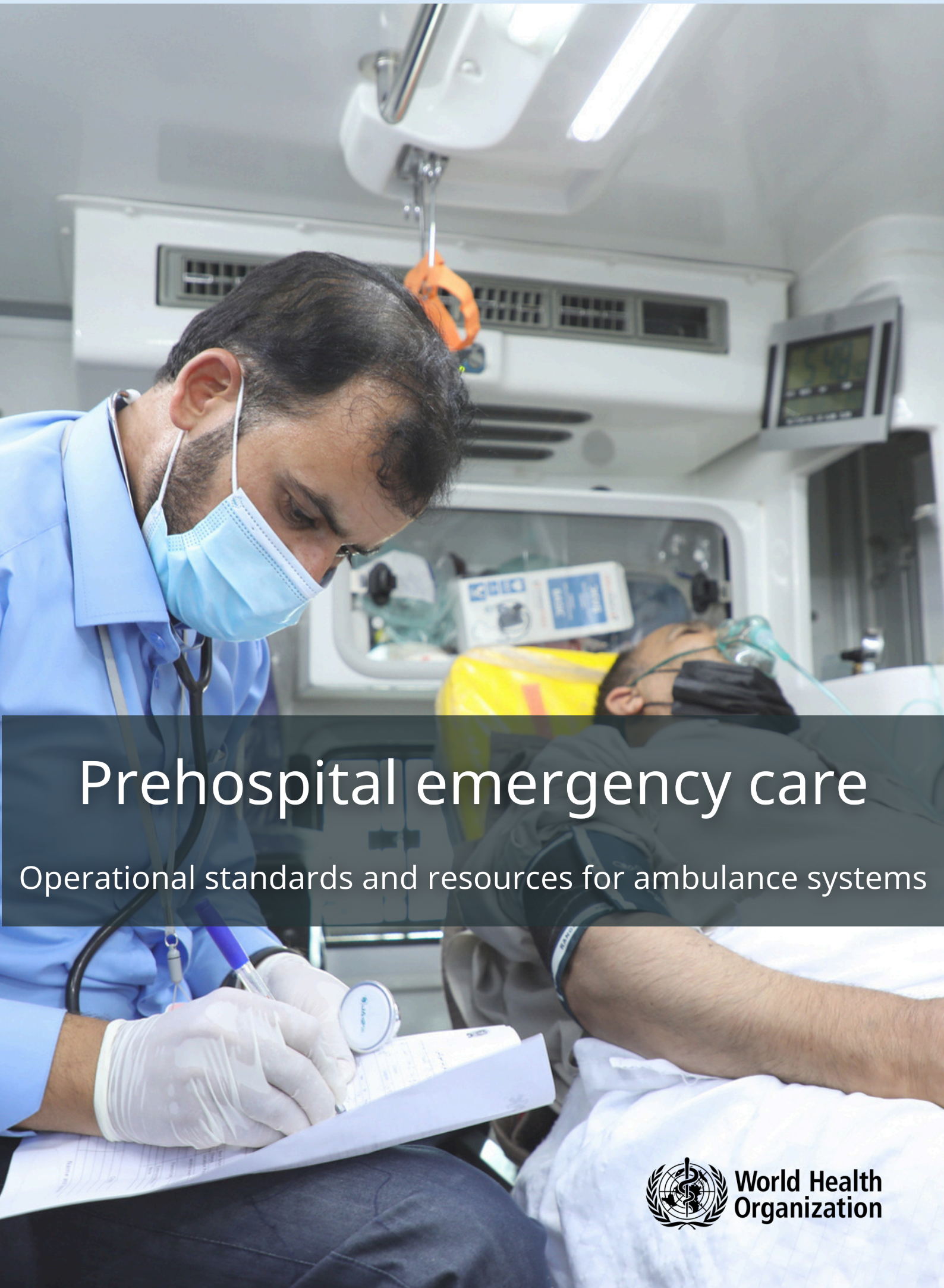

Prehospital emergency care

Operational standards and resources for ambulance systems

World Health Organization

Contents

Abbreviations

ALS	advanced life support
APP	advanced prehospital provider
BLS	basic life support
BPP	basic prehospital provider
CFAR	community first aid responder
DNR	do not resuscitate
ECS	emergency care system
EMS	emergency medical services
MCI	mass casualty incident
MCO	medical control officer
PP	prehospital provider
PPE	personal protective equipment
QI	quality improvement
WHO	World Health Organization

Introduction

These operational standards and resources are extracted from WHO's *Prehospital emergency care: operational guidance for ambulance systems*, which is available at WHO's prehospital webpage.

By providing best practices and adaptable standards and protocols, these resources seek to support systems at various stages of development, ultimately improving clinical outcomes. The resources presented here should be adapted to fit countries' needs based on local context, laws, and regulations.

The resources cover key operational processes and protocols for ambulance services across a range of prehospital topics. Some resources provide guiding principles to support local authorities to develop context-appropriate materials. Others are ready to use forms, templates and guidance that can be directly implemented into ambulance systems, but they should be adapted as needed to fit local regulations, customs and practices. As an example, scope of practice of basic and advanced providers -- and therefore the medications and equipment they require on their vehicles -- will vary by country and the associated resources presented here should be amended as appropriate.

If you wish to amend the resources provided here for local use, please email us for editable versions: emergencycare@who.int.

Standards for ambulance systems

World Health Organization

System regulation standards

1. Purpose and process

I. ***Purpose:***

The purpose of this standard is to review the process by which relevant authorities periodically review and revise standards and protocols. [***Insert names of locally relevant authorities here.***]

II. ***Definitions***:

A. **Emergency Care System (ECS):** The subset of the health-care system that responds to emergency health conditions. The ECS covers system activation, first aid, prehospital care, facility-based emergency care and the legislation and policies that govern emergency care.

B. **ECS regulatory authority:** The agency mandated by the government and health authorities to oversee emergency care. Depending on the context, pre-hospital and facility emergency care may be governed by the same or different agencies.

C. **ECS regulatory authority advisory committee:** A committee comprised of local stakeholders (independent from the ECS regulatory authority) that advises the ECS regulatory authority.

D. **ECS regulatory authority director:** While the title of this person may differ by region, the term is used in this document to refer to the person in charge of the ECS regulatory authority, who oversees the entire ECS (including the prehospital component) in the region and determines policy on how the standards are implemented in the region.

E. **Medical control:** A system of clinical governance that provides real-time (online) and protocol-based (offline) medical direction to PPs to ensure that patient care meets agreed standards.

F. **Prehospital Provider (PP):** An individual who is certified and registered by the ECS regulatory authority to provide clinical services.

III. ***Policy***

A. The ECS regulatory authority is responsible for those in the health system who access emergency care, including the prehospital system. This body is responsible for reviewing prehospital standards and clinical protocols, adapting them to local conditions according to local regulations and legislation and overseeing their implementation by PPs.

B. The ECS regulatory authority reviews each prehospital standard and clinical protocol and, after evaluation of the capabilities of the PPs in their jurisdiction, sets the level(s) of care to be provided and completes each document with the specification where noted. [***Insert local regulations and/or legislation here.***]

C. The ECS regulatory authority establishes a process to review and update the prehospital standards and clinical protocols, as follows. Local regulations and legislation for prehospital standards and clinical protocols may be updated as frequently as necessary for efficient administration and operation of the prehospital component of the ECS, ideally every 2 years.

D. The ECS regulatory authority institutes a method for including public comments by PPs and other relevant organizations (e.g. public safety agencies, medical professional organizations, prehospital patients, health-care facilities) in their decisions. The authority adheres to these procedures in order to provide consistent, provider-informed, outcome-based improvements in prehospital care. A process should also be established to solicit and include feedback from standard users in a regular, pre-determined, publicized manner to continuously include advances in the science of prehospital care at all levels in these standards.

IV. ***Public comment:***

A. The ECS regulatory authority director, with the medical director (if not the same), shall follow local procedure for approval of the final, locally appropriate standard by local governmental authorities. See operational resource: *Recommended public comment process for local components of prehospital standards and clinical protocols*.

V. ***Policy release without public comment:***

A. The ECS regulatory authority shall reserve the right to make minor revisions to policies without public comment in order to ensure administrative continuity of the prehospital component of the ECS. Minor revisions include grammatical or format editing and/or minor corrections to outdated information.

B. The ECS regulatory authority director may immediately and without prior notice implement a new or significantly revised standard to protect public health and safety. Standards released under these circumstances shall be valid for [***Insert local specified interval, suggested minimum of 90 days***] from the initial effective date and shall be released for [***Insert local specified interval, such as 30 days from the initial effective date***] days for public comment according to procedures outlined in operational resource: *Recommended public comment process for local components of prehospital standards and clinical protocols*.

C. The ECS regulatory authority director may extend a policy without public comment once, for a period of [***Insert local specified interval, such as 180 days***] days from the initial effective date.

VI. ***Process for exemption from a policy:***

A. A request by a PP for exemption from a policy must be submitted in writing to the ECS regulatory authority director, including the reasons for the

requested exemption and substantive supporting documentation to justify the request. At the request of the ECS regulatory authority director, the ECS regulatory authority advisory committee will review the request at their next scheduled meeting to determine approval or denial of the request.

B. The ECS regulatory authority will review the exemption request, the supporting documentation and recommendations to determine whether to approve or deny the request. The ECS regulatory authority director will notify the PP of a decision within [***Insert local specified interval, such as a minimum of 60 days***] days of the date of the advisory committee review. The decision of the ECS regulatory authority director is final.

VII. *Standards distribution:*

A. The ECS regulatory authority is responsible for distributing the final standard to PPs by email, posting on its website or other available means.

B. All ambulance services are responsible for:

1 distributing new or revised standards to staff before the implementation date and providing training on all relevant standards; and

2 making a standards manual available to employees (paper or electronic version).

2. Prehospital emergency care coordinating authority

A prehospital response requires the collaboration of many government bodies (health, infrastructure, security), and coordination of these groups is important. In this standard, "government" refers to the relevant government of the jurisdiction and "health authority" to the relevant health authority for the jurisdiction. While the prehospital response may be governed by several government sectors, the clinical aspects of the regulatory functions should be under the jurisdiction of governmental health agencies, at a minimum.

I. ***Purpose:***

The purpose of the prehospital emergency care coordination standard is to define the relations among government, health authority, ECS regulatory authority, emergency medical service (EMS) and PPs.

II. ***Authority***:

[***Insert relevant local authorities here. ***]

III. ***Implementation management:***

ECS regulatory authority

IV. ***Definitions:***

A. **ECS regulatory authority:** The agency mandated by the government and health authorities to oversee emergency care. Depending on the context, pre-hospital and facility emergency care may be governed by the same or different agencies.

B. **EMS:** Any organization that is dedicated, staffed and equipped to provide prehospital emergency care, including public safety agencies, private ambulance companies and nongovernmental organizations.

C. **PP:** An individual who is certified and registered by the ECS regulatory authority to provide clinical services.

V. ***Standard:***

A. Governmental and health authorities shall determine regulations for prehospital emergency care and be responsible for designating the ECS regulatory authority.

B. The ECS regulatory authority must certify, accredit and keep a record of all EMS, training centres and receiving facilities.

C. The ECS regulatory authority shall ensure compliance of the EMS with all prehospital emergency care standards, including processes, equipment, vehicles, staffing and clinical protocols, as a condition of their accreditation or certification.

D. In all cases, organizations, vehicles and individual personnel must be accredited and certified by the ECS regulatory authority for the provision of prehospital services.

E. The ECS regulatory authority shall have a medical director or a provider with advanced emergency medicine experience to provide medical direction.

F. All EMS must be under the direction of an experienced clinical provider with advanced emergency care experience. [***Insert local regulations or legislation here.***]

G. The EMS shall provide data at the request of the ECS regulatory authority according to the quality improvement (QI) programme standard.

H. All ECS data must be shared with the ECS regulatory authority and may be shared, according to local protocols, for the purpose of improving care according to the QI programme standard.

VI. *Procedure:*

A. The ECS regulatory authority shall establish an advisory committee to ensure a systematic mechanism for regular inclusion of input from relevant entities, including academics, professional societies, PPs and other relevant technical experts.

B. The ECS regulatory authority will provide written documentation of initial and ongoing accreditation of EMS. EMS will provide a written commitment to maintain continuous compliance with all relevant standards throughout the period of accreditation.

C. Responses to requests for accreditation will be provided in writing within [***Insert local specified interval***] days.

D. The ECS regulatory authority shall develop a process for permitting all ambulances used by approved EMS to provide prehospital emergency care.

3. Training and certification of PPs

The ECS regulatory authority should determine the minimum standards for training and certification of PPs. The standards should be reviewed regularly (annually or biannually). The ECS regulatory authority should also set criteria for who is allowed to train as a PP. The criteria often include age, previous training, certification or education, and physical ability.

I. ***Purpose:***

The purpose of the standard is to define training, initial and in-service or continuing training, and certification requirements for dispatchers, first responders and basic and advanced PPs.

II. ***Authority:***

[***Insert relevant local authorities here***]

III. ***Implementation management:***

ECS regulatory authority
Ministry of education
Public educational institutions
Private and nongovernmental education institutions

IV. ***Definitions:***

A. **Advanced PP** (APP, also known as advanced ambulance provider)**:** A formal ECS health-care practitioner who has been trained in advanced prehospital care, holds a valid license and is certified by the ECS regulatory authority to function within a defined advanced scope of practice.

B. **Basic PP** (BPP, also known as basic ambulance provider)**:** A formal ECS health-care practitioner who has been trained in basic prehospital care, holds a valid license and is certified by the ECS regulatory authority to function within a defined basic scope of practice.

C. **Community First Aid Responder (CFAR):** Trained layperson certified as part of an organized system to provide simple initial care for the acutely ill and injured, including airway repositioning, control of external bleeding and splinting. Unlike a bystander who may have received training in first aid, a CFAR is part of an organized system and can be called upon to respond to an emergency scene by a specific, pre-arranged mechanism.

D. **Dispatcher:** An individual trained and certified in receiving emergency calls from the public and in determining the nature of the emergency, if applicable (for example, medical or other), registering the call, prioritizing the call and the PP response, providing the ambulance with the correct location of the call, when necessary, providing pre-arrival caller instructions and

coordinating communications as determined by the regulatory authority for the emergency care system (ECS).

E. **ECS regulatory authority PP certification register:** A listing of all PPs certified and permitted to work by the ECS regulatory authority.

F. **ECS regulatory authority training centre accreditation register:** A list of all prehospital training centres accredited by the ECS regulatory authority.

G. **EMS:** Any organization that is dedicated, staffed and equipped to provide prehospital emergency care, including public safety agencies, private ambulance companies and nongovernmental organizations.

H. **Initial training:** The education and training provided to student PPs before they are eligible for professional certification with the ECS regulatory authority (e.g. WHO Basic Ambulance Provider course).

I. **In-service training and continuous professional development:** Education and training provided to certified, registered PPs during their professional career to maintain, develop and enhance their knowledge and skills.

V. *Standard:*

A. This standard applies to all training centres operating under the authority of the ECS regulatory authority and all EMS, whether public or private.

B. For initial training:

1 All students will meet the requisite entry requirements as set forth by the ministry of education.

a Dispatchers must adhere to [***Insert local regulations and/or legislation here. ***].

b APP and BPP must be [***Insert local age requirement, such as a minimum of 18 years or older***] years of age and be certified as a BPP or APP [***Insert local regulations and/or legislation here.***].

2 The ECS regulatory authority will define standards, and review and revise them specifically [***Insert locally specified interval, such as a minimum of annually or biannually***] for:

a dispatchers and PPs (e.g. employment regulations, conduct) and

b training centres (e.g. training duration, QI standards).

3 The ECS regulatory authority will maintain up-to-date registers of:

a all certified PPs and

b all accredited training centres.

4 Training centres will be responsible for providing an approved curriculum and materials for students and instructors, for maintaining class rosters, for evaluating students' results and for copies of final certification documents.

C. For in-service training:

1 The ECS regulatory authority will set and regularly review in-service training requirements for ongoing certification of dispatchers, BPP and APP.

2 All registered PPs will undergo regular in-service training in line with locally agreed requirements [***Insert local regulations and/or legislation here. ***].

D. For ECS regulatory authority certification registers:

1 The ECS regulatory authority provider register will:

a include the details of all dispatchers, BPPs and APPs who have been certified and whether they are currently compliant with local requirements for continuous professional development;

b include documentation of any incident of noncompliance with protocols or other queries on patient care related to a specific provider according to the QI programme standard; and

c ensure that all PPs meet minimum criteria for certification, including age and education.

2 The ECS regulatory authority register of training centre accreditation will include records of all accredited in-service dispatcher and training centres, including any incidents of noncompliance with standards.

VI. *Procedure:*

A. The ministry of health or education will define the requisite entry requirements for initial training.

B. The training centre will confirm that all students meet defined entry requirements before enrolment in initial training.

C. The ECS regulatory authority will ensure that all training centres offer training courses for dispatchers, BPP and APP in accordance with agreed national curricula. See operational resource: *Training and certification of prehospital providers* and operational resource *Ambulance provider level and scope of practice*.

D. The ECS regulatory authority will accredit all training centres that offer initial and in-service training that comply with agreed standards and will maintain a register (the ECS regulatory authority training centre accreditation register) of such centres.

E. The ECS regulatory authority will keep records of all accredited training centres, including any incidents of noncompliance with standards.

F. For certification as a dispatcher:

1 All applicants must complete an application form and provide all the information requested on the form, in accordance with local procedures.

