</p>	<p>ARI (colds, flu-like illness, influenza, pneumonia)</p> <p>Other organisms transmitted via respiratory tract:</p> <ul style="list-style-type: none"> <li>• Measles, meningococcal meningitis, diphtheria, TB, pneumonic plague</li> </ul> <p>Methods of control</p> <p>Aerosols, role of hands</p> <p>Often underestimated, implications for children, shelter and indoor smoke, health promotion via home visitors or similar</p>
S3:5	Important blood-borne diseases	<i>Important diseases transmitted in blood, blood products and body fluids</i>	<p>Important diseases</p> <p>Prevention and Control</p>	<p>Hepatitis B, C, HIV</p> <p>Vaccination (Hep B), PPE, PEP Barrier contraception</p>

S3:6	Important sexually transmitted infections		<p>Important diseases</p> <p>Infection prevention</p> <p>Treatment</p> <p>Implications</p>	<p>HIV/AIDS (see below), Chlamydia, Gonorrhoea, Syphilis, Herpes Hepatitis B (see above)</p> <p>Barrier contraception Public Health Education</p> <p>Antibiotics, PEP, triple therapy</p> <p>Helping those living with HIV, issues of stigma, mainstreaming into other programmes</p> <p>Identification through community outreach workers,</p>
S3:7	HIV/AIDS		<p>Epidemiology</p> <p>Disease staging/progression</p> <p>Clinical disease</p> <p>ART/ART scale-up</p> <p>Prevention of mother to child transmission (PMTCT)</p> <p>Post-exposure prophylaxis (PEP)</p>	<p>Rates &amp; locations</p> <p>HIV Acute infection Chronic HIV infection</p> <p>Clinical infections Respiratory disease – PCP, TB CNS disease GI disease/AIDS wasting PUO</p> <p>Antiretroviral treatment Prevent clinical disease/AIDS/death Prevent transmission</p> <p>Risk factors Preventive activities</p> <p>Exposure risks Treatment</p>
S3:8	Other common/ important diseases/infections		Wound infections	<p>Common bacterial causes:</p> <ul style="list-style-type: none"> <li>Staphylococcus aureus/MRSA, Streptococcus pyogenes, Enterococci and Pseudomonas aeruginosa.</li> </ul>

	<p>occurring in disasters</p>		<p>Systemic infections following injury</p> <p>Skin infections</p> <p>Helminth infections</p> <p>Ectoparasites</p> <p>Fungal infections</p>	<p>Gangrene</p> <p>Tetanus</p> <ul style="list-style-type: none"> <li>• Anti-tetanus vaccine</li> <li>• Tetanus toxoid             <ul style="list-style-type: none"> <li>○ Administration of these – separate needles, separate injection sites</li> </ul> </li> </ul> <p>Bacterial</p> <ul style="list-style-type: none"> <li>• Cellulitis</li> <li>• Impetigo</li> <li>• Necrotising Fasciitis</li> <li>• Boils</li> </ul> <p>Viral</p> <ul style="list-style-type: none"> <li>• Herpes</li> </ul> <p>Fungal</p> <ul style="list-style-type: none"> <li>• Ringworm</li> <li>• Athletes foot</li> </ul> <p>cestodes (tapeworms), nematodes (roundworms), and trematodes (flukes)</p> <p>Scabies, lice, fleas</p> <p>Scabies in children – treatment and prevention through community programmes</p> <p>Oral candidiasis</p>
<p>S3:9</p>	<p>Vaccination/ immunisation</p>	<p><i>Use of a preparation of a weakened or killed pathogen or part of its structure to stimulate immunity against the pathogen</i></p>	<p>When to vaccinate</p> <p>What specific vaccines are appropriate?</p>	<p>Need for vaccination programmes</p> <p>Timing of programmes</p> <p>Routine or as a response to an outbreak?</p>

			Effectiveness of vaccination programmes	
S3:10	Vaccination programmes	<i>The techniques and equipment needed to set up and operate vaccination programmes</i>	Types of vaccines  Preservatives  Diluents  Equipment for vaccinating  Cold chain   Logistics  Staff	Live and killed vaccines Lyophilised (Freeze dried) Single and mixed vaccines  Needles and syringes, sterilising equipment, sharps disposal  Cold chain <ul style="list-style-type: none"> <li>• Dedicated refrigerators and freezers (special temperatures)</li> <li>• Daily recording of temperatures</li> <li>• Cold boxes, cool packs, insulating material</li> <li>• Vaccine storage                             <ul style="list-style-type: none"> <li>○ Correct temperatures</li> <li>○ Protect from light</li> </ul> </li> </ul> Transport, accommodation, cold chain  Vaccinators, support staff
<b>Module 4: Clinical Knowledge</b> The specialised clinical knowledge which gives the aid worker the ability to deal with the health problems likely to be encountered in the disaster environment				
<b>(S4:a) Environmental injuries and medicine in remote environments</b>				
S4:a:1	Heat injury – recognition, treatment and prevention	<i>Injury caused by exposure to the sun or in hot conditions</i>	Types of Heat Illness/Injury;   Recognition of: Heat Stress	Sunburn Prickly Heat Heat Stress/exhaustion Heat Stroke  Core temperature

			Heat Stroke  Preventive Measures:  Predisposition to heat illness  Treatment principles	Acclimatisation Monitoring of water intake Appropriate clothing Salt intake
S4:a:2	Cold injury – recognition treatment and prevention	<i>Injury caused by exposure to extremes of cold</i>	Types of cold injury  Recognition of Hypothermia Peripheral cold injury  Preventive measures:  Predisposition to cold injury Treatment principles  Altitude considerations, including altitude sickness	Frost nip Frostbite Immersion Foot Hypothermia  Appropriate clothing Diet Fluid intake Fitness
S4:a:3	Injuries due to bites and stings	<i>Injury cause by the bites of or contact with poisonous living organisms</i>	<u>Poisonous and venomous organisms:</u>  Important venomous snakes,  Types of snake venom	Poisonous creatures – use toxins for passive defence: Venomous creatures – use poisons for active attack  <ul style="list-style-type: none"> <li>• Elapidae, (tropical and subtropical except Europe) <ul style="list-style-type: none"> <li>○ Cobras, mambas, kraits, sea snakes</li> </ul> </li> <li>• Viperidae (Americas, Africa, Eurasia) <ul style="list-style-type: none"> <li>○ Vipers, rattlesnakes</li> </ul> </li> <li>• Colubridae (Sub-Saharan Africa) <ul style="list-style-type: none"> <li>○ Boomslangs</li> </ul> </li> <li>• Elapidae - mainly neurotoxic</li> </ul>



