Emergency and Critical Care for Universal Health Coverage

Information session for member states
27 October 2022
Emergency and Critical Care for Universal Health Coverage

Moderator: Dr Teri Reynolds, Unit Head, Clinical Services and Systems

- **Welcome Address** Dr Rudi Eggers, Director, Integrated Health Services

- **Emergency and Critical Care Toolkits** Dr Lee Wallis, Lead Emergency Care, Clinical Services and Systems

- **Country Case Study: Ethiopia** Dr Alegnta Gebreyesus Guntie, Attaché (health affairs), Permanent Mission of the Federal Democratic Republic of Ethiopia, Geneva

- **Strengthening services through emergency and critical care: Maternal and child health** Dr Allisyn Moran Unit Head, Maternal Health Unit

- **Questions & Answers** Dr Teri Reynolds, Unit Head, Clinical Services and Systems

- **Wrap up and end of session** Dr Lee Wallis, Lead Emergency Care, Clinical Services and Systems
Welcome Address

Dr Rudi Eggers
Director, Integrated Health Services
Emergency preparedness and response

Health systems: emergency-care systems

Strengthening emergency and essential surgical care and anaesthesia as a component of universal health coverage
Emergency care systems for universal health coverage: ensuring timely care for the acutely ill and injured

Strengthening health emergency preparedness and response in cities and urban settings
Emergency and Critical Care Toolkits

Dr Lee Wallis
Lead Emergency Care, Clinical Services and Systems
Emergency, critical and operative care services for effective primary care

Teri A Reynolds,† Ann-Lise Guisset,‡ Suraya Dalil,§ Pryanka Relan,∥ Shannon Barkley∥ & Edward Kelley∥

Integrated, people-centred service delivery

- Emergency, Critical and Operative care services
- Linked to communities through Primary Care
- Communication, transport, referral and counter-referral

ECO-system

- These services and the mechanism that links them to the people who need them

Primary Health Care approach

- Longitudinal primary care relationships at the centre of the ECO-system
- Ensures timely and appropriate access to needed care across the life course
Emergency care for 10 SDG targets

3.1 Maternal Mortality: **Treat obstetric emergencies**
3.2 Under-five mortality: **Treat acute paediatric diarrhea and pneumonia**
3.3 Deaths from malaria and other diseases: **Treat acute infections and sepsis**
3.4 Reduce premature mortality from NCDs: **Treat acute exacerbations of NCDs**
3.5 Strengthen treatment of substance abuse: **Emergency care and harm reduction**
3.6 Halve road traffic deaths and injuries by 2020: **Post-crash care**
3.8 Achieve UHC: **Emergency care is essential**
3.9 Deaths and illnesses from hazardous chemicals: **Treat acute exposures**
11.5 Deaths caused by disasters: **Preparedness and response for resilience**
16.1 Violence-related deaths: **Treatment for victims of violence**
Integrated Clinical Care- IC2
WHO’s Integrated Clinical Care (IC2) Guidance

Learning programs and Toolkits

- Primary care
- Emergency & critical care
- Operative care
- Models of care & organization of services

- Clinical decision & process tools with syndrome-based approaches
- Standardized clinical encounter forms
- Patient encounter forms and checklists
- Data Sets
- Clinical registry
All around the world, acutely ill and injured people seek care every day. Frontline providers manage children and adults with injuries and infections, heart attacks and strokes, asthma and acute complications of pregnancy. An integrated approach to early recognition and management reduces the impact of all of these conditions. Emergency care could address over half of the deaths in low- and middle-income countries.

 foundational functions
National Roadmap: Areas targeted for priority action

Available Tools and Resources

Developing Prehospital Systems
- Standards & Protocols for prehospital systems
- EMT Toolkit
- Mass Casualty Management Course

Strengthening surge capacity
- WHO Clinical Forms
- WHO Registry IRTEC
- WHO clinical checklists

Standards for QI and data
- WHO Basic Emergency Care Course
- EU Management Course