2 All applicants must complete a training course in prehospital emergency care and dispatch, including call taking, call prioritization, call dispatching, providing pre-arrival instructions, communications equipment and relevant local standards as required by the ECS regulatory authority [***Insert relevant details of application and submission here.***]

G. For certification as a CFAR:

1. All applicants must complete an application form and provide all the information requested on that form, in accordance with local procedures.
2. All applicants must complete a training course in patient assessment and treatment with assistance to the appropriate CFAR level, EMS organization policies and other system protocols and standards as required by the ECS regulatory authority [***Insert relevant details of application and submission here. ***]

H. For certification as a PP:

1. All applicants must complete an application form and provide all the information requested on that form, in accordance with local procedures.
2. All applicants must complete a training course in prehospital emergency care patient assessment and treatment to the appropriate basic or advanced level, EMS policies and other system protocols and standards as required by the ECS regulatory authority [***Insert relevant details of application and submission here. ***]

I. The applications, rosters, student evaluations and other materials will be available for ECS regulatory authority review according to the QI programme standard.

J. The ECS regulatory authority will oversee the practice and compliance of registered dispatchers, CFARs, BPPs and APPs. Depending on any infraction and its consequences, this may include education, remediation and/or professional sanctions as determined by the ECS regulatory authority.

4. Quality improvement programme

A robust QI programme is essential for all aspects of health care to ensure the safety and efficacy of services. Prehospital care is no exception. Locally relevant prehospital indicators should be evaluated to ensure the quality of care, and any gaps should be reviewed and addressed within a specified time.

I. ***Purpose:***

The purpose of the standard is to ensure systematic monitoring and evaluation to maintain efficient, effective, high-quality emergency care in the prehospital component of the ECS.

II. ***Authority:***

[***Insert relevant local authorities here.***]

III. ***Implementation management:***

EMS

IV. ***Definitions:***

- **A.** **Case review:** review of individual cases of prehospital care for timeliness and compliance with relevant prehospital standards and clinical protocols.
- **B.** **Prehospital patient outcome indicator:** direct indicator of the outcome of a patient's medical treatment.
- **C.** **EMS QI plan:** A plan developed, maintained and regularly reported by the EMS to the ECS regulatory authority so that it can evaluate the quality of care and services delivered and the utility of the QI measures used.
- **D.** **Prehospital system process indicator:** to measure prehospital system operations and performance.

V. ***Standard:***

- **A.** The ECS regulatory authority will create a mechanism for monitoring and continuously review the QIs. See operational resource: *Suggested prehospital quality improvement targets*.
- **B.** The ECS regulatory authority will maintain a case review reporting system for use by clinical providers, other personnel or other appropriate agencies to report incidents in the provision of prehospital emergency care. These include:
  - **1** unexpected patient death during or immediately after care;
  - **2** poor performance of patient care procedures, with either actual or potential poor patient outcome as a result;
  - **3** acute injury of a prehospital staff member on duty resulting in actual or potential poor patient outcome;

4 equipment or staffing failure resulting in actual or potential poor patient outcome;
5 failure to follow the patient reception protocol of the ambulance operation standard;
6 dispatch error (such as incorrect address) resulting in actual or potential poor patient outcome;
7 any prehospital staff assault or alleged patient assault;
8 ambulance crash resulting in staff or patient injury;
9 any instance in which concern about scene safety led to a delay in patient care;
10 any instance in which an ambulance was found not to meet organizational hygiene standards by the prehospital supervisor, ECS regulatory authority or independent health officials;
11 any instance in which pre-hospital ambulance staff were found to be intoxicated during duty hours; and
12 any instance in which an ambulance was missing while on duty, resulting in inability of the emergency communication and dispatch centre or prehospital supervisor to contact it.

C. The ECS regulatory authority will maintain a continuous QI advisory group composed of the medical director (and a Medical Control Officer (MCO) in a larger EMS), appropriate local government representative(s) and representatives of all EMS system providers. The group shall meet regularly every [***Insert local specified interval.***] to:
1 review QI indicators for the prehospital component of the ECS (see operational resource: *Suggested prehospital quality improvement targets*);
2 review summaries of ECS regulatory authority case reports; and
3 provide input to the ECS regulatory authority on any revisions to standards, clinical treatment protocols or training activities.

D. EMS QI plans must include the following:
1 appropriately trained and certified staff;
2 a log of daily ambulance use, including mileage and data on patient transport;
3 adequate functional equipment and supplies to ensure delivery of care according to prehospital emergency care treatment protocols, including maintenance of prehospital staff skills and competence;
4 documentation of medical care and operational requirements;
5 transport and facilities;
6 public education on prevention;
7 reporting of infectious diseases, reportable conditions or incidents;
8 QIs, including benchmarks as defined by the jurisdictional ECS regulatory authority; and
9 performance improvement plans with curricula to address any deficiencies identified in the QI programme.

E. The EMS should plan and demonstrate QI in measurable terms, as described in their QI plans.

F. The ECS regulatory authority shall regularly review the after-action reports required by the prehospital emergency care services for special events to ensure the adequacy of prehospital resources at special events in its jurisdiction.

G. The ECS regulatory authority must avoid conflict of interest, such as owning an EMS or receiving facility.

H. If there is any deviation from standards, the EMS shall seek approval from the ECS regulatory authority before such deviation.

VI. ***Procedure:***

A. Outcomes and process data are reviewed regularly by the ECS regulatory authority.

B. All recommendations from case incident reviews are tracked to completion of the stated goals.

C. All EMS must dedicate sufficient resources and staff to execute their QI plans.

D. Regular audits must be conducted on the quality of prehospital care delivery by the ECS regulatory authority or a designated governmental agency [***Insert local specified interval, such as for annual audits.***].

E. The ECS regulatory authority will report on progress in the QI plan to the relevant government authority, which in turn will monitor the ECS regulatory authority's QI management performance.

F. The ECS regulatory authority and the EMS will report prehospital data as required by the government authority [***Insert local specified interval, such as quarterly submissions.***].

G. The EMS shall regularly (for example, every month) document best cases as a part of reward and recognition of staff to support a culture of quality in prehospital care.

5. Protocol development and revision

As best practices and resources may change, protocols should be reviewed regularly within a specified time.

I. ***Purpose:***

The purpose of the standard is to provide a mechanism for ongoing revision of protocols and for the development of new protocols.

II. ***Authority:***

[***Insert relevant local authority here.***]

III. ***Implementation management:***

ECS regulatory authority

IV. ***Definitions:***

A. **Medical director:** The senior medical provider (often a doctor) who oversees and is responsible for all care in an ambulance service to ensure patient-centric, evidence-based medical care, with the goal of improved patient outcomes and public health. The medical director must be trained in prehospital emergency care standards and protocols and is responsible for ensuring that the PPs in the organization are up to date on current protocols and follow those protocols. The medical director is also responsible for reviewing cases for quality and addressing any issues that arise.

B. **Protocol**: Defined written guidance to be followed in specific situations, such as a clinical condition or an administrative situation.

V. ***Standard:***

A. The ECS regulatory authority is responsible for developing and updating policies and protocols for the administration and operations of the prehospital EMS. The medical director retains the final decision in matters pertaining to the planning, implementation and evaluation of all prehospital emergency care standards and protocols.

B. Standards and protocols shall be updated [***Insert local specified interval.***] to adapt to advances in the provision of emergency care.

C. A process shall exist for all stakeholders to propose changes or additions to the protocol.

D. When changes are made, it is the responsibility of the ECS regulatory authority to distribute information on the changes to all stakeholders and to ensure that training is updated to include any changes before they are implemented.

VI. ***Procedure:***

A. A protocol review committee should be formed that includes the medical director, representatives of the hospital emergency unit and representatives of both basic and advanced providers.

B. The committee should review all protocols [***Insert local specified interval. ***] to identify any changes to the practice of emergency care.

C. Once a required change is identified, comments should be solicited from the committee, and any changes should be voted on by the committee

D. The protocol committee will distribute any new or changed protocols to all emergency care services under its command, both to EMS and to local health facility emergency units. Each service is responsible for confirming that training has been provided on any new or changed protocols by all PPs before implementation of the protocol.

E. Any stakeholder in the prehospital system can submit a request for an addition to or modification of a protocol to the protocol review committee, which will respond to such a request within [***Insert local specified interval, such as 90 days***].

Ambulance operations standards

6. Ambulance provider level and scope of practice

Definition of a scope of practice for providers helps to standardize a system. Once BPP and APP levels have been defined, emergency care practitioners in facilities can better understand what can and cannot be done in the prehospital setting, and the transfers of care between prehospital and facility become smoother and safer for all. Some systems have more than two levels of PP. If this is the case, the standards below should be modified to reflect this.

I. ***Purpose:***

The purpose of the standard is to define the responsibilities and scope of practice of BPPs and APPs.

II. ***Authority:***

[***Insert relevant local authorities here. ***]

III. ***Implementation management:***

ECS regulatory authority

[***Insert local regulations and/or legislation here.***]

IV. ***Definitions:***

A. **APP** (also known as advanced ambulance provider)**:** A formal ECS health-care practitioner who has been trained in advanced prehospital care, holds a valid license and is certified by the ECS regulatory authority to function within a defined advanced scope of practice.

B. **BPP** (also known as basic ambulance provider)**:** A formal ECS health-care practitioner who has been trained in basic prehospital care, holds a valid license and is certified by the ECS regulatory authority to function within a defined basic scope of practice.

C. **EMS:** Any organization that is dedicated, staffed and equipped to provide prehospital emergency care, including public safety agencies, private ambulance companies and nongovernmental organizations.

D. **Scope of practice:** The procedures, actions and processes that a PP is permitted to undertake in keeping with the terms of their professional certification.

V. ***Standard:***

A. This policy applies to all PPs operating under the authority of the ECS regulatory authority, as either a BPP or a APP. Other tiers of PPs may be designated by local standards. [***Insert local standards here. ***]

B. All PPs shall operate within the scope of practice (BPP or APP) applicable to their level of certification or registration as designated by the ECS regulatory authority. Personnel shall not exceed their scope of practice. See operational resource: *Ambulance provider level and scope of practice*.

C. While working formally in a ECS, all PPs shall wear a standardized uniform (to be determined by the EMS) with their name and official qualification (determined by the ECS regulatory authority) clearly indicated.

VI. ***Procedure:***

A. The ECS regulatory authority shall:

1 organize administration of standardized testing for certification [***Insert local regulations and/or legislation here.***];

2 keep a register of accredited training centres for BPP and APP courses;

3 register all BPPs and APPs on central registries [***Insert local regulations and/or legislation here.***]; and

4 develop and publicize a process for amending the scope of practice of PPs.

B. In the event of a complaint about a PP performing care outside their scope of practice:

1 The complainant should have easy access to complaint registration.

2 The ECS regulatory authority will investigate each complaint and provide written feedback to the complainant within an agreed time according to the QI programme standard.

3 The ECS regulatory authority will initiate agreed corrective action for PPs found to be performing duties outside their scope of practice. Depending on the infraction and the consequences, this may include education, remediation and/or professional sanctions as determined by the ECS regulatory authority.

7. Prehospital emergency care response operations

A key element of a functional prehospital component of an ECS is that care and monitoring are provided during transport. It is not sufficient that a patient only be transported from one location to another. Therefore, there must be at least two personnel in an ambulance: one who is at least certified as a BPP and another to drive the ambulance. Often, both are certified PPs and may alternate driving and patient care from case to case. The driver must, however, at a minimum, be trained in first aid in order to be able to assist the PP on the scene and at the facility if necessary.

In settings where there is unreliable access to facility care, improving access to any form of transport may improve outcomes. Patient transport other than by ambulance is not a formal component of prehospital ECS, as care cannot be provided during transport

It is suggested that, for adequate ambulance supervision, one prehospital supervisor be available per 10 ambulances.

As ambulances are a significant investment and are often not available in sufficient numbers to meet needs, even in high-resource settings, ambulances should be used only for patients who require medical care whenever possible. They should therefore not be used for non-medical purposes or for transporting dead bodies (if there are local standards for declaring death before arrival at a hospital).

During large surge events, the EMS may be asked to provide assistance in areas outside those in which they usually work. Some regulations on certification or differences in scope of practice might prohibit this. In such systems, policy-makers should plan for possible surge and set mechanisms to facilitate ensure such support.

I. ***Purpose:***
The purpose of the standard is to describe the daily functioning and management of ambulance fleets to support prehospital care.

II. ***Authority:***
[***Insert relevant local authorities here.***]

III. ***Implementation management:***
EMS

IV. ***Definitions:***

A. **Access number (also referred to "universal access number"):** local telephone number that activates a prehospital provider (PP).

B. **ALS:** In addition to provision of all basic life support functions, provision of advanced care for a critically ill patient may include advanced airway management, advanced procedures such as chest drain placement,

administration of intravenous or intraosseous therapy and advanced patient monitoring. The scope of practice by provider level may differ by system.

C. **Ambulance:** Motor vehicle equipped to transport and provide patient care during transport for ill or injured patients. An ambulance must have two separate compartments including a driver compartment and a patient care compartment. Ambulances may be land, air, or water vehicles. All ambulances should be registered and accredited by the prehospital component of the Emergency Care System regulatory authority.

D. **Ambulance base station:** Location equipped to provide support for ambulance personnel and ambulance functioning, including provisions for restocking. In some systems, ambulance staging posts and ambulance stations have overlapping functions.

E. **Ambulance fleet:** The collection of ambulances operated under a specific emergency medical service (EMS).

F. **Ambulance receiving and drop-off area:** A location for dropping off patients accessible to ambulances at a receiving facility. Ideally, the site should be used only for ambulance reception. There should be a separate entrance for all other patients.

G. **Ambulance staging post or launch:** Designated area where ambulances await dispatch instructions to respond to calls. In some systems, ambulance staging posts and ambulance stations may have overlapping functions.

H. **BLS:** Provision of initial, non-invasive life-saving care, including basic airway repositioning, cardiopulmonary resuscitation (CPR), control of external bleeding and immobilization of the spine and fractures. The specific scope of BLS is determined nationally.

I. **MCO:** A provider with advanced experience in emergency care (often a doctor) who is authorized to provide remote advice to PPs. MCOs must not only meet clinical training requirements but should undergo specific training in the standards and protocols of prehospital emergency care. In smaller ambulance services, the function of MCO is covered by the medical director, whereas larger organizations may have two posts with separate functions, with the MCO reporting to the medical director.

J. **Non-ambulance patient transport vehicle:** Vehicle that is eligible to transport patients without providing care and is overseen by the local regulatory authority.

K. **Patient contact interval:** The time from when providers arrive on the scene and identify the patient until patient handover or until the patient no longer requires or desires transport or treatment.

L. **Patient encounter:** A patient's interaction with prehospital ECS, beginning with contact for initial dispatch and ending with patient handover or when the patient no longer requires or desires transport or treatment. Encompasses the entirety of the patient's contact with prehospital ECS.

V. ***Standard:***

A. Both public and private ambulance organizations shall have adequate financial resources to provide continuous prehospital care.

B. All ambulances must operate for an EMS and have a permit from the ECS regulatory authority.

C. Vehicles used to transport patients but cannot provide care are not considered to be ambulances.

D. Ambulances must have appropriate markings and safety and medical equipment that is functional at all times, as required by the supplies and equipment standard determined by the ECS regulatory authority.

E. Ambulance equipment must be sufficient to support basic life support (BLS) and advanced life support (ALS) at all times, as described in the supplies and equipment standard.

F. All ambulances must be staffed by at least two personnel. Each ambulance should have at least one BPP or APP who is trained and currently certified, who remains in the patient compartment to provide clinical monitoring and management during transport. The other must be a licensed, qualified driver with training in driving large emergency vehicles and must be, at a minimum, trained in first aid. Each driver should be trained specifically according to local protocols for driving an ambulance.

1 If there is only one trained PP, the driver must assist prehospital personnel on the scene (when not driving). All permitted ambulances shall operate within the ambulance service area of the jurisdiction, as defined by the ECS regulatory authority.

G. In special circumstances and with the approval of the ECS regulatory authority, both ambulances and PPs may work outside their service area (if applicable) and apply the standard of care appropriate to the circumstance [***Insert local regulations and/or legislation here.***].

VI. **Procedure:**

A. All patient care during a contact must be documented. See operational resource: *Prehospital standardized clinical form and reference card*.

B. Patient contact begins with assessment of an individual by prehospital personnel.

C. Patient contact ends when one of the following occurs:

1 The patient is formally handed over to a health worker in a facility.

2 The patient refuses transport and can complete a non-transport document or has appropriate DNR documentation, as described in the patient transport denial standard.

3 The unit is cleared from the scene by contact with an MCO, such as when a patient dies, the ambulance out of service or the patient flees.

D. Some ambulance dispatches do not result in patient contact, such as when:

1 No patient is present at the scene.

2 No service is requested at the scene.

3 The service requested is cancelled en route.

4. These situations must be recorded in the ambulance dispatch centre log as directed by the emergency communication and dispatch centre standard.

E. During patient contact, at least one PP must continually monitor the patient [***Insert local regulations and/or legislation here.***].

F. All ambulances must be inspected daily by their EMS personnel. A structured tool should be used to guide transition of ambulance shifts from one team to another. Handover is an opportunity to review the previous shift, identify and correct any deficiencies noted, confirm that the ambulance is adequately stocked, and ensure that the paperwork is complete. See operational resource: *Equipment and medication for basic and advanced ambulances*, and operational resource: *Ambulance shift handover*.

G. All personnel are responsible for ensuring that the vehicles they use are hygienic at all times.

1. Each vehicle is to be inspected and cleaned after conveying a patient**.** The last crew to use a vehicle will be held responsible for the state of cleanliness of that vehicle.
2. Ambulances must be cleaned at two levels: thoroughly once every 24 h and routinely after every patient call, according to cleaning standards. See operational resource: *Ambulance cleaning and decontamination*.