			<p>Signs &amp; symptoms</p> <p>Initial symptoms (even if no bite or no venom injected)</p> <p>Envenomation: Local symptoms &amp; signs</p> <p>Systemic symptoms and signs</p> <p>Elapid bites</p> <p>Viper bites</p> <p>Treatment</p> <p>Initial treatment</p> <p>Antivenom treatment</p> <p>Other poisonous or venomous organisms</p>	<ul style="list-style-type: none"> <li>• Viperidae - mainly haemotoxic and proteolytic</li> <li>• Boomslangs - haemotoxic</li>   <li>• Agitation, shock</li>   <li>• Bite marks</li> <li>• Pain,</li> <li>• Swelling</li> <li>• Tissue damage</li>   <li>• Neurological</li>   <li>• Cardiovascular signs</li> <li>• Bleeding and clotting disorders</li> <li>• Tissue necrosis</li>   <li>• Check person has been bitten</li> <li>• Reassure</li> <li>• Try to retard systemic absorption of venom</li> <li>• No food – especially alcohol</li> <li>• Do NOT interfere with bite wound or apply tourniquet</li> <li>• Treat symptoms as they arise</li> <li>• Analgesia (not aspirin or NSAIDs)</li> <li>• Move patient to medical care</li> <li>• Try to identify the snake</li>   <li>• Monovalent or polyvalent</li> <li>• Cannot undo damage already caused by venom</li> <li>• Immediate or delayed hypersensitivity reactions</li>   <li>• Arthropods (spiders, scorpions, centipedes, bees, wasps)</li> <li>• Aquatic animals (fish, jellyfish, octopi, algae)</li> <li>• Plants (nettles, poison ivy, algae, mushrooms, Cassava))</li> </ul>
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			<p>Treatment of poisoning or envenomation</p> <p>Preparation for dealing with bites etc. when working in the programme location</p>	<p>Antivenins Treatment for jellyfish stings (Hot water, Vinegar) Anti histamines Allergic reactions – adrenalin Inappropriate/outmoded treatments</p> <p>What dangerous animals and plants are present locally? Location of treatment centres Local availability of antivenins etc.</p> <p>Brief team members, health education material for client population</p>
<p><b>(S4:b) Appreciation of the principles of Pre-hospital emergency medicine (PHEM), triage, trauma, surgery, resuscitation</b></p>				
S4:b:1	Evacuation of casualties by road/ship	<i>The medical requirements for and potential problems associated with the medical evacuation of casualties by land or sea</i>	<p>Medical problems of medevac by road</p> <p>Use of ships &amp; trains for evacuation &amp; as treatment centres</p>	
S4:b:2	Aeromedical evacuation (AE)	<i>The potential role for aeromedical evacuation</i>	<p>Role</p> <p>Limitations</p> <p>Capabilities</p> <p>Clinical considerations</p>	<p>Deliver teams and equipment, remove casualties, access specialist care, evacuate aid workers</p> <p>Cost, availability, time to organise, site access, capacity, working environment, physiological challenges</p> <p>Helicopter: easy access but limited range and capacity, hostile working environment Fixed wing: need a landing strip and logistic support but increased capacity and range</p> <p>Basic physiology of hypoxia and pressure changes</p>

			<p>Military role and capabilities</p> <p>Disadvantages</p>	<p>AE essential to military ops to reduce medical footprint, expected standards of care, ranges from basic resuscitation and evacuation to intensive care recovery to home nation</p> <p>Limited asset, expensive, who do you evacuate, may make triage more complex, may splinter families</p>
S4:b:3	The "<C>ABCDE" PHEM system	<i>The structured treatment of casualties</i>	Principles	<p>Primary survey and resuscitation</p> <p>Team based horizontal resuscitation</p> <p>Secondary survey- where carried out, often in medical facility some time later</p> <p>Triage before treatment in mass casualty situations</p>
S4:b:4	Triage	<i>The application of a system to prioritise the immediate treatment of casualties</i>	<p>Definition of Triage</p> <p>Aim of Triage</p> <p>Principles of Triage</p> <p>How triage is performed</p> <p>Types of triage</p>	<p>A system for sorting casualties, cascading down from the most urgent to the non-urgent, in order to prioritise them for treatment (non-treatment) or evacuation, and repeating this at each echelon (handover) of care</p> <p>To address medical resources towards those who have the best chance of survival</p> <p>Triage is a dynamic process that can be performed at various stages in a mass casualty situation</p> <p>Methods, limitations, who can perform triage, labelling and flow of information at an incident requiring triage. Triage should be: Simple Rapid Reproducible Safe</p> <p>Anatomical: descriptive not easily reproduced Physiological: clinical signs, easily reproduced</p> <p>Knowledge of each system and where each is performed</p>



				<p>Clinical findings                  Salvageability                  Safety of staff                      Environmental risks                      Security risks                  Access</p>
S4:b:5	Resuscitation	<i>Interventions needed to halt, then reverse, life-threatening changes to key physiological processes.</i>	<p>ATLS                  Primary survey                  Resuscitation                  Secondary survey                  Definitive care</p> <p>Trimodal death distribution</p> <p>Damage control resuscitation</p> <p>Appropriate resuscitation</p>	<p>Airway + or – cervical spine control                  Breathing and ventilation when needed                  Circulation with haemorrhage control                  D                  E</p> <p>First peak: seconds to minutes after injury                  Second peak: minutes to hour(s) - 'Golden hour' of trauma care                  Third peak: days to weeks after injury</p> <p>Aim to optimise outcome by:                      Maximising tissue oxygenation                      Minimising blood loss</p> <p>Aggressive approach to                      Hypovolaemia                      Hypotension                      Coagulopathy - MHP                      Hypothermia                      Acidosis</p> <p>Near-patient diagnostics                  Focussed abbreviated surgery                  Intensive/Critical Care</p> <p>Routine v Major disaster                  Military v Civilian                  Mascal v Non-mascal situation                      Triage                      Resource allocation                      No inappropriate treatment                      Be aware of unique injuries/diseases linked to the scenario</p>