Emergency Care Training
- Inter-agency Integrated Triage Tool

Formal Triage and Other Protocols
- Policies to improve access to emergency care
- Country sharing of legislation

Policies to improve access to emergency care
Prehospital Toolkit

- Standards and protocols to run operations
- Medical control manual to oversee care

Basic Ambulance Provider course to train providers to deliver care

Assessment tool to identify gaps in the service

Medicine and equipment lists to ensure care can be provided

Community First Aid Responders (CFAR)
Basic Emergency Care (BEC) Course
Clinical training for frontline healthcare workers

Interagency Integrated Triage Tool
Prioritize patients according to acuity level

Resuscitation Area Designation
Optimize delivery of emergency care to the sickest patients

Emergency Care Checklists
Ensure consistent quality trauma and medical care

Standardized Clinical Forms
Improve emergency unit documentation and data collection
Basic Emergency Care course
Going live!

You suspect a patient may have taken opioids, but you need to check that they haven’t overdosed. Which of the following presentations is most consistent with an opioid overdose?

Select the correct answer and select Submit.

- Chest pain, hypoxia and an elevated respiratory rate
- Cough, fever and tachypnoea
- Decreased respiratory rate, hypoxia, small pinpoint pupils
- Hypoxia, abnormal movement of the chest wall

Submit

Key learning points

<table>
<thead>
<tr>
<th>Breathing</th>
<th>Signs of abnormal breathing or hypoxia</th>
<th>Give oxygen. Assist ventilation with BVM if breathing NOT adequate.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheeze</td>
<td>Give salbutamol. For signs of anaphylaxis: give IM adrenaline.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Signs of tension pneumothorax (absent sounds / hyperresonance on one side WITH hypotension, distended neck veins)</td>
<td>Perform needle decompression, give oxygen and IV fluids. Will need chest tube</td>
</tr>
<tr>
<td></td>
<td>Signs of opiate overdose (AMS and slow breathing with small pupils)</td>
<td>Give naloxone.</td>
</tr>
</tbody>
</table>

WHO Academy digital learning platform
INTERAGENCY INTEGRATED TRIAGE TOOL: Age ≥ 12

1. CHECK FOR RED CRITERIA
   - Unresponsive
   - Airway & Breathing
     - Staccato
     - Respiratory distress* or central cyanosis
   - Circulation
     - Capillary refill >3 sec
     - Weak and fast pulse
     - Heavy bleeding
     - HR <50 or >150
   - Disability
     - Active convulsions
     - Any two of:
       - Altered mental status
       - Hypothermia or fever
       - Seizures
       - Hypoglycaemia
   - Other
     - High-risk trauma*
     - Poisoning ingestion of dangerous chemical exposure*
     - Threatened limb*
     - Snakes bites
     - Acute chest or abdominal pain (≥50 years old)
     - ECG with acute ischaemia (if done)
     - Violent or aggressive
   - Pregnancy with any of:
     - Heavy bleedings
     - Severe abdominal pain
     - Seizures or altered mental status
     - Severe headache
     - Visual changes
     - SBP ≤160 or DBP ≥110
     - Active labour
     - Trauma

2. CHECK FOR YELLOW CRITERIA
   - Airway & Breathing
     - Any swelling/swelling mass of mouth, throat or neck
     - Wheezing (no red criteria)
   - Circulation
     - Vomits everything or ongoing diarrhea
     - Unable to feed or drink
     - Severe palor (no red criteria)
     - Ongoing bleeding (no red criteria)
     - Recent fainting
   - Disability
     - Altered mental status or agitation (no red criteria)
     - Acute general weakness
     - Acute focal neurologic complaint
     - Acute visual disturbance
     - Severe pain (no red criteria)
   - Other
     - New rash worsening over hours or peeling (no red criteria)
     - Visible acute limb deformity
     - Open fracture
     - Suspected dislocation
     - Other trauma/burns (no red criteria)
     - Known diagnosis requiring urgent surgical intervention
     - Sexual assault
     - Acute testicular/scrotal pain or priapism
     - Unable to pass urine
     - Exposure requiring time-sensitive prophylaxis (e.g. animal bites, neevedodk)
     - Pregnancy, referred for complications

Patients with high-risk vital signs or clinical concern need up-triage or immediate review by supervising clinician.