H. Receiving facilities must have an ambulance receiving area that can receive the patient and appropriate personnel, including security measures, to immediately take handover of the patient from the ambulance crew. The ambulance receiving area must have sufficient access to allow transport of a non-ambulatory patient into the facility for further care.

I. The ambulance fleet must be adequately supervised with a minimum of one prehospital supervisor on duty and be immediately available to prehospital personnel, dispatchers and medical directors for assistance.

J. The ECS regulatory authority will oversee practice and compliance and will take the necessary actions to improve compliance when standards are not met. [***Insert local ECS regulatory authority actions and penalties.***]

K. When possible, ambulances should be used only for patients who require medical care. To ensure that they are available for patients who need transport, they should not be used for nonmedical purposes or to transport dead bodies if there are local standards for declaring a death before arrival at a hospital.

L. Patients should be transported by an ambulance whenever possible to enable monitoring.

8. Destination policy

"Destination" refers to the facility to which PPs intend to deliver a patient. The term "destination triage" refers to deciding the most appropriate facility, given the patient's needs, if there are several facilities that can deliver appropriate care in the system. Certain patients might have to be taken to facilities that are not the closest; for example, a severely injured patient may require specific trauma care.

When such resources exist, the facilities should be identified and accredited by the ECS regulatory authority. Criteria should be defined for deciding when the closest facility should be bypassed for one with the relevant capability. In determining such criteria, considerations include clinical condition, family or physician preference (for example, if a patient has a complicated chronic illness and the treatment plan and all records are at a particular facility) or if the intended receiving facility is in ambulance diversion status (it currently cannot safely receive new patients). Patients whose condition is so unstable that they will probably not survive transport to a more appropriate hospital further away should be taken to the closest hospital for intervention before transfer to the intended facility. In these (and other locally designated conditions), the recommended policy is for the provider to call medical control for advice, although medical control clearance is not required if it is not feasible or available.

Additionally, the ECS regulatory authority should guide facilities on when ambulance diversion is and is not appropriate. At least in some settings, ambulance diversion is associated with increased population mortality; therefore, such a decision should not be taken lightly. Standardized criteria for ambulance diversion should be developed collaboratively and distributed to facilities.

Decisions on diversion should be made by a centralized entity, such as an emergency communication and dispatch centre, which has a broad perspective of the current availability of system resources. Diversion periods should be defined and should be as short as possible so that care capability can be re-established at the receiving facility. If a facility requests diversion, it should be responsible for informing the emergency communication and dispatch centre of their availability to accept patients in ambulances.

I. ***Purpose:***
The purpose of the standard is to identify approved ambulance transport destinations for [***Insert region***], and to delineate clinical, service-based or other criteria for when a patient should be transported to an appropriate health-care facility.

II. ***Authority:***
[***Insert relevant local authorities here.***]

III. ***Implementation management:***
EMS

Emergency communication and dispatch centres
ECS regulatory authority
Receiving facilities
Ministry of health

IV. ***Definitions:***

A. **Diversion:** A temporary state declared by a receiving facility indicating that the facility is experiencing conditions that limit its capacity to provide care and that ambulances should, when possible, transport patients to another facility. Facilities on diversion continue to accept patients who arrive by means other than ambulance. Diversion may be declared for various reasons, including crowding, human or material resource shortages or infrastructure failures.

B. **Do not resuscitate (DNR) order:** A formal document prepared in advance according to local regulations by which a person documents his or her refusal of specific life-saving interventions even if they are medically indicated. Local regulations should specify requirements for valid DNR documentation and the rights and responsibilities of providers with respect to DNR orders.

C. **Interfacility transfer:** Movement of a patient from one health-care facility to another in an ambulance or a non-ambulance transport vehicle.

D. **Mass Casualty Incident (MCI)** (also known as multiple casualty incident): An event that results in more patients at one time than can be managed by locally available resources with routine procedures (generally four or more victims). Examples include a road traffic crash, a building fire or a large-scale event such as an earthquake or mass toxic exposure.

V. ***Standard:***

A. Each system should have a clear protocol for guiding decisions on destinations. In some situations, a patient's needs are not best served by transport to the closest hospital, and an alternative destination is preferable. Such situations may depend on the patient's condition or on the service.

B. This policy applies to all PPs, emergency communication and dispatch centres, EMS (public, private and nongovernmental) under the regulatory authority of the ECS and all receiving health-care facilities (public, private and nongovernmental) under the authority of the ministry of health.

C. This policy does not apply to interfacility transport; however, if a patient becomes unstable during interfacility transport, the ambulance should divert to the nearest appropriate facility according to this standard.

D. Special considerations are required for:

1 pronouncement of death [***Insert local regulations and/or legislation here.***], which specifies:

a the appropriate destination for the patient;

b whether PPs are allowed to determine death; and,

c if so, clinical findings that allow prehospital determination of death. See operational resource: *Declaration of death and management of the deceased.*

2 those with DNR orders: Confirm the validity of the DNR paperwork and follow orders when confirmed.

3 those who refuse transport: follow local protocols and complete the relevant paperwork. See operational resource: *Transport or treatment refusal form*.

VI. ***Procedure:***

A. The choice of destination may be guided by distance, patient acuity or condition, destination capability or case-specific medical control guidance.

B. All patients are to be taken to the closest, most appropriate receiving facility. If the closest facility cannot deliver the required care, it can be bypassed to a higher level of care for certain patients. See operational resource: *Regional health facility capabilities* for a list of health facility capabilities in [***Insert location name.***]. The ECS regulatory authority is to maintain and regularly update this document.

C. Condition-specific destination guidelines may be created at the discretion of the ECS regulatory authority. These will be based on regional hospital capability. Examples of condition and service-specific protocols include trauma, neurosurgery and requirement for intensive care. If such guidelines are created, identified receiving facilities shall assist in guideline development, provider training and QI. See operational resource: *Condition-specific destination guidelines.* [***Insert local regulations and/or legislation here.***]

D. When a PP is uncertain about the most appropriate destination, advice should be sought from medical control, according to the medical control standard.

E. In an MCI, destination decisions should be based on the approved mass casualty destination plan. [***Insert local regulations and/or legislation here.***] See operational resource: *Mass casualty destination plan*.

F. Decisions on destination should adhere to local regulations. [***Insert local regulations and/or legislation here.***].

G. The ECS regulatory authority must ensure regular quality assurance of all ambulance destination decisions according to the QI standard.

H. All prehospital staff, including ambulance personnel and dispatchers, are to receive training in destination protocols and when to contact emergency communication and dispatch centres or medical control for assistance according to the training and certification of PP standards.

I. The ECS regulatory authority will oversee the practice of and compliance with this standard in all hospitals, EMS and emergency communication and dispatch centres and will take the necessary actions to improve compliance if the standards are not met. [***Insert local regulations and/or legislation here.***]

9. Supplies and equipment

This standard describes the supplies and maintenance necessary to ensure that ambulances are prepared at all times to respond safely and reliably to emergencies. The following guidance does not supersede any relevant government standards, and additional supplies and equipment, maintenance and checks may be necessary, depending on the setting. These should be added to the standards by local policy-makers.

I. ***Purpose:***

The purpose of the standard is to establish consistent minimum equipment and supplies standards for prehospital vehicles.

II. ***Authority:***

[***Insert relevant local authorities here.***]

III. ***Implementation management:***

EMS

IV. ***Definitions:***

A. **Ambulance:** Motor vehicle equipped to transport and provide care during transport of ill or injured patients. An ambulance must have two separate compartments: a driver compartment and a patient care compartment. Ambulances may be land, air or water vehicles. All ambulances should be registered and accredited by the prehospital component of the emergency care system regulatory authority.

B. **Roadworthy state:** The state of an ambulance that ensures that it operate safely on the road.

V. ***Standard:***

A. This policy does not supersede any relevant local governmental vehicle code or related requirements.

B. All ambulances shall be inspected by the ECS regulatory authority in order to receive a permit to operate in the local area. Inspections shall be carried out at the time of issuing of the initial permit and at set intervals thereafter. Ambulances must demonstrate compliance with the equipment standards in this policy to qualify for a permit, should be able to provide proper care and should have two-compartment designations [***Insert local regulations and/or legislation here.***].

C. Vehicles used by prehospital personnel should be in a roadworthy state. This includes but does not supersede any relevant government standard.

1 Lights, windscreen wipers, brakes, seatbelts, doors and warning devices must be functional.

2 The windscreen must not impair the driver's vision.
3 Tyres must have an appropriate tread and not be overly worn as to be dangerous for use.
4 The license or identification plate must be clear and visible according to government and/or regional standards.
5 A working fire extinguisher should be available at all times.
6 Fuel levels should be adequate for the expected use of the vehicle.
7 Oil, brake fluid, radiator water and battery should be maintained as per local public safety vehicle ordinance standards. [***Insert local regulations and/or legislation here.***]
8 All ambulances should be insured according to local standards (for example for collision and liability coverage). [***Insert local regulations and/or legislation here.***]
9 All ambulances should be fitted with appropriate, functioning personnel and patient restraints, including seatbelts, door locks and a stretcher lock.

D. All ambulances shall stock the prescribed equipment and supplies. See operational resource: *Equipment and medication for basic and advanced ambulances.*

E. The quantities of stocked supplies should be based on consideration of the amounts usually used during a shift plus additional quantities to maintain adequate supplies for periods of high demand or delays in restocking.

F. Every prehospital response vehicle should, when feasible, have appropriate equipment for maintaining the cold chain for medical supplies.

G. Every prehospital response vehicle shall have a telecommunication device such as a long-range radio of appropriate frequency, in compliance with [***Insert local regulations and/or legislation here.***].

H. Prehospital response vehicles shall not stock medications, medical devices or other supplies or equipment that has not been approved by the EMS.

VI. *Procedure:*

A. Each EMS shall create a checklist of equipment and medications for basic and advanced ambulances for every prehospital response vehicle. The list should include the minimum number of each type of equipment required on each unit according to the ambulance operations standard. See operational resource: *Equipment and medication for basic and advanced ambulances.*

B. PPs or other responsible crew members shall inspect their vehicle, ideally once before each working shift or at least once every 24 h, to verify that the minimum equipment is present on the vehicle. A crew member shall attest to the completeness of the inspection by signing a checkout sheet. The equipment and medication checklist for basic and advanced ambulances includes the minimum standard supplies and equipment.

C. The EMS shall maintain the equipment and medication checklist for basic and advanced ambulances in their records for [***Insert local specified interval.***].

D. QI should include equipment failure, deficiencies or vehicular defects as per the QI standard. Defects and faults are to be recorded on the vehicle checklist and immediately reported verbally to the shift supervisor. Both the respective crew member and the shift supervisor must sign and date the equipment and medication checklist for basic and advanced ambulances.

E. If the equipment in a prehospital vehicle is insufficient, the supervisor of the prehospital personnel who report to the EMS shall be alerted, and a replacement vehicle shall be procured, if possible, until the equipment shortage is resolved. If the equipment shortage or a vehicular malfunction identified is critical, the vehicle should be retired from service until the equipment shortage or vehicular malfunction is sufficiently addressed and resolved.

10. Medical control

Medical control consists of the provision of assistance to PPs who encounter a complex case by a senior provider (often a doctor). Protocols for automatic medical control contact (for example, when to give a particular medication) should be established, as should as the option to contact medical control when a PP is unsure of the best course of action in either determining the destination or managing a patient's care. Locally appropriate training standards should be developed for MCOs, who must be aware of what is and is not feasible in the prehospital setting and knows the scope of practice of PPs.

I. ***Purpose:***

The purpose of the standard is to define the role of medical control in the prehospital component of the ECS, and to establish medical, operational and staff standards for providing medical control to PPs.

II. ***Authority:***

[***Insert relevant local authorities here. ***]

III. ***Implementation management:***

ECS regulatory authority
Medical control facility

IV. ***Definitions:***

A. **Medical control:** A system of clinical governance that provides real-time (online) and protocol-based (offline) medical direction to PPs to ensure that patient care meets agreed standards.

B. **Medical control facility:** A medical or administrative facility that can maintain communication with PPs and holds records of the medical director's guidance to PPs; e.g. an emergency communication and dispatch centre.

C. **MCO:** A provider with advanced experience in emergency care (often a doctor) who is authorized to provide remote advice to PPs. MCOs must not only meet clinical training requirements but should undergo specific training in the standards and protocols of prehospital emergency care. In smaller ambulance services, the function of MCO is covered by the medical director, whereas larger organizations may have two posts with separate functions, with the MCO reporting to the medical director.

V. ***Standard:***

A. An MCO will be available 365 days/year, 7 days/week, 24 h/day to provide medical direction and consultation to prehospital personnel on patient treatment protocols, including:

1 direction on treatment, based on the PP report; and
2 consultation on medical questions.

B. All interactions between the MCO and prehospital personnel will be documented by both parties and the records stored for review. [***Insert local regulations and/or legislation here.***]

C. The ECS regulatory authority will specify the communication equipment to be used for all medical control calls. [***Insert local regulations and/or legislation here.***]

D. Only the MCO can authorize deviation from standards or clinical protocols by PPs.

VI. *Procedure:*

A. An MCO will provide remote advice in accordance with the MCO training programme, prehospital emergency care clinical protocols, prehospital emergency care standards and training designated by the ECS regulatory authority.

B. MCOs shall:
1 be licensed to practise in the appropriate jurisdiction;
2 complete a course in medical control;
3 be familiar with local prehospital emergency care clinical protocols; and
4 have passed an examination approved by the ECS regulatory authority.

C. The medical control facility will maintain a roster of MCOs and verify the MCO course and examination.

D. The medical control facility will have a QI plan to ensure that medical control is performed in accordance with this standard and will review all medical control calls for appropriate direction in accordance with the ECS regulatory authority QI plan.

E. The medical control facility will maintain a record of all medical control calls (See operational resource: *Medical control record*), including:
1 prehospital provider identification,
2 prehospital assessment,
3 interventions before contact and
4 medical direction given.

F. The ECS regulatory authority will specify a mechanism for maintaining all necessary communication equipment for real-time discussion between the MCO and PPs. [***Insert local regulations and/or legislation here.***]

G. MCOs must participate in the initial and continuous training of PPs.

11. Infection prevention and control

Infection prevention and control is a daily activity for all health-care providers. Standard precautions must be adhered to at all times and, depending on context, be complemented by precautions to prevent transmission. Policy-makers should adapt the standards to local circumstances. Examples of isolation precautions also include special forms of transport according to the isolation precautions required (e.g. airborne or droplets). For patients with certain highly contagious infectious diseases, only special ambulances and equipment should be authorized for use. Standards for special units will be developed with public health authorities appropriate to the circumstance.

I. ***Purpose:***

The purpose of the standard is to protect the PP, the public and the environment from infectious diseases

II. ***Authority:***

[***Insert relevant local authorities here.***]

III. ***Implementation management:***

EMS

IV. ***Definitions:***

A. **Deceased patient removal**: The management and transport of a deceased patient.

B. **Decontamination:** In the context of environmental cleaning, refers to removal or inactivation of dangerous substances or microorganisms from objects or people so they are safe for contact.

1 ***Routine cleaning of surfaces and equipment:*** removal of visible soil, organic and inorganic material from objects and surfaces, manually or mechanically, with water with detergents or enzymatic products.

2 ***Routine decontamination of patients and personnel for all exposures:*** decontamination of hands with an antiseptic hand rub or antiseptic handwash as necessary, adequate removal and disposal of PPE, adequate removal and disposal of contaminated clothing and other practices specified in local standards.

3 ***Decontamination of surfaces and equipment in special situations:*** cleaning, disinfecting and reprocessing reusable equipment and surfaces when actions beyond routine cleaning are required, such as for airborne, droplet, contact and bloodborne agents, and management of environmental exposures. The recommendations depend on the nature of transmission of the agent or vector to be removed or neutralized.

4 ***Decontamination of patients and personnel in special situations:*** infection control measures beyond routine cleaning according to decrease exposure to hazardous and infectious agents, including by removal or neutralization of contamination from airborne, droplet, contact, blood and environmental exposures.

C. **Health-care risk waste:** Infectious or hazardous by-products of a health-care facility that require special treatment, such as sharps, non-sharp items contaminated with body fluids, blood and body fluids, body parts and tissues, genotoxins, chemicals, pharmaceuticals and radioactive materials.

D. **Infection prevention and control:** Risk assessment and use of standard and transmission-based precautions to protect health-care providers from infection and to prevent the spread of infection.

E. **Personal Protective Equipment (PPE):** Equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. Such injuries and illnesses may result from contact with infectious, chemical, radiological, physical, electrical, mechanical or other hazards. Medical non-sterile and surgical sterile gloves, surgical masks, goggles or face shields and gowns are considered essential PPE that must always be available to a PP. Other types of PPE may be required in some circumstances.

F. **Post-exposure prophylaxis:** Treatment after occupational exposure to bloodborne pathogens such as HIV, hepatitis B virus and meningococcus to decrease the risk of disease transmission. The procedures for assessing the need for prophylactic treatment after exposure will depend on the employer.

V. ***Standard:***

A. This standard applies to all patients and prehospital personnel.

B. The policy for environmental cleaning of an ambulance must be clearly defined in a written policy, with standards and procedures agreed upon between the ECS regulatory authority, prehospital service provider organizations and relevant government and public health authorities. The procedures and responsibilities for cleaning and the frequency of cleaning must be clearly stated.

C. Proper PPE, cleaning supplies and health-care waste disposal equipment (including sharps containers) will be maintained in every ambulance according to the supplies and equipment standard.