				<p>Primary - principally air/gas-containing organs          Primary blast lung – 70psi          Bowel injury          Auditory – 2psi          Some solid viscera</p> <p>Secondary - wounds from fragments          Penetrating - superficial to perforating          Visceral injury from blunt impacts</p> <p>Tertiary          Traumatic amputation of limbs          Displacement of the body          Tissue stripping by gas flow</p> <p>Quaternary          Crush injuries          Burns          Psychological</p> <p>Quinternary          Immuno-compromise          Neurological – repeated TBI</p> <p>Importance of initial haemorrhage control, management of amputees, co-existing pelvic injuries in blast casualties</p> <p>Awareness of consensus statement on crush injury and crush syndrome, long term complications, management of prolonged trapped casualties</p> <p>Kinetic energy 'dump'.  <math display="block">\frac{E = MV^2}{2}</math></p> <p>Cavitation &amp; stress wave          Potentially severe within solid tissues, especially those enclosed by bony or capsular integument ((Brain, liver, muscle)          Value of body armour (see also Section 6 Security)</p>
			Crush injuries	
			Bullet/ballistic wounds	

S4:b:7	Analgesia for trauma casualties	<i>Types of analgesia, administration and complications of use</i>	Analgesia types Administration Complications Applicability to disaster teams Prolonged entrapment	Simple vs therapeutic methods Available routes and indications for each Of commonly used agents Limitations in carrying equipment Difficulties managing analgesia requirements vs side effects in trapped casualties
<b>(S4:c) Primary care in disasters and conflict environments</b>				
S4:c:1	The management of primary care	<i>Dealing with the increase primary care needs that can affect those caught up in disasters and conflict</i>	Most common health needs in each phase of a disaster Public health needs Specific problems Specific vulnerable groups Chronic infections Prevention Isolation Treatment Chronic diseases	Emergency, chronic emergency, transition, post conflict (see also Module 1)  Communicable diseases, malnutrition,  Children and the elderly, women of reproductive age (see also Section 1:1)  TB, HIV/AIDS  Immunisation, water and sanitation, camp planning and shelter, outreach and home visitors  Antimicrobials, supportive treatment, national protocols, outreach / primary centres/ support to local systems, referrals  Diabetes, renal failure, cancers, home-based care, referrals, local protocols
S4:c:2	Standards and challenges for primary care in disasters and conflict environments	<i>The health services which play a central role in disaster response and involve the widest scope of health care</i>	Sphere guidelines for health care,  Principle of treatment of common diseases in large populations	WHO guidelines such as epidemic thresholds  Forward planning, considerations of host population needs and available resources



			<p>Issues of resource limitations</p> <p>Medicines management in disasters Support to local systems / provision of health posts / centres / clinics</p>	<p>Ministry of Health definitions if available, WHO definitions, definitions adapted to specific circumstances and resource availability</p> <p>Cold chain, supply chain, storage, expiry dates, WHO guidelines on donation standards, security, documentation Pros and cons of support to local facilities where existing vs developing parallel structures</p> <p>Human resources and sustainability; local HR structures, salaries, needs</p>
S4:c:3	Maternal and Child Health (see also S4:c:5 & S5:b:4 below)	<i>The special health demands of this vulnerable group</i>	<p>Reproductive health (see below)</p> <p>Immunisation</p> <p>MCH programmes (see primary care above)</p> <p>Mental health</p> <p>Gender-based violence (see also reproductive health - below)</p>	<p>Measles vaccination, Extended Programme Immunisation, cold chain, support to local structures</p> <p>Integration, support to local structures, links with nutrition, reproductive health, immunisation, psychosocial care</p> <p>Needs created by disaster and conflict environments, locally appropriate responses, referral services</p> <p>Potentially increased needs in disaster and conflict environments; prevention; treatment and follow up; local support programmes.</p>
S4:c:4	Reproductive health	<p><i>A state of complete physical, mental and social well-being, not merely the absence of reproductive disease or infirmity.</i></p> <p><i>Reproductive health deals with the reproductive processes, functions and system at all stages of life.</i></p>	<p>Minimum Initial Service Package (MISP)</p> <p>Safe Motherhood</p> <p>Sexual and Gender-based violence)</p> <p>Sexually Transmitted Diseases, including HIV/AIDS</p>	<p>Immediately available resources provided on the basis of best practice without the need for a complex needs assessment</p> <p>To enable women to go safely through pregnancy and childbirth.</p>

			Family Planning	To provide couples with the best chance of having a healthy infant; locally acceptable provision; religious considerations
			Young People	Special needs of adolescents
S4:c:5	Health of children	<i>The particular risks facing this especially vulnerable group in the disaster environment</i>	Vulnerable groups  Nutrition  Susceptibility to infectious disease  Chronic disease  Exploitation  Protection  Schooling & play	Unaccompanied children, children in work, child soldiers    See especially ARIs, measles, GI infections   Labour, sexual & gender based, child soldiers  Reunification, local networks, Min of SW, special programmes  Integration or special programmes, camp planning, designated resources, sport
S4:c:6	Health of the elderly	<i>The particular risks facing this vulnerable group in the disaster environment</i>		
S4:c:7	Health of the disabled	<i>The particular risks facing this vulnerable group in the disaster environment</i>		
<b>(S4:d) The psychosocial and mental health implications of disasters</b>				
S4:d:1	Anticipated and pathological psychosocial reactions to severe stress	<i>Defining the range of people's reactions to stress in disasters</i>	The impacts of traumatic events (including displacement and asylum seeking) on families, children and older people and their common reactions to severe stress. This includes:	The concept of primary and secondary stressors;

			<ul style="list-style-type: none"> <li>a. Normal and pathological reactions to trauma and disaster;</li> <li>b. The common coping mechanisms that people of all ages use when faced with severe stress;</li> <li>c. Outline understanding of the impact of traumatic events on people's future psychosocial development;</li> </ul> <p>Cultural differences in coping.</p>	
S4:d:2	Psychosocial resilience	<i>Defining the nature of psychosocial resilience and the factors that protect people from the psychosocial and mental health implications of disasters</i>	<p>The nature of distress and differentiating it from mental disorders in response to traumatic circumstances.</p> <p>The definition of psychosocial resilience in the context of traumatic events and its 'personal' and 'collective' dimensions.</p> <p>A basic understanding of the concept of post-traumatic growth.</p>	
S4:d:3	Awareness of people's longer-term and/or problematic psychosocial reactions to trauma and mental disorders after traumatic events	<i>Knowledge about the broad range of psychosocial problems and mental disorders that can affect people after disasters</i>	<p>The core factors that increase the risks of people responding adversely, including developing mental disorders, after traumatic events in the short, medium and longer terms.</p> <p>The circumstances and/or disorders that require intervention delivered by: a.</p>	<p>Critical awareness of the literature</p> <p>This section must cover people of all ages</p>