3. CHECK FOR HIGH-RISK VITAL SIGNS
   - HR <60 or >150
   - RR <10 or >30
   - Temp <36° or >39°
   - SpO2 <92%
   - AVPU other than A

If any of these criteria are met, the patient should be moved to the high acuity resuscitation area immediately.

If none of these criteria are met, the patient should be moved to the clinical treatment area.

If the patient is considered to have a moderate risk, they should be moved to the low acuity or waiting area.
Trauma Care Checklist

Immediately after primary & secondary surveys:

- Is further airway intervention needed? (GCS 8 or below, hypoxaemia or hypercarbia, face, neck, chest or any severe trauma)
- Is there a tension pneumo-haemothorax?
- Is the pulse oximeter placed and functioning?
- Large-bore IV placed and fluids started?
- Full survey (and control of) external bleeding, including:
  - Assessed for pelvic fracture by:
  - Assessed for internal bleeding by:
  - Is spinal immobilization needed?
  - Neurovascular status of all 4 limbs checked?
  - Is the patient hypothermic?
  - Does the patient need (if no contraindication): urinary catheter, chest drain, nasogastric tube, none indicated

Before team leaves patient:

- Has the patient been given:
  - Tetanus vaccine, antibiotics, none indicated
- Have all tests and imaging been reviewed?
- Which serial examinations are needed?
- Plan of care discussed with:
- Relevant trauma chart or form completed?

WWW.WHO.INT/EMERGENCYCARE
# Ongoing activities in Emergency Care

<table>
<thead>
<tr>
<th>REGION</th>
<th>ECSA</th>
<th>ROADMAP</th>
<th>HEAT</th>
<th>BEC</th>
<th>REGISTRY</th>
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<tbody>
<tr>
<td></td>
<td>Overall 2022</td>
<td>Overall 2022</td>
<td>Overall 2022</td>
<td>Overall 2022</td>
<td>Overall 2022</td>
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<tr>
<td>AFRO</td>
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<td>4</td>
<td>7</td>
<td>2</td>
<td>5</td>
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<tr>
<td>EMRO</td>
<td>10</td>
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<td>7</td>
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<tr>
<td>EURO</td>
<td>7</td>
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<td>2</td>
<td>4</td>
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<tr>
<td>PAHO</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>SEARO</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>WPRO</td>
<td>7</td>
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<tr>
<td>Total</td>
<td>42</td>
<td>12</td>
<td>15</td>
<td>4</td>
<td>15</td>
</tr>
</tbody>
</table>

**National Roadmap: Areas targeted for priority actions**
- Developing Prehospital systems
- Strengthening surge capacity
- Standards for QI and data
- WHO Basic Emergency Care Course
- WHO Registry IRTEC
- WHO clinical checklists
- Inter-agency Integrated Triage Tool
- WHO clinical checklists
- Policies to improve access to emergency care
- Formal Triage and Other Protocols
- Inter-agency Integrated Triage Tool
- WHO basic checklists
- Policies to improve access to emergency care

**Available Tools and Resources**
- WHO Basic Emergency Care Course
- WHO Registry IRTEC
- WHO clinical checklists
- Inter-agency Integrated Triage Tool
- WHO basic checklists
- Policies to improve access to emergency care
- Formal Triage and Other Protocols
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- Policies to improve access to emergency care
# Trauma Care Checklist