D. All patient equipment that is exposed to patient bodily fluids must either be for single use or can be re-sterilized according to the guidelines of the local health authority, including emerging labour, delivery and perinatal care kits. [***Insert local regulations and/or legislation here.***]

E. If the prehospital emergency care team suspects a notifiable or highly contagious condition (e.g. Ebola virus disease or Severe Acute Respiratory Syndrome), local mechanisms for screening emergency patients should be followed and the appropriate local public health authority alerted. Follow special regular and/or special decontamination procedures according to the

local public health standards. [***Insert local regulations and/or legislation here.***]

F. The PP should receive the primary and booster vaccinations applicable for specific communicable diseases according to the local public health authority. [***Insert local regulations and/or legislation here.***]

G. If PPs are exposed to a highly contagious condition, they should undertake the applicable post-exposure procedures according to the local public health authority and should be reported to the ECS regulatory authority according to QI standards. [***Insert local regulations and/or legislation here.***]

H. PPs should inform the EMS if they have a contagious illness.

I. In a disease epidemic or pandemic, the EMS will support rapid response teams or integrated disease surveillance, as requested by the local public health authority.

J. In the case of outbreaks, the destination of transfer of patients should be determined according to the instructions of the local authority. [***Insert local regulations and/or legislation here.***]

K. Dead bodies will be managed and/or transported in accordance with the agreed ECS regulatory authority and government protocols. [***Insert local regulations and/or legislation here.***]

VI. ***Procedure:***

A. Prehospital personnel should use universal precautions for all patient contacts and should follow the direction of the ECS regulatory authority. See operational resource: *Standard precautions*.

B. Patients with possible public health-relevant or infectious diseases must be identified by the emergency communication and dispatch centre, the PP or the public health authority.

C. For patients with possible public health-relevant or infectious diseases, other PPE will be required for isolation, according to the relevant local public health authority standards [***Insert local regulations and/or legislation here.***]

1. The ECS regulatory authority shall be responsible for notifying all EMS of any such isolation standards.
2. The EMS shall be responsible for notifying and protecting their PPs according to any such isolation standards.

D. Highly infectious patients should be transported according to the ambulance operations standards.

E. If a PP becomes aware that a patient has been exposed to an infectious disease, they must immediately follow the appropriate decontamination and prophylaxis procedures and report the exposure to the ECS regulatory authority and the local public health authority according to the QI standard.

F. The EMS must be able to dispose of biomedical waste collected during patient care or ambulance patient transport safely in predetermined, appropriate waste disposal facilities.

G. The ECS regulatory authority in coordination with the local public health authority should set the standard of infection control. The EMS should be

compliant with the ECS regulatory authority standards, and the ECS regulatory authority should enforce those standards.

H. The EMS should provide training in infection control in accordance with the ECS regulatory authority. Failure to maintain current training will result in ECS regulatory authority action.

I. Ambulance compartments, including patient compartments, should be cleaned according to the ambulance operations standards. See operational resource: *Ambulance cleaning and decontamination*.

J. Dead bodies should be managed and/or transported in accordance with local policy. [***Insert local regulations and/or legislation here.***]

12. Scene safety

The safety of PPs is paramount. If they are injured, not only do they become new patients but the health workforce available to take care of the population is reduced. Sometimes, however, patients pose a threat of infectious disease, physical violence or other risk to safety. Patients have the right to privacy, self-determination and respect for their dignity, provided they are not posing a threat to responding personnel, themselves or other bystanders. If they are posing a threat, they shall be treated in accordance with public safety or the local police authority according to use of the clinical protocol for altered mental status or the behavioural emergencies clinical protocol.

I. ***Purpose:***

The purpose of the standard is to ensure the safety of all people on the scene and during transport, including health-care workers, patients and bystanders; to meet the priorities of responders to ensure the safety of PPs, the patient and bystanders, to stabilize the incident, to preserve property and to protect the environment; and to reduce occupational injuries.

II. ***Authority:***

[***Insert relevant local authorities here.***]

III. ***Implementation management:***

EMS

IV. ***Definitions:***

A. **Complex event:** An event that results in acute injury or illness but also has an element of ongoing risk that may hamper access to and/or treatment of patients.

B. **Hazard:** A threat to the safety and health of all individuals (first responders, PPs, patients, bystanders) at the scene of a prehospital emergency care call. May include violence by bystanders, traffic, dangerous substances or a building at risk of collapse.

C. **Scene** (also referred to as “prehospital setting” or “field”): Site at which PPs first encounter a patient.

V. ***Standard:***

A. At the scene of a medical emergency, all PPs shall operate within their scope of practice and follow the standards and clinical protocols approved by the ECS regulatory authority.

B. Scene safety shall be ensured by the local public safety or police authority so that care can be delivered safely. PPs shall have the authority for medical decisions and the well-being of patients.

C. Scene safety includes safety from all hazards, including infectious diseases, injury and the environment. See operational resource: *Scene safety*.

D. For common situations (including complex events) that require numerous resources, the relevant lead agency should be determined beforehand. For example, crime scenes and road traffic crashes may require coordination with police and ambulance services, while fires may require coordination with fire services, ambulance services and police. Regular exercises should be conducted according to the MCI standard. See operational resource: *Elements to be considered in developing a prehospital mass casualty incident plan*.

VI. ***Procedure:***

A. Establishment of scene safety is the initial component of a scene survey. PPs shall enter a scene and begin providing care only if the scene is determined to be safe.

B. PPs are responsible for protecting themselves by complying with PPE (body substance isolation) according to the infection prevention and control standard.

C. If no one else is present, PPs shall evaluate the scene for hazards and, if possible, mitigate them before starting or continuing to provide care.

D. The EMS shall be responsible for identifying and reporting scene hazards. The ECS regulatory authority shall be responsible for coordinating the response to identified hazards with other authorities.

E. If a scene cannot be rendered safe, PPs shall stand at a safe distance and notify their dispatcher and/or prehospital supervisor. After resolution of the call, they will submit an exception report.

F. Appropriate documentation shall be completed:

G. Any ongoing hazard at a scene shall be reported to the MCO, the public safety or local police authority and the ECS regulatory authority for the specific hazard. (Examples are suspected carbon monoxide poisoning in a building to the MCO, a traffic hazard to the local police authority, and potential ongoing violent behaviour to the local police authority.)

H. Any injury, illness or high-risk exposure occurring during care should be promptly reported to the ECS regulatory authority.

13. Scene management

To establish minimum standards for scene management and procedures for patient encounters initiated outside of dispatch-initiated responses.

I. ***Purpose:***

The purpose of the standard is to define on-scene roles and hierarchy; to establish minimum standards for scene management, and to establish procedures for patient encounters initiated outside dispatch-initiated responses.

II. ***Authority:***

[***Insert relevant local authorities here. ***]

III. ***Implementation management:***

EMS

IV. ***Definitions:***

A. **Medical personnel on scene:** A physician, medical officer or another practitioner unaffiliated with the prehospital response who is already at the scene and who interacts with the prehospital personnel.

B. **Patient encounter initiated by staff:** An acute incident resulting in the need for emergency care service that occurs in view of prehospital personnel on duty, whether they are dealing with another prehospital call for service or in between calls. Thus, the encounter is initiated by PPs (by contacting dispatch) and not by the community.

C. **Scene** (also referred to as "prehospital setting" or "field")**:** Site at which PPs first encounter a patient.

V. ***Standard:***

A. While on the scene of a medical emergency, all PPs shall operate within their scope of practice and follow the standards and clinical protocols approved by the ECS regulatory authority.

B. The most highly trained PP on a scene is responsible for patient care and safety once a response has been initiated. This responsibility can be transferred only to a provider of equal or higher training. Thus, responsibility for a patient shall pass from the CFAR to the PP, once present. When advanced providers are in attendance, they shall have authority over basic providers in providing medical care for a patient.

C. Scene safety shall be ensured by the local public safety or police authority to ensure that care can be delivered safely. PPs shall have authority for medical decision-making and the well-being of patients.

D. The lead agency for common situations, including complex events, that require several resources should be determined in advance. For example, crime scenes and road traffic crashes may require coordination between police and ambulances, while fires may require coordination among fire, ambulance and police services. Exercises should be conducted regularly according to the standard for mass casualty incidents and surges. See operational resource: *Elements to be considered in developing a prehospital mass casualty incident plan*.

VI. ***Procedure:***

A. Once the PP arrives on the scene, the senior member of the crew shall be responsible for patient care, assisted by other first-responding providers, until discharged by the senior PP. If there is conflict about scene management, the senior crew member shall contact the MCO for assistance and, if he or she is unavailable, the EMS event director. Conflicts must be reported in the case review reporting system outlined in the QI standard.

B. All patients who are identified by PPs shall be either transported or released on the scene according to the patient transport refusal standard.

C. Medical personnel on the scene who are not a part of the formal prehospital response may assist the PPs to assess and prepare the patient for transport. The senior PP shall attempt to confirm that the medical personnel at the scene are appropriately licensed or certified. The medical personnel on the scene may not direct the crew to exceed their scope of practice or deviate from prehospital care system standards or clinical protocol unless they are willing to render care directly to the patient and accompany the patient while being transported to a receiving facility. Patients may be transported only to authorized receiving facilities as designated by the destination policy standard. Any conflicts are to be resolved as described above.

D. During a special event, PPs shall follow the prehospital emergency care plan for that event according to the standard for prehospital ECS for special events. See operational resource: *Definitions for special event medical resources* and *Minimum resources for special events*.

E. Patient encounter initiated by staff: If a PP witnesses an incident or a patient requiring care (such as a patient or bystander who flags down an ambulance), the PP shall do one of the following:

1 If en route to a scene or transporting a severely ill patient, they shall contact the emergency communication and dispatch centre and request an additional ambulance to attend to the new patient and if possible, inform the party.

2 If they are in between prehospital responses, they shall stop and evaluate the situation. If a patient is present, they shall contact the emergency communication and dispatch centre and initiate a standard call.

F. All patient contacts shall be documented according to the ambulance operations standards.

Communication standards

14. Emergency communication and dispatch centres

Emergency communication and dispatch centres are the central coordination hub of the prehospital component of the ECS. They rely on communication technology, such as radios and mobile phones. Thus, it is essential that emergency communication and dispatch centres have comprehensive standards as well as back-up plans in the event of equipment failure.

I. ***Purpose:***

The purpose of the standard is to establish the minimum standards for emergency communication and dispatch centres serving the prehospital component of the ECS.

II. ***Authority:***

[***Insert relevant local authorities here.***]

III. ***Implementation management:***

Emergency communication and dispatch centre
ECS regulatory authority

IV. ***Definitions:***

A. **Call handling:** Receiving, interpreting and prioritizing incoming calls for emergency medical assistance.

B. **Dispatching:** Assigning a response to a call according to a prioritization system approved by the ECS regulatory authority.

C. **Emergency communication and dispatch centre** (also referred to as "ambulance dispatch centre", "emergency medical services communication and dispatch centre", "communication and dispatch centre", "emergency call and dispatch centre", "ambulance dispatch centre", "emergency dispatch centre" and "dispatch centre"): Facility approved by the ECS regulatory authority to continuously receive, register and process calls from the access number and to assign and dispatch an ambulance in response.

D. **Response prioritization:** Classification of a prehospital caller's complaints into a standardized prehospital response acuity level. Depending on the system, prioritization determines the type of personnel and resources that will be sent in response and the order in which calls will be responded to if demand outstrips available resources.

V. ***Standard:***

A. The primary function of the emergency communication and dispatch centre is to match the emergency care resources to patient needs by processing all calls for emergency assistance quickly, efficiently and accurately. See operational resource: *Medical dispatch workflow* and operational resource: *Priority based dispatch.*

B. Only emergency communication and dispatch centres designated by the ECS regulatory authority may respond to a call for the prehospital component of the ECS with appropriate technology.

C. Ambulance dispatchers must be trained in the appropriate regional standards and local regulations.

D. The emergency communication and dispatch centre is responsible for verifying the location of the incident and providing pre-arrival instructions. See operational resource: *Medical dispatch pre-arrival instructions.*

E. The emergency communication and dispatch centre is responsible for documenting the details of each call and its outcome.

F. Emergency communication and dispatch centres must have a mechanism for direct communication with dispatchers of other regional services, such as police and fire departments, and with neighbouring medical, police and fire departments in the case of a large-scale disaster.

G. Emergency communication and dispatch centres must have a system for disposition of non-emergency calls.

H. In MCIs, the emergency communication and dispatch centre becomes the command-and-control centre for ambulance response, in conformity with the MCI standards.

I. Emergency communication and dispatch centres must have an electronic means for recording all calls for both documentation purposes and for QI review according to QI standards.

J. All dispatchers in the emergency communication and dispatch centre should be certified (in e.g. knowledge, appropriate language skills) according to the training and certification standard.

K. The emergency communication and dispatch centre must be able to process calls in languages other than the national language(s).

L. The emergency communication and dispatch centre must test their communications systems daily.

M. The emergency communication and dispatch centre shall execute the prehospital emergency care standards appropriate to its function as outlined by the ECS regulatory authority (e.g. maintaining and communicating to PPs the current status of receiving facility ambulance diversion, directing ambulance staging post and launch positions to change temporarily because of call volume or location).

N. The emergency communication and dispatch centre must have a system for resolving grievances according to QI standards.

O. The emergency communication and dispatch centre may house the MCO.

VI. ***Procedure:***

A. The service provided must be available 24 h/day.

B. The emergency communication and dispatch centre will generate a unique identifying incident number for each call and provide this number to the prehospital personnel.

C. The emergency communication and dispatch centre must categorize calls into, at a minimum, “highest priority” and “other”, with priority of PP response given to high acuity calls.

D. The ECS regulatory authority-approved dispatch prioritization system must be used for all calls. The emergency communication and dispatch centre shall coordinate with the ambulances in the region for tracking from call initiation to closure. See operational resource: *Priority based dispatch.*

E. The emergency communication and dispatch centre must be able to communicate with the responding EMS units and hospitals.

F. Dispatchers will maintain certification [***Insert local regulations and/or legislation here.***].

G. The emergency communication and dispatch centre will maintain a log of all incoming calls, with their initial data and disposition.

H. In the event of an MCI, the emergency communication and dispatch centre will implement the MCI communications plan per the MCI standard.

I. The emergency communication and dispatch centre will provide data for system performance management and develop and execute a QI plan as required by the QI programme standard.

J. The emergency communication and dispatch centre must have a standardized contingency plan in case of communication equipment failure.

15. Field communications

Communication between providers on the scene and the rest of the ECS is important to ensure good-quality care. PPs might have to communicate with dispatch, medical control, the receiving facility and sometimes with patients or callers. Communication with the receiving facility is especially important in critical cases so that the facility can prepare for the patient's arrival. It is recommended that the facility be alerted at least 5 min before arrival.

Other important information that should be included in a dispatch notification or prehospital report includes (See operational resource: *Prehospital intervals*):

A. time call received;
B. time of dispatch instruction;
C. time of vehicle departure on the call;
D. time of arrival at the scene;
E. time of departure from the scene;
F. time of arrival at the hospital;
G. time in the hospital;
H. time returned to service; and
I. any change in ambulance service status.

The ECS regulatory authority should determine which of these communications are important for their system and to whom they should be reported. The most important are time of dispatch, time of arrival at the scene, time of departure from the scene, time of arrival at the hospital and any change in ambulance service status.

I. ***Purpose:***

The purpose of the standard is to direct prehospital personnel when to contact the patient or caller, the receiving facilities, the MCO, and prehospital supervisors or other public safety personnel; to provide guidelines for providing clear, concise reports, and to provide consistent back-up procedures in case of communication failure.

II. ***Authority:***

[***Insert relevant local authorities here.***]

III. ***Implementation management:***

PPs
EMS

IV. ***Definitions:***

A. **Back-up plan for primary communication failure:** An alternative means for communicating with MCOs and receiving facilities when primary

communications methods have failed. The plan should include an explicit operating procedure to be followed if all communication methods fail.

B. **MCO:** A provider with advanced experience in emergency care (often a doctor) who is authorized to provide remote advice to PPs. MCOs must not only meet clinical training requirements but should undergo specific training in the standards and protocols of prehospital emergency care. In smaller ambulance services, the function of MCO is covered by the medical director, whereas larger organizations may have two posts with separate functions, with the MCO reporting to the medical director.

C. **Prehospital supervisor:** A senior PP working outside the emergency communication and dispatch centre (usually at the prehospital scene) with supervisory authority over other PPs on duty.

D. **Primary communication method:** The telecommunications system (often radio or mobile phone) used routinely by PPs to communicate with receiving facilities and other providers in the field.

E. **Scene** (also referred to as "prehospital setting" or "field")**:** Site at which PPs first encounter a patient.

V. *Standard:*

A. Field personnel shall have a primary method of communication with the emergency communication and dispatch centre, prehospital supervisors and receiving facilities that ensures constant direct communication.

B. The receiving facility should receive notification of the transport of all prehospital emergency patients to their location.

C. The receiving facility should receive notification on the standard reporting format. See operational resource: *Facility pre-arrival report form*.

D. Notification should be provided [***Insert local specified interval, such as a minimum of 5 min before arrival***] during patient transport and in all cases before the predicted arrival.

E. The receiving facility shall maintain a communication system to receive such notification and train all appropriate facility personnel in communication procedures.

F. Medical control should be contacted when the clinical protocol used to guide the care of a patient requires it. PPs may contact medical control when they so require, at their discretion.

G. A plan for a communication failure should be in place so that field providers can contact the emergency communication and dispatch centre, prehospital supervisors and receiving facilities.