			<p>every responder; and b. mental health specialists.</p> <p>A simple summary of the epidemiology, impacts and prognosis of the most common psychosocial responses and mental disorders.</p> <p>More information on only the mental disorders that are most frequent following traumatic events.</p>	
S4:d:4	<p>Awareness of contemporary doctrine on planning and delivering ethical and effective psychosocial and mental health care after disasters</p>	<p><i>Defining the steps in planning and delivering psychosocial and mental health care immediately after disasters and in the medium- and longer-terms</i></p>	<p>Awareness of the NATO-TENTS principles for psychosocial and mental health care for people affected by disasters, war, terrorism, and displacement. This includes:</p> <ul style="list-style-type: none"> <li>a. A broad outline of the NATO-TENTS principles for good practice in planning and delivering psychosocial and mental health care for people affected by disasters;</li> <li>b. Awareness of NATO's strategic stepped model of care;</li> </ul> <p>Awareness of the importance of, and challenges for ethical practice of trauma-care;</p> <p>Awareness of the methodological and ethical challenges of research during disasters, war and all other traumatic events.</p>	<p>TENTS is an EU-funded programme</p> <p>Common cross-agency issues</p> <p>Good multi-agency working practices</p> <p>May include reference to the new Sphere Handbook on its publication (it is in revision presently) and to forthcoming WHO guidance</p>

<p>S4:d:5</p>	<p>Preventing psychosocial problems and mental disorders and early psychosocial interventions with communities and families</p>	<p><i>Prevention and initial community- and family-orientated psychosocial responses by agencies including certain specific interventions with people who have psychosocial problems</i></p>	<p>The psychosocial importance of restoring communities and priorities for action.</p> <p>The concept of re-traumatisation and its relevance to psychosocial and mental health care.</p> <p>General approaches to planning and delivering effective psychosocial interventions for communities that have been affected by disasters and major incidents of all kinds.</p> <p>The roles of schools and work.</p> <p>Providing information following traumatic events.</p> <p>Psychological first aid and its components.</p> <p>An outline of the evidence for screening for, and preventing post-traumatic disorders.</p>	<p>The importance of good communication skills</p> <p>Doing no further harm</p> <p>Psychosocial care that all responders can and should deliver</p>
<p>S4:d:6</p>	<p>Evidence-based interventions for common post-traumatic psychosocial problems and mental disorders</p>	<p><i>An outline of good practice for non-mental health service staff including awareness of what does and does not work in assessing and treating people who develop post-traumatic mental disorders</i></p>	<p>The principles of an evidence-based approach to preventing, recognising and treating post traumatic mental disorders</p> <p>Critical knowledge of, and basic skills in assessing and intervening with people who are affected psychosocially or who develop mental disorders</p> <p>Recognition of common problems (includes rape/sexual abuse).</p>	<p>Critical awareness of key lessons from the evidence and from experience</p> <p>For trained non-mental health service practitioners</p>

			<p>Core principles of assessment including basic psychosocial and psychiatric assessment and triage</p> <p>A plain guide to what interventions work for whom and which do not.</p> <p>Critical decisions about intervening.</p>	To include when not to become engaged in delivering psychosocial and psychiatric interventions
S4:d:7	Caring for responders to disasters and major incidents		<p>Awareness of the psychosocial risks run by people who respond to disasters.</p> <p>The principles of supporting appropriately professional responders to disasters.</p> <p>Outline awareness of the current evidence for the effectiveness or otherwise of interventions to support professional responders after disasters.</p>	
S4:d:8	Anticipated and pathological psychosocial reactions to severe stress	<i>Defining the range of people's reactions to stress in disasters</i>	<p>The impacts of traumatic events (including displacement and asylum seeking) on families, children and older people and their common reactions to severe stress. This includes:</p> <p>d. Normal and pathological reactions to trauma and disaster;</p>	The concept of primary and secondary stressors;

			<p>e. The common coping mechanisms that people of all ages use when faced with severe stress;</p> <p>f. Outline understanding of the impact of traumatic events on people’s future psychosocial development;</p> <p>Cultural differences in coping.</p>	
<p><b>Module 5: The Disaster and Conflict environment</b></p> <p>Non-medical concepts and subjects important for the understanding and management of catastrophes</p>				
<p><b>(S5:a) Coordination and control of humanitarian actors, codes of practice</b></p>				
S5:a:1	UN Cluster system, sectoral issues	<i>Groupings of UN agencies, non-governmental organizations (NGOs) and other international organizations around a sector or service provided during a humanitarian crisis</i>	<p>Lead organization (agency) concept</p> <p>UN and other agencies</p> <p>The eleven clusters (sectors)</p>	<p>Office for the Coordination of Humanitarian Assistance (UNOCHA), United Nations Commission for Refugees (UNHCR)</p> <p>Humanitarian Co-ordinator</p> <p>Inter-Agency Standing Committee (IASC),</p> <p>Protection, Camp Coordination and Management, Water Sanitation and Hygiene, Health, Emergency Shelter, Nutrition, Emergency Telecommunications, Logistics, Early Recovery, Education and Agriculture,</p>





		<i>treatment of the victims of war.</i>		Equality of medical effort based on clinical need rather than any other consideration
S5:b:3	Ethics of humanitarian action	<i>The ethical principles underlying humanitarian activities</i>	Ethics of civilian humanitarian action  Tensions in the humanitarian arena  Conflict affected societies and humanitarian action  Ethics of military humanitarian operations	Do no harm ethos
S5:b:4	Gender issues	<i>Identification and analysis of relationships between men and women, their roles, privileges, statuses and positions</i>	Roles of men and women in the societies affected  Vulnerable groups  Gender based violence	Impact on relief programmes (e.g. suitability and use of staff of different sexes)
<b>(S5:c) Stakeholders: UN, NGOs, ICRC, host nation actors, donor nations, refugees/IDPS, military</b>				
S5:c:1	Refugees & Displaced Persons	<i>Individuals who have been forced to flee their homes and have either crossed an internationally recognised border (refugee) or are still within the borders of their home state (IDP)</i>	Definitions of Refugee and IDP	<i>Refugee</i> – a person who “owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion, is outside the country of his nationality, and is unable to or, owing to such fear, is unwilling to avail himself of the protection of that country”. <sup>1</sup>  <i>IDP</i> – persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural

			<p>Non-refoulement</p> <p>Wars, civil strife etc leading to displacement</p> <p>Groups at risk</p> <p>Repatriation and re-settlement</p>	<p>or human-made disasters, and who have not crossed an internationally recognized State border</p> <p>A principle in international law, which concerns the protection of refugees from being returned to places where their lives or freedoms could be threatened.</p> <ul style="list-style-type: none"> <li>• Internally Displaced Person</li> <li>• Refugees</li> <li>• Asylum seekers</li> <li>• Health implications of displacement</li> <li>• Ages and sexes of displaced</li> </ul> <ul style="list-style-type: none"> <li>• Infants &amp; Children &lt;5Y</li> <li>• Nursing mothers</li> <li>• Pregnant women</li> <li>• The elderly</li> </ul>
S5:c:2	<p><b>Conflict &amp; the care of detainees and POWs</b></p>	<p><i>The Conventions governing the treatment of detainees and POWs</i></p> <p>(See also Module 5:c1)</p>	<p>Geneva Conventions</p> <p>Health care of POWs and detainees</p> <p>Role of ICRC</p> <p>Ethnicity and healthcare</p>	<p>Relative to the Treatment of Prisoners of War</p> <p>Relative to the Protection of Civilian Persons in Time of War</p>
S5:c:3	<p><b>Host nations</b></p>	<p><i>Rights and duties of nations in which disasters are or have occurred and in which humanitarian</i></p>	<p>Relief commissions</p> <p>Role of ministries</p>	<p>Links with UN, NGOs, military</p>

		<i>aid agencies are operating</i>	Co-ordination of humanitarian activities by host nation	
S5:c:4	Agencies involved in relief work	<i>All those operational organisations whose work is based on the principle of humanity: to prevent and alleviate human suffering wherever it may be found ... to protect life and health and to ensure respect for the human being</i>	<p>International Supranational Governmental Intergovernmental NGOs</p> <p>Importance of co-operation</p> <p>Avoidance of duplication of effort</p> <p>Interoperability difficulties</p> <p>Co-ordination of humanitarian activities</p>	
S5:c:5	Working with the military	<i>The role that military forces can and should play in relief operations in natural disasters and complex emergencies</i>	<p>Complex humanitarian emergencies and the actors involved</p> <p>How military forces operate</p> <p>Military as aid workers</p> <p>Key documents</p> <p>Erosion of separation between military and humanitarians</p> <p>OCHA Continuum of Engagement</p>	<p>Military organisation - Chain of command Military doctrine Peace support operations Post conflict stabilisation operations</p> <p>Military Relief Operations, CIMIC, Hearts and Minds</p> <p>Oslo protocol MDCA protocol Tswalu dialogue</p>

			<p>What humanitarians need from military forces</p> <p>Information sharing</p> <p>Bilateral military assistance</p> <p>UN peacekeeping operations</p> <p>Role of NATO</p>	<p>Secure environment, safe travel, removal of mines &amp; UXO, safe water, logistic support, medical support</p> <p>Links between UN forces and UN humanitarian agencies</p>
S5:c:6	Donors	<i>Sources of funding for humanitarian and development aid programmes</i>	<p>Governmental</p> <p>Multinational</p> <p>Private</p> <p>Bilateral donations</p> <p>Criteria &amp; Governance by donors</p> <p>Evaluation of programmes</p> <p>Funding and applications</p>	<p>(e.g. DfiD, USAID, JICA, AusAid etc.).</p> <p>(e.g. ECHO)</p> <p>Log frames</p>
<b>(S5:d) Media</b>				
S5:d:1	The media:	<i>Working with the media and in environments where the media are active.</i>	<p>Policy for dealing with the media</p> <p>Managing the media</p>	<p>Use of Radio</p> <p>TV</p> <p>Newspapers</p> <p>Fliers</p> <p>Gossip net (churches, mosques, markets etc)</p> <p>Home base TV and other Media</p> <p>Individual reports</p> <p>Personal letters</p> <p>Briefs</p>

			<p>National and international media - agendas</p> <p>Media training</p>	<p>Visits</p> <p>Home-based media</p> <p>Identification of messaging / lines to take from HQ – must fit in with Mission. Images, titled and dated Liaison with journalists Arranging of co-ordinated visits</p> <p>Local media – local agendas</p> <p>Identification of key message from Mission team cleared through HQ – must fit in with Mission Inviting of influential figures and visit days Liaison with journalists Liaison with Ministry of Health / local govt</p> <p>Interviews and techniques</p>
<b>(S5:e) Chemical, biological, radiation and explosive hazards (CBRNE)</b>				
S5:e:1	Environmental industrial hazards (EIH)	<i>Dangers resulting from large scale accidental releases of toxic industrial hazards (TIH) or from long term pollution of the environment, water supplies etc.</i>	<p>Environmental pollution</p> <p>Nature of release</p> <p>What is affected</p>	<p>Types: Organic chemicals including pesticides, Heavy metals</p> <p>Continuous a different concentrations Catastrophic due to industrial accident</p> <p>Water, air, land and food chain</p>
S5:e:2	Overlap between EIH and CBRNE		<p>CBRN / EIH spectrum and the concept of CBRNE3 (Explosives, Environmental and Endemic)</p>	<p>Overlap between EIH and CBRN</p> <p>Signs of a deliberate release (CBRN) compared to natural or accidental</p>