## Adapted for Mass Casualty Incidents

### Immediately after primary and secondary surveys:

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>Done</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full survey for (and control of) external bleeding including:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- LIMBS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- SCALP</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>- PERINEUM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- BACK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is further airway intervention needed?</td>
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<td></td>
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<tr>
<td>May be needed if:</td>
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<tr>
<td>- GCS 8 or below</td>
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<tr>
<td>- Hypoxaemia or hypercarbia</td>
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<tr>
<td>- Face, neck, chest or any severe trauma</td>
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<tr>
<td>Is there a penetrating wound to the chest or high risk of tension pneumo-haemorrhax?</td>
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<tr>
<td>Is the pulse oximeter placed and functioning?</td>
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<td></td>
<td></td>
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<tr>
<td>- YES, DONE</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>- NOT AVAILABLE</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Large bore IV placed and fluids started?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>- YES, DONE</td>
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</tr>
<tr>
<td>- NOT INDICATED</td>
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<td></td>
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</tr>
<tr>
<td>- NOT AVAILABLE</td>
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<tr>
<td>Clinical evidence of internal bleeding?</td>
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<tr>
<td>- YES, RECORDED</td>
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<tr>
<td>- NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is pelvic immobilization needed?</td>
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<tr>
<td>- YES, DONE</td>
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<tr>
<td>- NOT INDICATED</td>
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<tr>
<td>Limb fractures immobilized and neurovascular status of all 4 limbs checked?</td>
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<tr>
<td>Is spinal immobilization needed?</td>
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<td></td>
</tr>
<tr>
<td>- YES, DONE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- NOT INDICATED</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Is the patient hypothermic?</td>
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</tr>
<tr>
<td>- YES, WARMING</td>
<td></td>
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<tr>
<td>- NO</td>
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<td></td>
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<tr>
<td>Does the patient need (if no contraindication):</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>- URINARY CATHETER</td>
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<tr>
<td>- NG TUBE</td>
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<tr>
<td>- CHEST DRAIN</td>
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<tr>
<td>- NOT INDICATED</td>
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</tr>
</tbody>
</table>

### Before team leaves patient:

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>Done</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the patient need:</td>
<td></td>
<td></td>
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<tr>
<td>(administer now if available or mark as needed on the referral form)</td>
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<tr>
<td>TETANUS VACCINE</td>
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<tr>
<td>ANALGESICS</td>
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<tr>
<td>ANTIBiotics</td>
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<tr>
<td>NONE INDICATED</td>
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<tr>
<td>Patient documentation completed?</td>
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<tr>
<td>YES, DONE</td>
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<td></td>
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<tr>
<td>Transfer documentation completed?</td>
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<tr>
<td>YES, DONE</td>
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</tr>
</tbody>
</table>
- Essential Resources for Emergency and Critical Care
- Critical Care Course

• Sepsis learning program
Critical Care Course

Contents

1. Introduction, principles, monitoring
2. Airway
3. Acute respiratory failure
4. Shock
5. Altered mental status
6. Nutrition and fluids
7. Setting up a critical care bed in your hospital
Collected 1 year of baseline data on key emergency conditions: paediatric diarrhoea, paediatric pneumonia, road traffic accident, post-partum haemorrhage, asthma.

Implemented BEC, Triage, Checklists, Resuscitation Area Designation.

Mubende and Kawolo Hospitals

1 year of post intervention data

Routine Triage

Resuscitation Area

Trauma Care Checklist
Country Case Study: Ethiopia

Dr Alegnta Gebreyesus Guntie
Attaché (health affairs)
Permanent Mission of the Federal Democratic Republic of Ethiopia, Geneva
Strengthening services through emergency and critical care: Maternal and child health

Dr Allisyn Moran
Unit Head, Maternal Health Unit
Questions & Answers

Dr Teri Reynolds
Unit Head, Clinical Services and Systems
Wrap up and end of session

Dr Lee Wallis
Lead Emergency Care, Clinical Services and Systems
Thank You

For more information please contact: Lee Wallis: Lead Emergency Care at emergencycare@who.int

who.int/emergencycare