H. Communication during MCI incidents should be guided by the regionally approved MCI standard.

VI. *Procedure:*

A. The PP must inform dispatchers of a change in location or status.

B. The dispatcher must provide the following information to the patient or caller:
   1 estimated time of arrival and
   2 re-confirmation of the location of a patient.

C. Prehospital personnel must provide minimum information to the receiving facility. See operational resource: *Facility pre-arrival report form*.

D. PPs must report the following information to the appropriate authority (prehospital supervisor or dispatch) in writing or verbally:
   1 requirement for ambulance repair or fuel;
   2 patient refusal of transport (in accordance with the patient transport refusal standard);
   3 need for additional personnel at the scene for patient access, stabilization or movement;
   4 need for additional resources for scene safety (in accordance with the scene safety standard); and
   5 any acute injury or illness in the ambulance crew.

E. Handover a patient between the PP and a health worker in the facility should follow a structured procedure. See operational resource: *SBAR handover tool*.

F. Only ECS regulatory authority-approved PPs shall communicate the above procedures.

G. A plan for use during a communication failure must be developed and distributed [***Insert local regulations and/or legislation here.***]

H. The MCI communication plan will be implemented when indicated, consistent with the MCI and surge standard. See operational resource: *Elements to be considered in developing a prehospital mass casualty incident plan.*

Standards for special consideration

16. Mass casualty incidents and surge

PPs and EMS must always be prepared to respond to an MCI or surge, as the number of patients may exceed the available resources. Preparedness for such situations requires planning and drills to practise procedures and protocols that are often not used daily.

I. ***Purpose:***

The purpose of the standard is to provide the structure and process for emergency care by all organizations in the prehospital system during an MCI of any magnitude and to coordinate that care with public safety in order to minimize deaths and disability resulting from such events.

II. ***Authority:***

[***Insert relevant local authorities here***]

III. ***Implementation management:***

ECS regulatory authority
EMS

IV. ***Definitions:***

A. **Incident commander:** While the title of this person may differ by region, the term is used in this document to refer to the person in charge of coordinating an incident command system in a mass casualty incident.

B. **Incident command system:** A standardized, hierarchical structure that allows a cooperative response and oversight of coordinated systematic implementation of the emergency response plan.

C. **MCI** (also known as multiple casualty incident): An event that results in more patients at one time than can be managed by locally available resources with routine procedures (generally four or more victims). Examples include a road traffic crash, a building fire or a large-scale event such as an earthquake or mass toxic exposure.

V. ***Standard:***

A. In an MCI, scene safety is paramount. PPs shall take all steps possible to minimize their risk, including rapid establishment of an incident command system and appointment of an incident commander.

B. The MCI plan for an ECS must be a sub-plan of the appropriate jurisdictional general emergency management plan. It is critical to ensure that prehospital components are included in facility, regional and national emergency response plans [***Insert reference to local emergency management plan

here.***] See operational resource: *Elements to be considered in developing a prehospital mass casualty incident plan.*

1. The most senior PP who arrives on the scene shall become the medical group supervisor and work directly with the incident commander. He or she shall prioritize medical tasks and assign personnel as available in order to:
    a. determine and report to the emergency communication and dispatch centre the number of victims;
    b. organize and begin medical triage of all victims;
    c. provide medical care according to priority after triage;
    d. transport victims to the appropriate receiving facilities according to severity or acuity;
    e. treat and refer low-acuity victims;
    f. track patients from initial triage to transport to the receiving facility;
    g. decontaminate and clean personnel and equipment after incident closure;
    h. identify, address and mitigate any personnel stress; and
    i. return to normal PP service as soon as possible.

C. Prehospital supervisory personnel and the medical director shall be notified, and additional prehospital resources shall be requested as necessary.

D. The emergency communication and dispatch centre shall alert the ECS regulatory authority to request out-of-jurisdiction prehospital care resources as required by the incident commander on the scene.

VI. *Procedure:*

A. The prehospital MCI management plan must be coordinated with local public services and health facilities. It must also be included in the national emergency response plan.

B. A single MCI and field triage tool should be agreed upon by all regional agencies to ensure ready communication among agencies in a large response.

C. All EMS and receiving facilities shall train appropriate personnel in use of the standard upon hiring and participate in all MCI exercises and drills as determined by the ECS regulatory authority [***Insert local specified interval, such as a minimum of annually***]. Exercises and drills shall include scene safety elements such as bystander management, mitigation of physical risks such as spilt fuel or contamination and communication with other public safety agencies, hospitals and emergency communication and dispatch centres.

D. During an MCI, documentation may be modified to allow rapid identification, treatment and transport of casualties. For PPs, the documentation should include at a minimum:

1. age,
2. sex,

3 triage category and
4 destination.

E. The receiving facility documentation should include at a minimum, all the data above, plus:
1 patient name,
2 unique patient identification number,
3 patient's condition,
4 interventions performed and patient's response (if any) and
5 patient disposition.

F. Transport destinations for MCI patients shall be those of the destination policy when possible. The ECS regulatory authority shall develop a primary and back-up patient distribution plan for MCI patients.

G. All attempts shall be made by PPs to maintain the normal standard of care to MCI patients.

H. Training in MCI response and scene safety approved by the ECS regulatory authority shall be conducted by all EMS and receiving facilities [Insert local specified interval, such as a minimum of annually].

17. Patient refusal of transport

Patients have the right to refuse care, for whatever reason. Systems should be prepared to address such circumstances, and PPs should have policy and legal protection when such standards are followed.

I. ***Purpose:***

The purpose of the standard is to ensure uniform practice of patient refusal of transport in the prehospital component of the ECS in accordance with patient safety practices and universal patient rights.

II. ***Authority:***

[***Insert relevant local authorities here.***]

III. ***Implementation management:***

ECS regulatory authority
EMS

IV. ***Definitions:***

A. **Patient transport failure:** A PP could not transport a patient to the hospital in spite of the patient's willingness to be transported, for example, due to family or bystander interference or vehicle failure.

B. **Patient transport refusal:** An emergency patient does not allow prehospital personnel to transport him or her to the hospital, for example by stating that they are no longer in pain or refusing treatment on religious grounds.

V. ***Standard:***

A. The ECS regulatory authority, in conjunction with local public safety authorities, defines the standards for patient refusal or failure of transport for the EMS in a written agreement. [***Insert local regulations and/or legislation here.***] See operational resource: *Transport or treatment refusal form*.

B. [***Insert local regulations and/or legislation on the scope of PP (with or without medical control) to determine when clinical intervention is not indicated for a non-responsive patient, such as one who appears to have been dead for a long time.)***] Additionally, a locally approved protocol should be in place on the transport of an otherwise non-viable patient from an unsafe scene.

C. In the case of refusal of transport by a patient, the PP shall assess the capacity of the patient to make such a decision. If the patient is found to have such capacity, the PPs shall counsel the patient and family members (if present) on potentially increasing severity of their illness or injury, including the death of the patient, and advise them to go to the nearest registered medical

practitioner or hospital in a private vehicle if they change their minds. Patient(s) and family members should be informed that they can call again for assistance or transport at any time and should be given time to ask questions. If the patient still refuses further care, he or she should sign a statement documenting understanding of the risk and confirming their refusal of further care. See operational resource: *Transport or treatment refusal form.*

1. Refusal of patient transport is applicable only to adults [Insert local regulations and/or legislation here.].
2. In all cases of patient transport failure, the MCO or EMS event director should be consulted before the PP leaves the scene and a case report sent to the ECS regulatory authority.

D. A valid advance medical directive in the form of a DNR order or otherwise should be honoured by PPs when it is shown by the patient's family or caretaker, and it should be communicated to the emergency communication and dispatch centre or prehospital supervisor. [***Insert context-appropriate guidance on the rights and responsibilities of PPs when family members or proxies refuse life-saving interventions in the absence of a formal DNR order***].

E. During an MCI, PPs should follow the MCI standard for patient triage and documentation.

VI. *Procedure:*

A. PPs document patient refusal or denial as required on the ambulance operations standard and patient transport refusal form, as appropriate; counsel family members; and communicate with the emergency communication and dispatch centre and prehospital supervisor as necessary. See operational resource: *Transport or treatment refusal form.*

B. PPs should review the DNR (when available) and document their review on the patient record. When possible, the documentation should include a photograph of the DNR certificate.

C. If a patient refuses transport but refuses to sign the refusal form, the name and signature of a witness should be obtained.

18. Prehospital emergency care services for special events

The term “special events” as used here is a planned increase in the number of potential patients in a given setting. Prehospital response can be hampered if such events are not anticipated and adequate resources are not pre-positioned. Strategies should be in place for ensuring access to all areas to reach potential patients and also to leave the scene for transport. Pre-positioning of prehospital assets entails placing supplies and personnel strategically around the venue to facilitate the response to a potential emergency. Events that do not exceed the medical capabilities normally present shall be exempted from this standard.

I. ***Purpose:***

The purpose of the standard is to establish minimum standards for prehospital care at mass gatherings and special events in order to provide both the community standard of emergency care to participants in the event and to preserve the standard of emergency care to the community outside the event.

II. ***Authority:***

[***Insert relevant local authorities here***]

III. ***Implementation management:***

ECS regulatory authority
EMS

IV. ***Definitions:***

A. **Event aid station:** A fixed or mobile facility at an event or mass gathering that can provide initial care to acutely ill or injured participants, and is dedicated to a specific event or event venue and does not function at the same time as part of the surrounding health system. Examples of aid stations include first aid tents, mobile clinics, dedicated ambulances and temporary medical facilities converted from meeting rooms.

B. **Event director:** A senior PP with experience in managing special events and mass gatherings, who oversees coordination of medical services for such events.

C. **Special event or mass gathering:** Predictable and/or permitted (by governing authorities) gathering of many individuals for a common purpose. Examples include political gatherings or demonstrations, road races, concerts and religious and cultural festivals.

D. Additional definitions are provided in operational resource: *Definitions for special event medical resources.*

V. ***Standard:***

A. Every prehospital ECS plan for a special event must include:

1 an individual designated as the EMS event director for the event;

2 a communications plan in which the EMS event director is linked with:

a all PPs providing care at the event;

b other public safety services, such as police and fire department; and

c the emergency communication and dispatch centre for the jurisdiction.

3 as many event aid stations and PP mobile resources as necessary to provide the community standard of prehospital care for participants at the event;

4 a safety plan for PPs and patients under their care; and

5 a mass casualty management plan for PPs to organize care for patients during an MCI at the event.

B. The EMS event director is responsible for:

1 a prehospital emergency care plan [***Insert local regulations and/or legislation here***].

2 training the appropriate personnel in the prehospital emergency care plan for the event;

3 procuring sufficient resources to deliver the medical care outlined in the plan;

4 maintaining records of the medical care provided [***Insert local regulations and/or legislation here***]; and

5 submitting a summary of the care provided and any unexpected (outside of the event prehospital emergency care plan) medical issues at the event to the ECS regulatory authority as required by the QI standard. This document should be submitted within [***Insert local specified interval***] days after the event.

VI. ***Procedure:***

A. A prehospital emergency care plan for special events and mass gatherings should be developed early enough that the ECS regulatory authority can review it and modify, approve or disapprove it before the event.

B. The authority for approving the prehospital emergency care plan for special events and mass gatherings shall be the ECS regulatory authority, in consultation with the relevant government authority.

C. The mass casualty management plan shall conform to the ECS MCI standard. See operational resource: *Elements to be considered in developing a prehospital mass casualty incident plan.*

D. Adhere to the relevant minimum staffing and equipment standards. See operational resource: *Minimum resources for special events.*

E. PPs at an event may be trained in use of communications and MCI plans at any time before the start of the event.

F. A summary of the medical care rendered shall be submitted by the EMS event director within [***Insert local specified interval***] of the end of the special event or mass gathering to the ECS regulatory authority.

Operational resources

World Health Organization

1: Recommended process for public comment on local components of prehospital standards and protocols

When introducing or amending prehospital standards and protocols, complete the following four public consultation steps:	
All new or significantly revised current prehospital standards and protocols (either operational or clinical) are to be released by the ECS regulatory authority via email and posted on the authority's website for public review and comment prior to becoming effective. Written comments should be accepted by the ECS regulatory authority by the date listed on the public comment notice and webpage. The ECS regulatory authority should allow a minimum of 14 days for public comment.	☐
All comments received during the comment period will be reviewed by the ECS regulatory authority for either inclusion or exclusion in the policy. A summary of the comments received, their disposition, and final policy drafts will be reviewed at the next ECS regulatory authority advisory committee meeting following the ending of the public comment period.	☐
The ECS regulatory authority advisory committee shall provide a recommendation to the ECS regulatory authority director to accept or reject the draft version of the standard / protocol revisions. The ECS regulatory authority director may accept or reject the ECS regulatory authority advisory committee's recommendation when determining the final standard / protocol content.	☐
The ECS regulatory authority director shall follow local procedure for approval of the final standard / protocol by local governmental authorities.	☐

TOPIC	ASSOCIATED STANDARD	KEY TRAINING CONSIDERATIONS
Define the responsibilities and scope of practice of basic and advanced ambulance providers	Ambulance provider level and scope of practice	Patient assessment and treatment with assistance to the appropriate level of health facility
Patient contact	Prehospital emergency care response operations	• Required documentation • Initial assessment • Monitoring • Patient hand-over
Daily ambulance inspection	Prehospital emergency care response operations & Supplies and equipment	• Adequate use of supplies and equipment checklist • Identify the minimum number of each piece of equipment required for patient care • Identify the minimum number of stock supplies for patient care • Report defects and faults / request for vehicle maintenance
Patient triage	Destination policy	• Use of prehospital triage • Training in destination protocols • Focused interventions on red category patients
Destination: Special considerations Death	Destination policy	*Permission to confirm death* • Clinical findings • Appropriate destination
Destination: Special considerations Do Not Resuscitate	Destination policy & Patient transport refusal	Validity of DNR paperwork
Call processing	Emergency communications and dispatch centres	Call taking, prioritization and dispatching How to provide a quick, efficient and accurate assistance • Verifying the incident location • Providing pre-arrival instructions • Communication with responding units • Management of mass casualty incidents
Providing reports	Field communications	• Use of telecommunication devices • Notification to the receiving facility • Use of standard reporting format
Incidents of concern with potential poor patient outcome	Quality improvement programme	• Unexpected patient death • Acute injury of prehospital personnel on duty • Dispatch error • Ambulance crash
Medical control advice	Medical control	• Identify the situations that will require medical control advice • How to report a patient to the Medical Control Officer
Infection prevention and control	Infection prevention and control	• Adequate use and disposal of PPE • Isolation and notification of highly contagious conditions • Decontamination and prophylaxis procedures • Health care waste disposal
Scene safety and first steps of care	Scene safety	• Establishing scene safety and mitigation of physical risks • Coordinating medical care and resolving conflict • Bystander management • Preparing the patient to transport • Patient's rights protection
MCI training and management	Mass casualty incidents and surge	• Disclosing MCI plan • Establishment of incident command system • MCI rapid documentation • Standard triage system use
Patient refusal of care or transport	Patient transport refusal	• Risks to mention when documenting patient refusal • Benefits of care • Transport alternatives

3: Level and scope of practice of prehospital providers

PREHOSPITAL BASIC	PREHOSPITAL ADVANCED **Advanced scope includes basic scope**
PROTOCOLS WITH TRAINING AND CAPACITY TO PERFORM	
Recognition of danger signs in children and adults	Acuity-based triage of children and adults
Vital signs measurement	
Basic life support	Advanced life support
Neonatal resuscitation (including kangaroo care and thermal care for preterm newborns)	Full supportive care for preterm newborns
Basic approach to Difficulty in Breathing, Shock, Altered Mental Status and Unconsciousness, Trauma	Advanced approach to Difficulty in Breathing, Shock, Altered Mental Status and Unconsciousness, Trauma
Oral rehydration	IV fluid resuscitation
Basic case-based syndromic surveillance and reporting	
Communicable disease transmission precautions and destination triage	
Disaster and mass casualty protocols	
PROCEDURES	
Safe transport positioning (for airway and spinal protection when relevant)	
Oral and nasal airway placement	Endotracheal intubation
	Surgical airway
BVM ventilation	
Oxygen administration	
	Needle decompression for tension pneumothorax
	IV fluid infusion (peripheral) for neonates, children, adults
Safe physical restraint	
	Nasogastric tube placement
Prevent heat loss	Active rewarming: non-invasive
External haemorrhage control (direct pressure, wound packing and tourniquet)	
Splinting for extremity injury	
	Placement of external traction for lower extremity fracture
Management of labour and delivery in low risk women (in emergency)	
Uterine massage for pregnancy-related haemorrhage	
Recognition of clinical hypoglycaemia	
DIAGNOSTICS	
Point of care testing - glucose	12 lead ECG
	Point of care ultrasound