S5:e:3	Deliberate use of CBRNE agents	<i>Use of toxic chemicals, biological agents, nuclear weapons or radioactive materials as warfare agents or as instruments of terrorism</i>	Types of agents  Delivery methods  Properties	Chemical Nerve agents Irritants Choking agents Biological Bacteria Viruses Toxins Radiation Alpha, Beta, Gamma, X-ray, Neutrons Chemical Persistency Biological Lethal or incapacitating Infecting dose, incubation period, pathogenicity, transmissibility Radiation Acute radiation syndrome Local radiation injury
S5:e:4	Management of acute EIH/CBRNE incidents	<i>Methods for removing biological agents, chemicals or radiation from individuals or the environment</i>	Safety  Cordons  Assessment  Triage  Casualty Hazard Management	Personal protective equipment  Hot / warm and cold zones  Scene assessment (detect) Casualty assessment (diagnose)  CBRN triage methods  Contain Decontamination Isolation Quarantine Restriction of Movement
S5:e:5	Treating those affected by CBRNE			Application of CABCADE to CBRN casualties Management of concurrent trauma Chemical 'Toxidromes' and pattern recognition

				<p>Clinical investigations Supportive management Definitive management (antidotes)</p> <p>Biological Syndromic approach to biological agents Supportive and definitive management Use of antimicrobials, antitoxins, vaccines post-exposure</p> <p>Radiation Supportive management Management of acute radiation syndrome Replacement therapy Immunotherapy Stem cell and bone marrow transplant</p>
<b>(S:5:f) Management of specific types of or aspects of disasters</b>				
S5:f:1	Disasters in the urban environment	<i>Increases in urban populations, especially in resource poor settings poses major challenges for disaster reduction and disaster response</i>	<p>Definitions:</p> <p>Disasters and the rural environment</p> <p>Urban and rural areas and disasters</p> <p>Why consider urban areas?</p>	<p>City, town, Urban agglomeration, Conurbation, Metropolitan area</p> <p>Recent emphasis on the rural environment.</p> <ul style="list-style-type: none"> <li>• Urban and rural cannot be considered separately - most disasters impact both</li> <li>• Many links between both areas relevant to disasters</li> <li>• Concentration of: <ul style="list-style-type: none"> <li>– population (over half the world’s population now lives in urban areas)</li> <li>– homes and other buildings</li> <li>– transport infrastructure</li> <li>– industry</li> </ul> </li> <li>• Problems and opportunities for disaster risk reduction and humanitarian assistance</li> <li>• Often more ‘government’ in urban areas</li> <li>• More market pressures</li> </ul>

			<p>Disaster risk in urban environment</p> <p>Vulnerability in Urban Populations</p> <p>Housing in deprived communities</p> <p>Loss of housing exacerbates poverty</p> <p>Urban populations and poverty</p> <p>Making cities resilient</p>	<ul style="list-style-type: none"> <li>• Low-income groups struggle to find jobs and affordable accommodation and health services</li> <li>• Environmental hazards</li> <li>• Disease (communicable &amp; non-communicable)</li> <li>• Fires</li> <li>• Industrial/technological accidents</li> <li>• Crime</li> </ul> <p>The nature of urbanised areas magnifies many of these hazards</p> <ul style="list-style-type: none"> <li>• Inability/unwillingness of authorities to act</li> <li>• Living in high-risk areas - limited capacity to reduce risk</li> <li>• High-income nations:             <ul style="list-style-type: none"> <li>– Disasters - low loss of life, large economic loss</li> </ul> </li> <li>• Low- and middle-income nations:             <ul style="list-style-type: none"> <li>– Disasters - large loss of life, lower economic loss (can be catastrophic due to poverty)</li> </ul> </li> <li>• Provides family and social life, privacy and safety, place of work access to income and services</li> <li>• Location often more important than its size, quality or legality.</li> <li>• Rehousing - relocation and loss of local contacts, familiar social structures, easy access to earning opportunities</li> <li>• Very large increase in urban poverty, mostly in low- and middle-income nations, in recent decades</li> <li>• ca. 1 billion urban dwellers live in poor-quality, overcrowded housing in slums or informal settlements (UN)</li> <li>• Urban poverty can dramatically increase premature deaths and serious injuries due to dangerous, overcrowded housing lacking infrastructure and services (Vulnerability).</li> </ul> <ul style="list-style-type: none"> <li>• Organization, coordination, funding</li> </ul>
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S5:f:2	Mass gatherings	<p><i>A large number of persons at a specific location for a specific purpose for a defined period of time, in numbers sufficient to strain the planning and response resources of the community, state or nation hosting the event</i></p>	<p>Types</p> <p>Preparation</p> <p>Health risks and challenges</p> <p>Surveillance</p> <p>Response systems</p>	<p>Spontaneous</p> <p>Planned</p> <ol style="list-style-type: none"> <li>1. One off</li> <li>2. Recurrent different locations</li> <li>3. Recurrent same location</li> </ol> <p>Detailed planning</p> <p>Infrastructure development</p> <p>institutional adaptation</p> <p>development of SOPs for a range of potential threats</p> <p>advance testing of plans, procedures, systems and personnel training</p>
S5:f:3	Mass casualty events	<p><i>Events that generate more patients at one time than locally available resources can manage using routine procedures, and which require exceptional emergency arrangements and additional or extraordinary assistance</i></p>	<p>Nature of event</p>       <p>Response</p>	<p>Organised mass gathering</p> <p>Football matches, other sporting gatherings, religious events, airshows</p> <p>Spontaneous</p> <p>Riot</p> <p>Unexpected</p> <p>Road, rail, air crashes. Collision/sinking at sea, terrorist attack, building collapse, earthquake, tsunami, volcanic eruption</p> <p>Command and Control</p> <p>On site services</p> <p>specialist responders</p> <p>Emergency Medical Services</p> <p>Ambulances</p>

				<p>A&amp;E departments                  Provision of hospital beds                  Fire Services                  Security Services                  SOPs                  Communications systems</p>
S5:f:4	Dealing with the dead	<i>The health and other implications of dealing with the dead</i>	<p>Health aspects</p> <p>Disposal of the dead</p> <p>Other key items</p>	<p>Role of deceased in transmission of disease</p> <p>Religious factors                  Different disposal methods                  Handling of cadavers                  Preparation of cadavers</p> <p>Legal                  Psychosocial                      Survivors                      Bereaved                      Emergency services</p> <p>Cultural</p>
<p><b>Module 6: Management and protection of teams and team members</b>                  The core knowledge and understanding required to ensure the safe, efficient and effective operation of individuals and groups attending a disaster or supporting a society affected by conflict.</p>				
<p><b>(S6:a) Team formation and leadership</b></p>				
S6:a:1	The principles of strategic leadership and management	<i>Taking overall responsibility for the strategic direction coordination and control of teams through planning and responding to the</i>	<p>Strategic leadership and management in disaster scenarios</p> <p>Recognition and understanding of major relief</p>	<p>Basis and boundaries of strategic authority to prioritise and act, longer term planning</p> <p>Operating with own and host government, understanding culture and mission of agencies and importance of preservation of 'humanitarian space'.</p>

		<p><i>disaster or supporting a society affected by conflict.</i></p>	<p>agencies (Govt, IO, NGO) and their mandates.</p> <p>Mobilisation and utilisation of local community resources</p> <p>The importance of strategic leadership</p> <p>The role of strategic management - including ability to negotiate and co-ordinate within wider response The relationship between 'leadership' and 'management'</p> <p>Needs-led resource allocation and management in disaster scenarios (especially as regards healthcare)</p> <p>Equity</p> <p>Coping with incomplete/limited resources and services</p> <p>Setting priorities</p> <p>Essential supplies/equipment/drugs</p> <p>Proper reporting and documentation</p>	<p>Assessing potential of local resources including logistics</p> <p>Seven Core Strategic Leadership Competencies</p> <ol style="list-style-type: none"> <li>1. Direction, vision, mission, strategies and values</li> <li>2. Alignment</li> <li>3. Example and role model issues</li> <li>4. Developing people at all levels</li> <li>5. Effective communication</li> <li>6. As change agents</li> <li>7. Action in crisis and ambiguity.</li> </ol> <p>The 4 'Cs' - Command, Control, Coordination, and Computers (and up to date intelligence/information) Awareness of the strategic environment</p> <p>Needs assessment process, prioritization, allocation and logistics mechanisms/systems including stock security, storage requirements e.g. cold chain, inventory control and resupply.</p> <p>Concept of equity, ethics (utilitarianism/deontology) Local community engagement and security issues</p> <p>Managing scarcity and expectations of population, innovation, maximising safety/morale of team</p> <p>Dynamic process to take account of changing situation in short, intermediate, and long term</p> <p>Rapid and ongoing assessment process, action plan; Public Relations to avoid unsuitable/inappropriate donations of supplies etc.</p> <p>Reporting/documentation system with clear policies and administrative support</p>
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<p>S6:a:2</p>	<p><b>Leadership components</b></p>	<p><i>The skills of and requirements for the leadership role</i></p>	<p>Tactical/Team Leadership Role Leader Identification/Selection</p> <p>The roles and responsibilities of team members to both their leaders/managers and their colleagues</p> <p>Qualifications</p> <p>Recognition of early symptoms of psychological stress within the individuals/the team and its management</p> <p>Relationships with head office, other agencies, governments, military etc.</p> <p>Hiring and firing</p>	<p>Achieving the Task, Building and Maintaining the Team, Developing the Individual</p> <p>How 'groups' become 'teams' and the risks involved in that process. The appropriate means of dissolving teams at the end of a mission.</p> <p>Defining and exercising different types/styles of leadership to meet different circumstances.</p> <p>Leadership competencies (including communication skills, situational awareness/sensitivity awareness of group dynamics, conflict resolution, synergy and maintenance of good morale Appropriate team behavioural norms. Stress – understanding occupational stress and specific stresses of the humanitarian work/environment</p> <p>Recognising signs of excessive stress, mental ill-health – anxiety, depression, PTSD; drugs/alcohol abuse, sexual relations</p>
<p>S6:a:3</p>	<p><b>Human resources and Training</b></p>	<p><i>Who to select, how to select them and what training may be needed</i></p>	<p>Importance of human resources (HR) in dealing with disasters and societies affected by conflict</p>	<p>Determining HR requirements – team/local recruitment Matching numbers with needs of programme and qualifications required</p> <p>HR Plan – organisation chart, and organisational communication rules.</p> <p>Job profiles e.g. home visitors in a refugee programme</p>

				<p>Staff policies - terms and conditions</p> <p>Selection procedures</p> <p>Training – assessment of training needs &amp; delivery</p> <p>Induction, supervision, co-ordination</p> <p>Evaluation/appraisal</p> <p>Specific issues – Refugee workers, health workers, expatriate staff e.g. in refugee programmes</p>
<b>(S6:b) Security</b>				
S6:b:1	Personal & Group security	<i>Keeping the individual and the team safe from harm</i>	<p>Types of hazard</p> <p>Awareness of hazards</p> <p>Briefings</p> <p>Booking in and out</p> <p>“Bounds and boundaries”</p> <p>Communications systems</p> <p>Risk avoidance</p>	<p>Road Traffic Accidents</p> <p>Mines, boobytraps and UXO (Unexploded ordnance)</p> <p>Firearms and cutting/stabbing weapons</p> <p>Radios and radio procedures</p> <p>Driver training and selection</p> <p>Defensive driving</p> <p>Environmental considerations (terrain, ice, road surfaces, volume of traffic etc.).</p> <p>Vehicle maintenance</p> <p>Vehicle equipment (fuel, food, water, spare parts, bedding, ropes, tools, spades, lighting, sand channels)</p> <p>Radios (VHF/Short wave), Knowledge of radio procedures</p> <p>Personal protective equipment</p>

			<p>Vehicles</p> <p>Hostage taking</p>	<p>Ballistic standard:                  Helmet                  Eye protection                  Torso, including high energy-exchange chest plates (Kevlar/ceramic)                  Fragment vest                  Neck collar                  Limb protection                  Genital protection                  NB above do not protect against shock wave effect</p> <p>Under-vehicle protection                  Kevlar/other armour for vehicle body</p> <p>a) conduct on capture                  b) procedures on kidnap of group personnel</p>
S6:b:2	First Aid	<i>The need of all involved in organisation to be able to contribute at a basic level to the main mission</i>	<p>Emergency First Aid training</p> <p>Provide appropriate first aid kits</p>	<p>Train relevant individual team members                  Basic first aid                  Use of equipment supplied                  Training of local staff</p> <p>Ensure contents are in date</p>
S6:b:3	Field briefings	<i>Key topics that should be covered in pre-mission briefings</i>	<p>Individual health and safety</p> <p>Key general topics:</p>	<p>Personal hygiene                  Drink/drugs                  Sexual behaviour                  Known risks                  Environmental                  Animals and plants                  Local diseases                  Security/threats                  Traffic                  Crime</p> <p>Cultural, Social, Gender and Religious                  Political (Strategic and Local)</p>