4: Suggested targets for prehospital quality improvement

TARGET NAME	TARGET DEFINITION *HOW TO CALCULATE*	PROPOSED TARGET
OPERATIONS		
1. Ambulance uptime	Percentage of ambulances on-road (functional) at given point of time *# functional/total # ambulances*	>90%
2. Average ambulance recovery interval time	Arrival of ambulance at receiving facility to return of ambulance to service/available for dispatch *total recovery intervals (minutes)/# incidents*	average <30 minutes
3. Percentage of vehicle crash cases	Ambulance involved in a motor vehicle crash and taken out of service *# out of service due to crash / total # ambulances*	<2%
4. Number of certified emergency responders	Total number certified emergency responders per population *# providers (basic and advanced providers, dispatchers) employed by organization / agreed population denominator*	locally developed
5. Time to first provider (prehospital provider with dedicated training in emergency care) **in severe injury from road crash**	From initiation of first call to emergency communication and dispatch centre to arrival of first prehospital provider on scene *total response times (minutes)/# incidents*	average <15 minutes
6. Scene time interval	Total length of time from arrival at scene to departure from scene. *total scene time (minutes)/# incidents*	average <20 minutes
EMERGENCY COMMUNICATION AND DISPATCH CENTRE		
7. Percentage of calls with delayed response	Inability to answer call within 30 seconds of first ring (either when call is successfully answered later than 30 seconds, or call drops after 30 seconds) *# calls >30 seconds / total # calls*	0%
8. Activation interval time	Initiation of response to call (answering the phone) to dispatch of ambulance (identifying the appropriate unit and transmitting the information necessary for it to start heading to the patient) *total activation time (seconds) / total # calls*	average <180 seconds
9. Percentage of vehicle busy cases	Active call waiting to be dispatched, but no ambulance is available to dispatch to call location *# calls no ambulance available / total # calls*	<5%
CARE DELIVERY		
10. Percent of adult patients with initial respiratory rate <8 that receive breathing intervention	Breathing interventions include airway manoeuvre, oxygen administration, bag valve mask ventilation, beta-agonist. *# patients with intervention / # patients with RR <8*	*>80%*
11. Percent of adult patients with shock given IV fluids (shock: any etiology; clinical parameters of shock as defined by prehospital service)	IV fluids started in the field (where permitted within scope of practice) *# patients with shock and documented administration of IV fluids / # patients with shock*	*>80%*
12. Percentage of patients with severe pain who received analgesia.	Patients reporting severe pain who receive pharmaceutic analgesia *# patients with severe pain and documented administration of analgesia / # patients with severe pain*	>80%

WHO PREHOSPITAL FORM

☐ MASS CASUALTY

Caller name		**Date**		**Call Received**	
Caller phone		☐ Scene call ☐ Inter Facility Transfer		**En route to Scene**	
Patient name		**Run number**		**Arrived at Scene**	
Date of birth/age		**Scene location & type**		**Transporting**	
Sex ☐ Male ☐ Female		☐ Residence ☐ School ☐ Public Building ☐ Health Facility ☐ Street ☐ Other		**At Facility**	
Patient address				**In Service**	
Occupation					

Chief complaint ☐ Injury		Initial VS		**Time**	
		HR	**RR**	**BP**	
		Temp	**RBS**	**SpO2** % on	
Care in progress on arrival		**Pregnant:** ☐ Yes ☐ No ☐ Unknown			

HIGH RISK SIGNS

A/B	☐ Stridor, cyanosis, respiratory distress	**C**	☐ Poor perfusion, weak fast pulse, cap refill >3s, heavy bleeding ☐ Adult: HR <50 or >150 ☐ Child lethargy, sunken eyes, slow skin pinch, poor drinking
D	☐ Unresponsive ☐ Acute convulsions ☐ Hypoglycaemia ☐ Acute focal neurologic deficit ☐ Altered mental status with fever or hypothermia or stiff neck or headache		
Other	☐ High risk trauma ☐ Threatened limb ☐ Snake bite ☐ Poisoning, ingestion, chemical exposure ☐ Violent or aggressive ☐ Temp >39˚C or <36˚C ☐ Acute testicular pain or priapism ☐ Pregnant with high risk findings ☐ Adult severe chest or abdominal pain or ECG with ischaemia ☐ Infant <8 days ☐ Infant <2 months with temp >39˚C or <36˚C		

TRIAGE CATEGORY (circle): **RED YELLOW GREEN.** Triaged for

PRIMARY SURVEY

A	**Airway** ☐NML	☐ Voice changes ☐ Stridor ☐ Oral/Airway burns ☐ Angioedema **Obstructed by** ☐ Tongue ☐ Blood ☐ Secretions ☐ Vomit ☐ Foreign body	**Airway:** ☐ Repositioning ☐ Suction ☐ OPA ☐ NPA ☐ LMA ☐ BVM ☐ ETT **C-spine stabilized** ☐Not needed ☐Done
B	**Breathing** ☐NML	**Spontaneous Respiration** ☐ Yes ☐ No **Chest Rise** ☐ Shallow ☐ Retractions ☐ Paradoxical **Trachea** ☐ Midline ☐Deviated to ☐L ☐R **Breath Sounds** ☐ NML	☐ **Oxygen** L/min ☐ NC ☐ Face mask ☐ Non-rebreather mask ☐ BVM ☐ BiPAP/CPAP ☐ Other
C	**Circulation** ☐NML	**Skin** ☐ Warm ☐ Dry ☐ Pale ☐ Cyanotic ☐ Moist ☐ Cool **Capillary refill** ☐ <3 sec ☐ ≥3 sec **Pulses** ☐ Weak ☐ Asymmetric **JVD** ☐ Yes ☐ No ☐ **Active bleeding** site	☐ **Bleeding controlled** Time (bandage, tourniquet, direct pressure) **Access** ☐ IV site size ☐ IO site size ☐ **IVF** ml ☐NS ☐LR ☐ Other ☐ **Pelvis stabilized** ☐ **Femur fracture stabilised**
D	**Disability** ☐NML	**Blood glucose** (as needed): **Responsiveness** ☐ A ☐ V ☐ P ☐ U **GCS** (E V M) **Moves Extremities** ☐ L arm ☐R arm ☐L leg ☐R leg **Pupils** Size L R Reactivity L R	☐ **Glucose checked** ☐ **Glucose given** ☐ **Naloxone given**
E	**Exposure** ☐NML	☐ **Exposed completely**	**ENTER ADDITIONAL EXAM FINDINGS ON REVERSE**

S	**Signs/symtoms**	☐ Unknown
A	**Allergies**	☐ Unknown
M	**Medications**	☐ Unknown
P	**Past medical**	☐ Unknown
L	**Past surgeries**	☐ Unknown
E	**Last ate** (hrs)	☐ Unknown
	Events (and ROS)	☐ Unknown

World Health Organization

Form to be used with WHO Reference Card.
See who.int/emergencycare for more information.

PAGE 1

PRIMARY SURVEY (CONT.)

IF INJURY

☐ **Intentional** ☐ **Unintentional** ☐ **Self-inflicted**
☐ Fall ☐Hit by falling object ☐ Stab/Cut ☐Gunshot ☐Sexual assault
☐ Other blunt force trauma ☐ Suffocation, choking, hanging
☐ Drowning: Life vest: Y / N ☐ Burn caused by
☐ Poisoning/toxic exposure
☐ Unknown ☐Other

Road traffic incident:
☐ Driver ☐ Car ☐ Airbag
☐ Passenger ☐ Bike ☐ Seatbelt
☐ Pedestrian ☐ Motorbike ☐ Other restraint
☐ Ejected ☐Other ☐ Helmet
☐ Extricated

PHYSICAL EXAM

☐NML	**General**		☐NML	**Pelvis/GU**	
☐NML	**HEENT**		☐NML	**Neurologic**	
☐NML	**Respiratory**		☐NML	**Psychiatric**	
☐NML	**Cardiac**		☐NML	**MSK**	
☐NML	**Abdominal**		☐NML	**Skin**	

ADDITIONAL INTERVENTIONS

Medications given
☐ Bronchodilators
☐ Epinephrine
☐ Aspirin
☐ Seizure medication
☐ Analgesia
☐ IV fluid infusion
☐ Other

Procedures
☐ Wound Bandaging
☐ Burn Dressing
☐ Splinting/reduction
☐ Pelvic stabilization
☐ ECG
☐ Other

ASSESSMENT (include brief summary and differential) **AND PLAN:**

REASSESSMENT at (time) HR RR
Temp SpO2 % on RBS Pain ☐ **Unchanged**

REASSESSMENT at (time) HR RR
Temp SpO2 % on RBS Pain ☐ **Unchanged**

REASSESSMENT at (time) HR RR
Temp SpO2 % on RBS Pain ☐ **Unchanged**

Presumptive Diagnoses

DISPOSITION

DISPOSITION **Handover time**

Handover to
(name, cadre & signature)

Vitals at (time) **HR** **RR**
Temp **BP** **SpO2** **% on**
Plan discussed with patient? ☐ Yes ☐ No

Provider(s) name

Provider(s) signature & date

World Health Organization
Form to be used with WHO Reference Card.
See who.int/emergencycare for more information.

PAGE 2

WHO PREHOSPITAL CARD

This card is intended to help prehospital providers to use the WHO prehospital standardized clinical form in their practice. It is presented as a section of the form followed by brief instructions on how to complete that section. Where items are obvious, we have not provided explanatory text.

Whenever possible, use the blue spaces to offer additional information in free text.

WHO PREHOSPITAL FORM

☐ MASS CASUALTY

Caller name		**Date**		**Call Received**	
Caller phone		☐ Scene call ☐ Inter Facility Transfer		**En route to Scene**	
Patient name		**Run number**		**Arrived at Scene**	
Date of birth/age		**Scene location & type**		**Transporting**	
Sex ☐ Male ☐ Female		☐ Residence ☐ School ☐ Public Building ☐ Health Facility ☐ Street ☐ Other		**At Facility**	
Patient address				**In Service**	
Occupation					

Chief complaint ☐ Injury		Initial VS		**Time**	
		HR	**RR**	**BP**	
		Temp	**RBS**	**SpO2** % on	

Care in progress on arrival	**Pregnant:** ☐ Yes ☐ No ☐ Unknown

MASS CASUALTY: Check box if patient is part of a mass casualty incident
SEX: Biological sex, differs from patient defined gender category.
PATIENT ADDRESS: Be as specific as possible. At a minimum, enter the city and sub-district. Note if homeless.
OCCUPATION: Be as specific as possible (e.g., farm labourer or farm manager instead of farming)
SCENE LOCATION & TYPE: Be as specific as possible, using landmarks if necessary. At a minimum, enter the city and sub-district
CHIEF COMPLAINT: Always in the patient's own words. Tick if injury.
CARE IN PROGRESS ON ARRIVAL: Describe any care that has been or is being provided on your arrival
INITIAL VITAL SIGNS: Always take a complete set of vital signs if possible and list time in 24-hour format
NORMAL VITAL SIGNS – FOR ALL: SpO2 >92% on room air, temp 36˚C - 38˚C
Paediatric: **Adult:** HR 60-100 bpm, RR 10-20, SPB >90

AGE	RESPIRATORY RATE
<2 months	40-60 breaths per minutes
2-11 months	25-50 breaths per minute
1-5 years	20-40 breaths per minute

AGE	PULSE RATE RANGE
0-1	100-160
1-3	90-150
3-6	80-140

*Record O2 saturation and amount/route of O2, eg. 94% on 2L by NC
PREGNANT: always consider pregnancy in women and girls of child bearing age.
PAIN SCORE: Ask the patient to choose the face that best represents the pain they are experiencing. Remember that treating pain does not obscure diagnosis later.

HIGH RISK SIGNS

A/B	☐ Stridor, cyanosis, respiratory distress	**C**	☐ Poor perfusion, weak fast pulse, cap refill >3s, heavy bleeding ☐ Child lethargy, sunken eyes, slow skin pinch, poor drinking	☐ Adult: HR <50 or >150
D	☐ Unresponsive ☐ Acute convulsions ☐ Hypoglycaemia ☐ Acute focal neurologic deficit ☐ Altered mental status with fever or hypothermia or stiff neck or headache			
Other	☐ High risk trauma ☐ Threatened limb ☐ Snake bite ☐ Poisoning, ingestion, chemical exposure ☐ Violent or aggressive ☐ Temp >39˚C or <36˚C ☐ Acute testicular pain or priapism ☐ Pregnant with high risk findings ☐ Adult severe chest or abdominal pain or ECG with ischaemia ☐ Infant <8 days ☐ Infant <2 months with temp >39˚C or <36˚C			

TRIAGE CATEGORY (circle): **RED YELLOW GREEN.** Triaged for

HIGH RISK SIGNS: Check each appropriate box if patient meets that criterion.
TRIAGE CATEGORY: Record colour designation using standardized triage tool.
TRIAGED FOR: Record main reason for choice of triage category (colour designation).

World Health Organization
Form to be used with WHO Reference Card.
See who.int/emergencycare for more information.

PAGE 1

PRIMARY SURVEY

A Airway ☐NML

☐ Voice changes ☐ Stridor ☐ Oral/Airway burns ☐ Angioedema
Obstructed by
☐ Tongue ☐ Blood ☐ Secretions ☐ Vomit ☐ Foreign body

Airway: ☐ Repositioning ☐ Suction ☐ OPA ☐ NPA ☐ LMA ☐ BVM ☐ ETT
C-spine stabilized ☐Not needed ☐Done

B Breathing ☐NML

Spontaneous Respiration ☐ Yes ☐ No
Chest Rise ☐ Shallow ☐ Retractions ☐ Paradoxical
Trachea ☐ Midline ☐Deviated to ☐L ☐R
Breath Sounds ☐ NML

☐ **Oxygen** L/min
☐ NC ☐ Face mask ☐ Non-rebreather mask
☐ BVM ☐ BiPAP/CPAP ☐ Other

C Circulation ☐NML

Skin ☐ Warm ☐ Dry ☐ Pale ☐ Cyanotic ☐ Moist ☐ Cool
Capillary refill ☐ <3 sec ☐ ≥3 sec
Pulses ☐ Weak ☐ Asymmetric
JVD ☐ Yes ☐ No

☐ **Active bleeding** site

☐ **Bleeding controlled** Time
(bandage, tourniquet, direct pressure)
Access ☐ IV site size
☐ IO site size
☐ **IVF** ml ☐NS ☐LR ☐ Other
☐ **Pelvis stabilized** ☐ **Femur fracture stabilised**

D Disability ☐NML

Blood glucose (as needed):
Responsiveness ☐ A ☐ V ☐ P ☐ U
GCS (E V M)
Moves Extremities ☐ L arm ☐R arm ☐L leg ☐R leg
Pupils Size L R Reactivity L R

☐ **Glucose checked**
☐ **Glucose given**
☐ **Naloxone given**

E Exposure ☐NML

☐ **Exposed completely**

ENTER ADDITIONAL EXAM FINDINGS ON REVERSE

Primary Survey		Interventions for Abnormal Primary Survey	
Airway: Normal (NML) if: •Patent (they can speak normally) •NO signs of obstruction, stridor, angioedema or burns		•Repositioning: Head-tilt/chin-lift or jaw thrust •OPA/NPA (oro-/naso-pharyngeal airway) •LMA (laryngeal mask airway) •BVM (bag valve mask) •ETT (endotracheal tube)	
Breathing: Normal if: •Rate normal •Effort normal, sounds clear	Abnormal - •Decreased breath sounds •Crepitations •Rhonchi •Wheezing	Supplemental Oxygen. Record flow rate L/min •NC (nasal cannula) •BVM (bag valve mask) •NRB (non-rebreather mask) •CPAP/BiPAP (continuous or bi-level positive airway pressure)	
Circulation: Normal if: •Warm & dry •Pulse strong & symmetric (upper & lower extremities)	Abnormal - •JVD (jugular venous distention) •Prolonged capillary refill (>3 sec) •Pale/cyanotic/moist/cool skin	Access (document site and size) •IV (intravenous) •IVF (intravenous Fluids) •IO (intraosseous) •NS (normal saline) •LR (Lactated Ringers)	
Disability: Normal if: •Alert (A) •Oriented to person/place/time •No focal neuro deficit •Blood glucose: > 3.5 mmol/L •Pupils equal and reactive	Abnormal - •Responds only to Verbal (V), Pain (P), or is Unconscious(U) •Motor or sensory deficit •Blood glucose: <3.5mmol/L •Large, pinpoint or unequal. Fixed, slow or nonreactive (NR). Enter size then reactivity.	**GCS Eye Opening** 4 – Spontaneously 3 – To verbal command 2 – To pain 1 – No response **GCS Verbal** 5 – Talking and oriented 4 – Confused 3 – Inappropriate words 2 – Incomprehensible sounds 1 – No response	**GCS Motor** 6 – Obeys commands 5 – Localizes pain 4 – Withdraws to pain 3 – Flexes to pain 2 – Extends to pain 1–No response *Qualified GCS: Check box if patient sedated, intubated or vision obstructed.

S A M P L E

Signs/symtoms ☐ Unknown
Allergies ☐ Unknown
Medications ☐ Unknown
Past medical ☐ Unknown
Past surgeries ☐ Unknown
Last ate (hrs) ☐ Unknown
Events (and ROS) ☐ Unknown

Medication: include prescription medicines, traditional medicines, herbs, supplements. Bring all medications to the facility.
Past Medical History: Note key medical and surgical conditions
Events (and Review of Symptoms):
•Describe the signs and symptoms and their duration
•Note activity at time on onset
•Note if anything makes the symptoms better or worse
•Ask about any history of similar episodes and any prior evaluations interventions
•Note if the patient has taken anything for the symptoms

PRIMARY SURVEY (CONT.)

IF INJURY

☐ **Intentional** ☐ **Unintentional** ☐ **Self-inflicted**
☐ Fall ☐Hit by falling object ☐ Stab/Cut ☐Gunshot ☐Sexual assault
☐ Other blunt force trauma ☐ Suffocation, choking, hanging
☐ Drowning: Life vest: Y / N ☐ Burn caused by
☐ Poisoning/toxic exposure
☐ Unknown ☐Other

Road traffic incident:
☐ Driver ☐ Car ☐ Airbag
☐ Passenger ☐ Bike ☐ Seatbelt
☐ Pedestrian ☐ Motorbike ☐ Other restraint
☐ Ejected ☐Other ☐ Helmet
☐ Extricated

If Injury:
•Check appropriate boxes that describe the mechanism. If burn or poison/toxin, write the cause.
•If road traffic incident: check appropriate boxes for the incident, and use of helmets, seatbelts or airbags. Check box if the patient was ejected from the vehicle or had to be extricated. Document what was hit or crashed with. Where known, document number of persons involved, estimated speed, severity of damage.