<b>(S6:c) Planning, co-ordination, logistics, communications, administration, reporting,</b>				
S6:c:1	Planning and resource allocation		Extent of problem Nature of problem Local abilities Other Agencies Priorities  Planning stages  Interface and co-ordination with Governmental bodies locally  Interface with other NGOs	Role of health intelligence and on-site assessment  Risk Assessment: What might happen? Surveillance: How will we know when it happens? Response: What will we do when it happens?  Recognition that other non-medical actors (eg Civil engineering and logistics) may have a role to play in reducing wider health risks.
S6:c:2	Co-ordination		Co-ordination of teams Co-ordination with other agencies	
S6:c:3	Logistics	<i>A system whose purpose is to deliver the right supplies, in good condition in the quantities requested, in the right places and at the time they are needed</i>	Procurement  Transport  Storage	Sources Guidance from WHO/PAHO Supply Management System (SUMA) Problem interfaces: Dependence upon others for supplies – coordination essential  Importation Customs Transport management Bureaucracy Corrupt officials Value of supplies  Warehousing Protection of medical supplies

			<p>Distribution</p> <p>Finances</p> <p>Accommodation</p> <p>Interpreters</p> <p>Monitoring and audit</p>	<p>Setting up transportation systems</p> <p>Cold chain management</p> <p>Offices &amp; Accommodation</p> <p>To reduce the risk of wastage of commodities and of fraud.</p>
S6:c:4	Communication systems		<p>Requirements</p> <p>Options</p>	
S6:c:5	Reporting		<p>Preparation and writing of reports</p> <p>Timings</p>	<p>Essential content</p> <p>Weekly, annual, final</p>
<p><b>(S6:d) Maintenance of the health of persons and teams including emergency care of team members (local &amp; expatriate) and their medical evacuation</b></p>				
S6:d:1	Maintenance of the health of staff groups	<i>Ensuring the physical and mental health of teams</i>	<p>Awareness of specific hazards and briefings</p> <p>Selection of personnel</p> <p>Monitoring individual persons</p> <p>Who looks after the leader?</p> <p>Primary and secondary care of team members including procedures for their evacuation home.</p>	<p>Diet, water intake, rest and sleep, alcohol, drugs, sexual health</p> <p>Identifying people who are sufficiently at risk physically or psychosocially for their involvement in certain missions and events to be inappropriate</p> <p>Nominated individual responsible for compliance, 'buddy' system</p>



<p>S6:d:2</p>	<p>Personal protection against disease: general activities</p>	<p><i>Measures to protect team members and the team as a whole against disease</i></p>	<p>Prevalent/endemic diseases                      Pre-existing diseases                      Additional susceptibilities                      Education on avoidance                      Exclusion of persons who are at greater risk                      Current medications                      Vaccination                      Personal protection of water sources                      Domestic environmental health considerations                      The concept of primary, secondary and tertiary prevention</p>	<p>Universal precautions, protocols re needle stick injuries etc., what medicine are kept in 'first aid kit' expense and expiry dates</p> <p>Primary prevention—those preventive measures that prevent the onset of illness or injury before the disease process begin</p> <p>Secondary prevention—those preventive measures that lead to early diagnosis and prompt treatment of a disease, illness or injury to prevent more severe problems developing</p> <p>Tertiary prevention—those preventive measures aimed at rehabilitation following significant illness..</p>
<p>S6:d:3</p>	<p>Protection against vector borne diseases</p>	<p><i>Measures to protect the individual team members and the team as a whole against vector borne disease</i></p>	<p>Vectors                      Personal protection.                        Group protection.</p>	<p>Arthropods (insects, ticks, mites), rodents</p> <p>Bite avoidance, Nets and sprays,                      Chemoprophylaxis (Antimalarial and other prophylaxis, caveats and alternatives, Side effects of prophylactic agents)                      Clearance of static water, residual spraying, disposal of waste</p>

S6:d:4	Water requirements per person per day	<i>Minimum volumes of water required to maintain health, ensure hygiene and for food preparation</i>	Quantity and quality <ul style="list-style-type: none"> <li>• Survival</li> <li>• Basic needs</li> </ul> Longer term needs Monitoring of intake Incremental requirements with climatic and work rate differences	Sphere minima
S6:d:5a	Psychosocial care for responders to disasters and major incidents: a). general principles	<i>Principles that impact on the requirements for providing psychosocial care for responders to humanitarian disasters and best practice in providing that care</i>	Awareness of the psychosocial risks run by people who respond to disasters. The nature of psychosocial resilience The principles of supporting appropriately professional responders to disasters. Outline awareness of the current evidence for the effectiveness or otherwise of interventions to support professional responders after disasters.	Examples include the NATO six level strategic stepped approach to psychosocial care for responders and the principles promoted by the Antares Foundation Importance of social support but avoidance of single session psychological debriefing (Cochrane review)
S6:d:5b	Psychosocial care for responders to disasters and major incidents: b). caring for oneself	<i>Activities to help team members to deal with the tensions inherent in, and common emergent stressors that arise when delivering humanitarian work in disasters</i>	The nature of psychosocial resilience: developing and sustaining one's own psychosocial resilience Personal psychosocial coping methods and preventative measures	Cross-refer to the section on 'The psychosocial and mental health implications of disasters' which is applicable to staff who respond to disasters and major incidents Coping with one's own distress without becoming immobilised Early recognition of risk to self

			<p>Awareness of the psychosocial risks for responders</p> <p>Self-awareness skills</p>	
S6:d:5c	<p>Psychosocial care for responders: c). caring for groups of people</p>	<p><i>Activities to help team leaders and teams to deal with and reduce the impact of primary and secondary stressors on the emotional wellbeing, psychosocial needs and mental health of responders</i></p>	<p>The nature of psychosocial resilience: developing and sustaining teams' collective psychosocial resilience</p> <p>Leadership and observation of teams</p> <p>Daily briefings/debriefings</p> <p>Imposition and maintenance of routines including those for:</p> <ul style="list-style-type: none"> <li>• Sleep and rest periods</li> <li>• Alcohol/drug misuse avoidance</li> <li>• Recreation</li> <li>• Links with home for all team members</li> </ul>	<p>Cross-refer to the section on 'The psychosocial and mental health implications of disasters' which is applicable to staff who respond to disasters and major incidents</p> <p>Importance and role of leadership but also the skills of being led</p>