PHYSICAL EXAM

☐NML	**General**		☐NML	**Pelvis/GU**	
☐NML	**HEENT**		☐NML	**Neurologic**	
☐NML	**Respiratory**		☐NML	**Psychiatric**	
☐NML	**Cardiac**		☐NML	**MSK**	
☐NML	**Abdominal**		☐NML	**Skin**	

PHYSICAL EXAM: Normal (Do NOT mark normal unless all key elements are normal). If not examined, write "not done."
General: Well developed, well nourished, awake, alert
Head/Eyes/Ears/Nose/Throat (HEENT): Normocephalic, atraumatic. Pupils: equal and reactive, ocular movements intact, conjunctivae normal. This section includes the neck: trachea midline, neck supple, good range of motion (ROM)
Respiratory: Normal effort, no added breath sounds, normal expansion, atraumatic
Cardiac: Normal rate and rhythm, strong pulses, normal sounds
Abdominal: Soft and non-tender, bowel sounds normal
Pelvis/Genitourinary (GU)/Rectal: Pelvis-Stable, no pain to palpation. GU/Rectal-External genitalia normal, no blood at meatus, normal urine colour, atraumatic, normal rectal tone, no rectal bleeding.
Neurologic (Neuro)/Psychiatric: Oriented x3, cranial nerves (CN) intact, no focal weakness or sensory deficits. Calm, normal mood.
Musculoskeletal (MSK): Range of motion normal, no trauma or deformity, normal distal pulses, atraumatic
Skin: Warm, intact, normal capillary refill, atraumatic

ABNORMAL PHYSICAL EXAM FINDINGS (specify right or left when needed to clarify findings)
General: Distressed, malnourished, diaphoretic, uncooperative, sedated, lethargic
Head/Eyes/Ears/Nose/Throat (HEENT): Bleeding from ears, skull fracture, penetrating head/face injury, scalp haematoma, scalp/face laceration, signs of basilar skull fracture (Racoon's/Battle's sign, cerebrospinal fluid leak). Unequal pupils, eye injury. C-spine tenderness, haematoma, superficial neck injury, limited ROM, neck crepitation, penetrating neck injury (through platysma)
Respiratory: Respiratory rate low or high, absent breath sounds, decreased breath sounds, crackles, wheezes, crepitations, paradoxical chest wall movement, sucking chest wound, subcutaneous emphysema/crepitus, penetrating injury, tenderness, superficial injury
Cardiac: Irregular heart rate, bradycardia, tachycardia, asymmetric pulses
Abdominal: Distension, tenderness, rebound, tense, evisceration, mass, penetrating abdominal injury, abnormal bowel sounds
Pelvis/GU/Rectal: Unstable, pain at palpation, superficial injury, penetrating injury, rectal bleeding, flank ecchymoses, superficial injury, penetrating injury
Neuro/Psychiatric: Disoriented, sensory or motor deficit (right / left, arm/leg), abnormal gait or coordination, seizure activity. Suicidal, homicidal, hallucinations, depressed, anxious
MSK: Joint swelling, decreased ROM, extremity deformity, open fracture, spine tenderness, spine deformity, superficial injury, penetrating injury
Skin: Laceration, bruising, rash

ADDITIONAL INTERVENTIONS

Medications given
- ☐ Bronchodilators
- ☐ Epinephrine
- ☐ Aspirin
- ☐ Seizure medication
- ☐ Analgesia
- ☐ IV fluid infusion
- ☐ Other

Procedures
- ☐ Wound Bandaging
- ☐ Burn Dressing
- ☐ Splinting/reduction
- ☐ Pelvic stabilization
- ☐ ECG
- ☐ Other

ASSESSMENT (include brief summary and differential) **AND PLAN:**

REASSESSMENT at (time)		HR		RR				☐ **Unchanged**
Temp		SpO2		% on	RBS		Pain		
REASSESSMENT at (time)		HR		RR				☐ **Unchanged**
Temp		SpO2		% on	RBS		Pain		
REASSESSMENT at (time)		HR		RR				☐ **Unchanged**
Temp		SpO2		% on	RBS		Pain		

Presumptive Diagnoses

ADDITIONAL INTERVENTIONS
MEDICATIONS: Specify type of medication and time, dose, route. Specify any fluids given - fluid, route, volume. Sign here.
PROCEDURES: Include outcome in the free text area. if you have done ECG, describe findings here. Specify limb splinted and how, location of fracture reduced and method, location of any wounds or burns dressed and how this was performed.
ASSESSMENT & PLAN: include summary & differential diagnosis, and the plan
REASSESSMENT: Time, vitals and clinical condition for at least two different assessments during transport. Indicate the changes in the right column. Tick unchanged if no changes.
PRESUMPTIVE DIAGNOSES: List all working diagnoses or impressions, and injuries found

DISPOSITION

DISPOSITION

Handover time

Handover to
(name, cadre & signature)

Vitals at (time) **HR** **RR**
Temp **BP** **SpO2** **% on**
Plan discussed with patient? ☐ Yes ☐ No

Provider(s) name

Provider(s) signature & date

DISPOSITION: Write name of destination facility (including clinical area e.g. emergency unit, ward) and time of handover to facility based staff
Handover to: Write name, cadre of provider receiving handover and obtain signature
Vitals at Disposition: Enter final set of vital signs taken before handover and time taken
Providers(s): List names of all prehospital providers involved in care with signatures and date.

EQUIPMENT FOR **ALL** AMBULANCES

3 pages

Resuscitation: general
High acuity grab bag
Delivery set
Cord clamp
Birth kit
Neonatal resuscitation kit
Warming blanket
Paediatric length-based tape (e.g. Broselow or PAWPER tape)
Resuscitation: airway
Oral airways (#00 - 6)
Nasal airways (12 - 36F)
Oxygen supply (cylinder with regulator, or other source; with flow meter)
Nasal cannula (adult, paediatric and neonatal sizes)
Oxygen mask (adult, paediatric and neonatal sizes)
Magill forceps, including paediatric sizes
Suction device: manual (bulb) or foot pump
Suction device: manual (bulb) - infant
Suction catheters
Suction collection vessel
Suction device: powered (electric or pneumatic)
Resuscitation: breathing
Bag–valve–mask (adult, paediatric and neonatal sizes)
PEEP valve for bag-valve-masks
Nebulizer
Nebulization masks (paediatric and adult sizes)
Nebulizer tubing and connectors
Metered-dose inhaler spacer
Resuscitation: circulation
Arterial tourniquet
Intravenous infusion set (lines, connectors)
Intravenous cannulas size 14 - 24
Tourniquets for IV start
IV poles or hooks
Syringe (2, 5, 10, 20, 50cc)
Needles (range of gauges and lengths; safety, single use)
Insulin needles and syringes (safety, single use)
Automated external defibrillator (AED)
Bedside diagnostics
Clock, timer or watch with second hand
Stethoscope
Digital thermometer (32 - 43 Celsius)
Penlight
Pulse oximetry
Sphygmomanometer
Blood pressure (BP) cuff (small - large adult; paediatric sizes)
Tongue depressors

Point of care testing
Quality controls for blood glucose meter
Blood glucose meter
Blood glucose meter test strips
Finger-stick lancets
Splinting, immobilisation & patient movement
Sheet or binder for pelvic fractures
Splint material (i.e. stocking, gauze padding, premade splint)
Elastic bandages
Cervical collars, adult small - large
Cervical collars, paediatric sizes
Physical restraints
Stretchers and gurneys (wheeled stretchers)
Vacuum mattress
Carrying sheet
Portable stretcher
Stair chair or carry chair
Scoop stretcher
Long backboard / spine board complete with head immobiliser (blocks) and securing straps
Extrication device
Wounds & dressings
Chlorhexidine 5% solution
Povidone iodine 10% solution
Adhesive tape
Cotton wool
Non-sterile dressings
Vaseline or paraffin gauze
Sterile dressings
Burn dressings
Eye pads
Minor procedures
Non-sterile pad with impermeable barrier
Lubricating jelly
Tampons
Bowls (kidney, emesis)
Procedure (kick) bucket
PPE/IPC
Soap
Hand disinfectant
Ethanol 70% solution
Environmental disinfectant
Cleaning equipment (e.g. sponges, buckets, mops, brooms)
Cleaning protective equipment (e.g. thick gloves, boots)
Hair covers
Goggles
Mask with face shield
Surgical mask N-95 respirators
Sterile gloves (range of sizes)

Impermeable aprons
Non-sterile gowns (multiple sizes)
Waste bags
Biohazard and contaminated supply bags
Safe biological waste disposal containers
Safe final disposal of biological waste
Sharps disposal (single use cardboard box/locked plastic box; puncture proof)
Safe final disposal of sharps
Decontamination pack
Chlorine releasing agents (0.5-1% available chlorine)
Miscellaneous
Oral medication administration supplies (e.g. cups, dropper)
Medication and medication dispensing storage and organization system
Sanitary pads
Urinals
Bed pans
Linen (e.g. sheets, pillowcases, towels, patient gowns)
Pillows
Blankets
Ambulance operations
Trauma shears
Helmets, heavy gloves, heavy eye protection
Reflective wear for crew
Mass casualty incident kit
Fire response kit
Seat belt cutter
Fire extinguisher
Flashlights or headlamps + spare batteries
Traffic signalling device (reflective triangles)
Outdoor lighting
Jumper cables
Maps of local area
Two-way communication device
Internal communication between driver and patient compartment
Triage protocols (posters and cards)
Triage tags
Standardised clinical chart (e.g. paediatric, medical, trauma, obstetric)
Condition specific protocols (posters or cards/book)
Printed book of disaster protocols (multiple copies for administrative and clinical areas)
Pre-printed disaster intake forms
Important telephone number/radio frequency list
Shortwave radio or dedicated telephone line
Death kit (any necessary documentation, tags, or labels for transporting dead patient to morgue)
Body bags

ADDITIONAL EQUIPMENT FOR **ADVANCED** AMBULANCES

ADVANCED ambulances should have ALL preceding equipment AND all items listed on this page

1 page (to be read in conjunction with *Equipment for all ambulances*)

Resuscitation: airway
Nasogastric (NG) tube (5 - 18F)
Syringe (60cc catheter tip)
Dual-tube laryngeal mask airway (LMA) (#2 - 7)
Bougie endotracheal tube introducer
Laryngoscope set (range of blades and sizes)
Endotracheal tubes (#2.5 - 8.5)
Paediatric sizes for laryngoscope
Surgical cricothyroidotomy set
Tracheostomy tubes (4 - 10mL inner diameter)
Oesophageal detector device (e.g. CO2 colorimeter)
Resuscitation: breathing
Chest tube insertion set
Chest tubes (10 - 36F)
Underwater seal system (or equivalent)
Heimlich valve and catch bag
Continuous or bi-level positive airway pressure machine (CPAP, BiPAP)
CPAP, BiPAP neonatal mask
CPAP, BiPAP child mask
Mechanical Ventilator
Circuit/tubing for mechanical ventilation
Resuscitation: circulation
Pressure bag for IV infusion
Blood administration set
Intraosseous needle driver (electric or manual)
Intraosseous needle or equivalent (15, 25 and 45mm)
Defibrillator with pacing and synchronized cardioversion capabilities
Defibrillator pads
Bedside diagnostics
ECG machine
ECG paper, leads and suction attachments/stickers
Razor
Electronic cardiac monitor
Electronic cardiac monitoring leads with suction attachments
Splinting, immobilisation & patient movement
Extrication device
Wounds & dressings
Minor surgical set
Scalpel
Sutures (absorbable and non-absorbable; sizes 2-0 - 6-0)
Forceps (artery, dressing)
Minor procedures
Urinary catheter (5 - 22F)
Urinary straight catheter

MEDICATIONS FOR **ALL** AMBULANCES

1 page

WHO EML Section	Medication
2. Medicines for pain and palliative care	Non-opioid analgesic (e.g. Paracetamol PO, Ibuprofen PO/IM)
	Antiemetic PO
3. Antiallergics and medicines used in anaphylaxis	Epinephrine IM
4. Antidotes and other substances used in poisonings	Activated charcoal
5. Medicines for diseases of the nervous system	Diazepam PR
	Magnesium sulfate IM
12. Cardiovascular medicines	Aspirin PO
22. Medicines for reproductive health and perinatal care	Oxytocin IM; if no cold storage, Carbetocin IM or Misoprostol PO
25. Medicines acting on the respiratory tract	Inhaled bronchodilator
26. Solutions correcting water, electrolyte and acid–base disturbances	Oral rehydration solution
	IV Solution for flush
	Oral (buccal) Glucose
Additional medications	Topical agents for burn dressing

IM – Intramuscular
IV – Intravascular
PO – per os (oral)
PR – per rectum
SL – Sublingual

ADDITIONAL MEDICATIONS FOR **ADVANCED** AMBULANCES

ADVANCED ambulances should have ALL medication for all ambulances AND all items listed below

1 page (to be read in conjunction with *Medications for all ambulances*)

WHO EML Section	Medication
1. Anaesthetics, preoperative medicines and medical gases	General Anaesthetics (e.g. Midazolam, Ketamine, Etomidate) IV
	Local Anaesthetics e.g. Lidocaine
2. Medicines for pain and palliative care	Opioid analgesia (e.g. Morphine) IV
	Antiemetic (e.g. Ondansetron, Metoclopramide) IM/IV
3. Antiallergics and medicines used in anaphylaxis	Hydrocortisone IM/IV
4. Antidotes and other substances used in poisonings	Atropine IV
	Naloxone IM/IV
	Flumazenil IV
5. Medicines for diseases of the nervous system	Antiepileptic Diazepam, Midazolam IM/IV
	Anxiolytic Diazepam, Lorazepam IM/IV
6. Anti-infective medicines	First dose of antibiotic for systems with long transport times IM/IV
	First dose of antimalarial
12. Cardiovascular medicines	Glyceryl trinitrate SL
	Isosorbide dinitrate PO
	Adenosine IV
	Amiodarone IV
	Vasopressor e.g. Dopamine IV
16. Diuretics	Diuretics e.g. Furosemide IV
20. Muscle relaxants and cholinesterase inhibitors	Suxamethonium chloride IV
22. Medicines for reproductive health and perinatal care	Tranexamic acid IV
	Ergometrine IM/IV
25. Medicines acting on the respiratory tract	Nebulized bronchodilator
26. Solutions correcting water, electrolyte and acid–base disturbances	IV Fluids e.g. normal saline, Ringer's lactate
	IV Fluids containing Dextrose
Additional medications	Antihistamine e.g. Diphenhydramine PO

IM – Intramuscular **IV** – Intravascular **PO** – per os (oral)
PR – per rectum **SL** – Sublingual

7: Ambulance shift handover

Date and shift	Off going	Incoming	
Ambulance number	YES ☐ NO ☐	**Medications handed over**	YES ☐ NO ☐
Radios handed over	YES ☐ NO ☐	**Keys handed over**	YES ☐ NO ☐
Batteries changed (radios, monitors)	YES ☐ NO ☐	**Ambulance inspection form completed** *(if in use in service)*	YES ☐ NO ☐
Ambulance fuel level checked	YES ☐ NO ☐	**All paperwork completed**	YES ☐ NO ☐
Ambulance issues & action taken			
Equipment issues & action taken			
Unusual events requiring supervisor follow up			
Crew names and signatures	Off going	Incoming	

It is the responsibility of all personnel to ensure that the vehicles they use are hygienically clean at all times.

THE MINIMUM STANDARDS FOR CLEANING ARE:

- Cleaning must be carried out by well-trained staff with dedicated equipment.
- Training of staff must be provided by the ambulance service in collaboration with local IPC teams and public health authorities.

- Vehicles must have smooth non-porous surfaces and removable rubber mats to enable adequate cleaning and disinfection procedures.
- Beds and seats used for patient transport, handles, and any items touched during transfer are to be wiped using a microfibre or cotton cloth or disposable paper towel with clean water and neutral detergent using physical friction to remove organic remnants.
- All work areas should be cleaned with soap and water and disinfected with an appropriate hospital-grade disinfectant solution at least once a day, depending on the workload.
- Floors are cleaned daily using clean water and a neutral detergent; surfaces must be dry before vehicle returns to service.

- The sequence of cleaning starts at the cleanest areas and works towards the contaminated areas, ideally proceeding from highest surfaces to lowest surfaces in a systematic manner. If separate cleaning teams are involved, the cleaning areas/tasks are the responsibility of the individual teams assigned to these areas.
- Provision should be made for storage of cleaning equipment, such as cloths, mops, and buckets, where equipment will be washed, cleaned, and dried (cleaned cloths, mops and buckets are stored inverted) or packed in a leak-proof bag to send to the laundry.

- Non-sharps disposable items, including paper towels, single-use PPE, packaging, and other single-use materials must be collected in leak-proof bin liners (garbage bags) and disposed of using locally applicable waste management strategies for domestic and infectious waste.
- Sharps should always be disposed of in designated sharps containers as infectious waste.

PROCEDURE

1. Cleaning after each patient transport

- Carefully dispose of sharps into a designated container.
- Place potentially infectious health care waste in a clearly marked biohazard waste bag.
- Clean and disinfect all equipment used during the patient encounter following local protocols. A hospital-grade disinfectant solution (e.g. chlorine, hydrogen peroxide, quaternary ammonium) must be applied to surfaces for disinfection (as locally available)
- Use leak-proof bin liners (garbage bags) to collect all single-use items after use.
- If reusable equipment was used for an invasive procedure (e.g. respiratory equipment), send to a hospital medical device reprocessing department for high-level disinfection or sterilization when indicated by manufacturer directions.
- Restock the vehicle.

PROCEDURE (cont.)

2. Routine scheduled cleaning (daily)

Patient Compartment

- Remove all equipment and sweep out the compartments; clean with soap and water applied by cloth followed by disinfection using a second (clean) cloth.
- Remove stretchers; clean and disinfect all components including mattress and belts.
- Remove and clean and disinfect wall suction.
- Remove the contents of cabinets and shelves; clean and disinfect all surfaces.
- Clean (wipe with small amount of soap and water) and dry all packaged items before returning to the cabinet or shelf; inspect for damage, expiration dates or repair/replace as needed.
- Sweep, vacuum, clean, and disinfect floor.
- Clean and disinfect all interior surfaces, including ceiling and walls.
- Clean and disinfect all chairs, bench seats, and seat belts.
- Empty and clean all waste containers with soap and water.
- Clean interior windows with soap and water, or window cleaner.
- Check functioning of compartment ventilation/heating/cooling devices.
- Clean air filters on compartment ventilation devices according to manufacturer directions.

Driver's compartment

- Remove all equipment from the front of the vehicle.
- Clean and vacuum floor.
- Clean and disinfect all interior surfaces, including walls, doors, radio equipment, windows, and dashboard.

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3. High risk contamination

Safety precautions and procedures are to be followed with high-risk contamination. The emergency communication and dispatch centre or Medical Control Officer informed immediately. The ambulance concerned must be sealed for a minimum of 24 hours before any decontamination of the vehicle takes place.

Personnel carrying out decontamination must follow the following protection procedures:

- Put on appropriate PPE:
  - Medical mask (disposable)
  - Eye protection (goggles)
  - Medical gloves (disposable)
  - Fluid-resistant gown (disposable) of good length and long sleeves tucked underneath cuffs of rubber gloves.
  - Rubber boots
- Allow any spillages on surfaces to soak into paper towels before physical removal, and place in a sealed bag, mark as bio-hazardous and send for incineration. Proceed with cleaning and disinfection after removing spills.
- Collect disposable equipment and place in a sealed bag, mark as bio-hazardous and send for incineration.
- Sharp objects must be placed in the sharp container to prevent sharps injuries and penetration of the bag.
- All surfaces must be cleaned, by wiping with a hospital-grade disinfectant solution and allowing it to dry.
- Collect contaminated clothing, blankets etc., place in a sealed bag, mark as bio-hazardous, and hand to a supervisor for autoclaving.
- Place all other equipment place in a sealed bag, mark as bio-hazardous and hand to a supervisor for cleaning and sterilisation

Source: https://www.who.int/publications/i/item/9789240051065
https://www.cdc.gov/healthcare-associated-infections/media/pdfs/environmental-cleaning-rls-508.pdf

General instructions for surface cleaning and disinfecting in patient care areas

World Health Organization

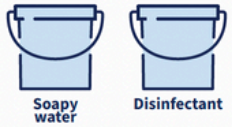
Step 1.

Gather supplies

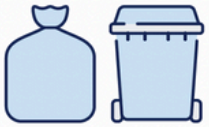
- Clean set of personal protective equipment (PPE) for each area cleaned.

- At least 2 clean cloths for each area for cleaning (e.g. a single patient space).
  - More cloths may be needed if space is heavily contaminated.

- Bucket containing detergent (soapy water).
- Bucket containing disinfectant solution.



- Waste bin or bag.

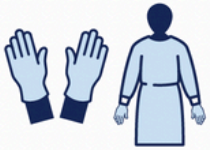


Step 2.

- Perform hand hygiene.

Step 3.

- For general cleaning, wear a gown (or apron) and gloves.



Step 4.

- Clean surfaces using a cloth soaked in soapy water.

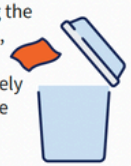
- After cleaning, dispose of the cloth appropriately as waste or laundry.

Step 5.

- Disinfect high-touch surfaces (or all surfaces if isolation area) using a cloth soaked in disinfectant.

- Allow surfaces to remain untouched and unused until after the contact time specified by the disinfectant manufacturer

- After completing the disinfecting step, dispose of the cloth appropriately as waste (if single use) or place in laundry.



Step 6.

- After cleaning each individual patient space or area remove PPE and dispose of single-use PPE safely in the waste bin/container.

Step 7.

- Perform hand hygiene.

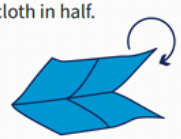
How to fold and use a cloth for cleaning and disinfection

Step 1.

Use two clean cloths at minimum (one for cleaning, one for disinfection) for each patient space.

Step 2.

Fold cloth in half.

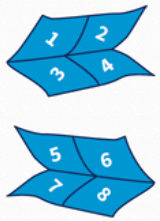


Step 3.

Then fold the cloth in half again.

Step 4.

You now have eight different surfaces on the cloth (4 surfaces on front, 4 surfaces on back).

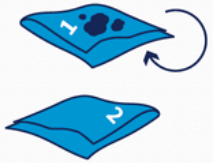


Step 5.

Soak the cloth in each bucket only once. Do not dip the cloth in the bucket a second time as this will contaminate the solution.

Step 6.

Switch to a different cloth surface when soiled or when cleaning a different object or furnishing in the patient space to avoid spreading contamination.



Step 7.

When all sides have been used, dispose of the cloth appropriately as waste (if single-use) or place in laundry container and use a new cloth to continue the task. Always use clean cloths when moving to a different patient's space.

9: Declaration of death and management of dead bodies

DEFINITIONS OF TERMS AND CONCEPTS

- **Declaration**: The statement by a trained, qualified, and registered healthcare provider (prehospital provider or physician) that a person is dead.
- **Death notification form**: Legal document through which local authorities are notified of the death and cause of death for national mortality statistics. May also be referred to as a "Death Certificate".
- **Certification**: The determination by a physician, who is licensed and registered by the local regulatory authority, of the cause of death of a patient as determined by local regulations.
- **Natural death***: Fatalities resulting from illnesses, diseases, or old age. These deaths are generally caused by internal conditions of the body that are not within voluntary control and are not deliberate or intentional. There is no significant contribution from external factors, and blameworthiness on the part of any person cannot be readily inferred. Examples of natural causes of death include coronary artery disease and cancer.
- **Unnatural death***: Any death that is not natural in origin. These deaths include suicide, homicide, falls, drowning and anaesthetic deaths. Typically, the cause of unnatural death may only be notified by a pathologist/forensic practitioner after a medico-legal autopsy and in accordance with local regulations.

*Different jurisdictions may categorize and report unnatural deaths in different ways.

WHO CAN DECLARE DEATH

- Physicians or prehospital providers (within scope authorised by local regulations).
- Any person who is legally and professionally authorized to administer a Death notification form (within scope authorised by local regulations).
- The local ECS regulatory authority determines death protocols for ambulance services, but the clinical decision and responsibility for the declaration of death lies with the healthcare provider.
- Declaration of death is a clinical statement and must not be confused with the issuing of a formal death notification form. A final death notification form (*death certificate*), which certifies the cause of death, is issued by local authorities.

Advice should be sought whenever needed, especially when deviations from protocols may be necessary.

CLINICAL CRITERIA FOR DEATH

In some cases, prehospital practitioners will use a facility-based protocol for declaration of death. In other jurisdictions, the regulatory authority may have introduced its own clinical criteria involving examination or diagnostics.

MANAGEMENT OF THE DECEASED

Handling of deceased patients/persons from incident scenes

Dead individuals should be removed from incident scenes, out of public view, within the shortest possible time frame.

- **Natural deaths at home**

For natural deaths at home, in many settings private undertakers handle removal and the family medical practitioner completes necessary documentation. The attending prehospital provider's role in such circumstances would be to take a history to determine any causal relationship between the death and prior incidents or injuries.

- **Crime scenes**

At crime scenes, death declaration should occur promptly, with forensic pathology services removing the body. Local authorities (e.g. police) should allow controlled access for healthcare professionals to declare death.

- **Unnatural deaths**

Patients that die of unnatural causes and are declared dead at the scenes of incidents, hospitals or police stations should be removed by the forensic pathology services or to a state mortuary (in accordance with local regulations).

- **Death during transit**

Patients who die in transit in ambulances may be declared dead according to local regulations and standing operating procedures and delivered to the state mortuary, hospital mortuary, or private mortuary as appropriate. In many settings this does not apply and the patient is transported to the closest emergency unit.

Documentation

Prehospital providers should typically complete a declaration of death form in duplicate when declaring death, with copies for the mortuary and the attending provider's records.

Suspicion of unnatural death

If the prehospital provider suspects that death is due to unnatural causes, they should report the incident to a supervisor who must report to the appropriate local authorities (e.g. police services).

10: Form for refusal of transport or treatment

PATIENT REFUSAL OF TRANSPORT OR TREATMENT		
I, the undersigned, have been advised that medical assistance on my behalf is necessary, and that refusal of assistance and transport may result in my death, or imperil my health. Nevertheless, I refuse to accept assistance and/or transport and assume all risks and consequences of my decision. I thereby release the provider of the ambulance service from any liability arising from my refusal.		
Patient name:	**Patient signature:**	**Date:**
Witness name:	**Witness signature:**	**Date:**
Prehospital provider name:	**Prehospital provider signature:**	**Date:**
Ambulance service name:		

Risks of refusal discussed with patient:	**Circumstances/reasons stated by patient for refusing care or transport:**
Benefits of care or transport discussed with patient:	
Alternatives to transport discussed with patient:	

11: Regional health facility capabilities

THIS SHOULD BE LOCALLY DEVELOPED, CONSIDERING THE TEXT BELOW
The intent of this is to facilitate destination triage decision making – ensuring that the patient is taken to the closest, most appropriate facility at the earliest stage. It should contain relevant information about health facilities in the geographic vicinity, at a minimum: • Location • Contact details • Emergency unit contact details • In-patient service availability (e.g. trauma surgery, stroke unit, intensive care unit)

THIS SHOULD BE LOCALLY DEVELOPED, CONSIDERING THE TEXT BELOW

Patients should be transported to the ***closest, most appropriate*** facility given their condition and needs. For most situations, this will be the closest facility capable of providing initial assessment and treatment of emergency conditions.

However, there are certain cases in which patients should go to specific facilities that might be further away rather than the closest facility, which is condition-specific triage. Condition-specific triage will be dependent on regional resources and context.

In a system where these resources exist, the following should occur:

1.Facilities with specific capabilities should be identified and accredited by the ECS regulatory authority. This database should be readily available to support clinical decision making.

2.Criteria should be created to decide when the closest hospital should be bypassed for a destination with relevant capabilities with the following considerations:

- Clinical condition
- Family or physician preference
- Receiving facility ambulance diversion status

Note that patients whose condition either worsens or is so unstable that they will likely not survive to a more appropriate hospital further away should be taken to the closest hospital for intervention prior to transfer to the intended facility.

Consider the need for provider medical control contact.

3.Conditions should be identified based on regional resources. Examples include:

- Trauma
- Burn
- Obstetrics
- Paediatrics
- Suspected stroke
- Suspected myocardial infarction

4.For each condition identified for condition-specific triage, clear requirements should be developed that include:

- Facility requirements
  - Staff requirements
  - Resource requirements
- Field triage guidelines
  - Scoped to level of prehospital provider.
  - Patient condition criteria
  - Distance and location criteria
- A matrix of regional facilities be agreed upon and distributed to providers and facilities.
  - Designation of facilities should be approved by the ECS regulatory authority.
- Quality assurance and feedback

13: Mass casualty destination plan

1. A "patient transport area" should be established on scene in accordance with the MCI plan. Patients should be staged for transport here, and the transport officer will be stationed here.

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2. The transport officer coordinates all transportation of patients to facilities. Specifically, the transport officer:

a. Determines facility availability.
b. Determines need for non-facility destinations as needed to support surge.
c. Maintains direct communication with all destinations to update availability in real time.
d. Determines need for vehicles and level of prehospital care transport.
e. Determines need for other transport vehicles (e.g. buses)
f. Matches patients needing transportation with vehicles and destinations.
g. Tracks all patient movement, recording the patient, vehicle, and destination.
h. Maintains direct communication with the Incident Commander.

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3. Facilities will surge their patient care operations through their pre-planned surge protocols to accommodate MCI patients. This may be by setting up alternate care areas through the re-purposing of current patient care sites or by setting up disaster tents on the hospital property.

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4. Patients will be distributed to facilities in a managed process to even the distribution across facilities to avoid overburdening any facility.

a. Facilities should have a pre-defined capacity for initial patients in a surge situation.
b. This process should take into account regional condition-specific triage guidelines.
c. Destinations should be determined with consideration to the self-triage of the affected population to the facilities nearest the incident.

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5. Mutual aid policies with surrounding regions should be established to allow for transportation to facilities in surrounding regions in a surge situation.

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6. A final document should be produced within 24 hours of the incident's conclusion that reports all patient transports, their destination, and transport mechanisms.

This document should be used to inform preparation for future events.

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7. All MCI destination plans should be made in coordination with regional and national agencies.

14: Medical control record

MEDICAL CONTROL FIELD CONTACT RECORD				
Date:		**Medical control facility:**		
Time:		**Medical Control Officer name:**		
Field unit:		**Prehospital provider name:**		
Reason for call:	Medication request	Care refusal	Destination request	Death pronouncement
	Other:			
Details:				
Vital signs:	HR:	BP:	RR:	SpO2:
Outcome:				
Comments:				
Quality review:				
Medical Control Officer signature				

15: Standard precautions

1.HAND HYGIENE

- **Hand washing** (40–60 sec): wet hands and apply soap; rub all surfaces; rinse hands and dry thoroughly with a single-use towel; use towel to turn off faucet.
- **Hand rubbing** (20–30 sec): apply enough hand sanitizer product to cover all areas of the hands; rub hands until dry.

Summary indications:
Follow WHO's 5 moments for hand hygiene:

- **Moment 1:** Before touching a patient
- **Moment 2:** Before a procedure
- **Moment 3:** After a procedure or exposure to body fluids
- **Moment 4:** After touching a patient
- **Moment 5:** After touching a patient's surroundings

https://www.who.int/docs/default-source/patient-safety/how-to-handwash-poster.pdf
https://www.who.int/docs/default-source/patient-safety/how-to-handrub-poster.pdf

2. GLOVES

- Wear when touching blood, body fluids, secretions, excretions, mucous membranes, non-intact skin.
- Change between tasks and procedures on the same patient after contact with potentially infectious material.
- Remove after use, before touching non-contaminated items and surfaces, and before going to another patient. Perform hand hygiene immediately after removal.

3.FACIAL PROTECTION (EYES, NOSE, AND MOUTH)

- Wear (1) a surgical or procedure mask and eye protection (eye visor, goggles) or (2) a face shield to protect mucous membranes of the eyes, nose, and mouth during activities that are likely to generate splashes or sprays of blood, body fluids, secretions, and excretions.
- In case of suspected respiratory or other highly transmissible infections, you may need to upgrade to transmission-based precautions.

4.MOISTURE-RESISTANT GOWN

- Wear to protect skin and prevent soiling of clothing during activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions.
- Remove soiled gown as soon as possible and perform hand hygiene.

5. PREVENTION OF NEEDLESTICK AND INJURIES FROM OTHER SHARP INSTRUMENTS

Use care when:

- Handling needles, scalpels, and other sharp instruments or devices.
- Cleaning used instruments.
- Disposing of used needles and other sharp instruments (e.g. IV catheters, disposable scalpels, lancets) in the sharps container. These should never be pushed or forced into the container and must not go beyond the indicated line as needlestick injuries may result.

6. RESPIRATORY HYGIENE AND COUGH ETIQUETTE

Persons with respiratory symptoms should apply source control measures:

- Cover their nose and mouth when coughing/sneezing with tissue or mask (or a sleeve or flexed elbow), dispose of used tissues and masks, and perform hand hygiene after contact with respiratory secretions.

7. ENVIRONMENTAL CLEANING

- Use adequate procedures for the routine cleaning and disinfection of environmental and other frequently touched surfaces.

8. LINENS

Handle, transport, and process used linen in a manner which:

- Prevents skin and mucous membrane exposures and contamination of clothing.
- Avoids transfer of pathogens to other patients and or the environment.
- Always keep clean and used linens in separate compartments

9. WASTE DISPOSAL

- Ensure safe waste management.
- Treat waste contaminated with blood, body fluids, secretions, and excretions as clinical waste, in accordance with local regulations.
- Any material directly associated with specimen or bodily fluid processing should be treated as clinical waste.
- Discard single-use items properly.

10. PATIENT CARE EQUIPMENT

- Handle equipment soiled with blood, body fluids, secretions, and excretions in a manner that prevents skin and mucous membrane exposures, contamination of clothing, and transfer of pathogens to other patients or the environment.
- Clean, disinfect, and reprocess reusable equipment appropriately before use with another patient.

11. OTHER CONSIDERATIONS

- Limit the number of accompanying personnel involved in direct care of the patient.
- Limit the amount of equipment and consumables in the care cabin to what is required for a single transfer to avoid contamination and reduce potential damage of materials due to decontamination procedures.
- Do not take family members alongside the patient unless a parent is accompanying a sick child.
- Provide and instruct the parent on the use of PPE and hand hygiene.
- Optimize ventilation in vehicles during transport. Natural ventilation is preferred to reduce risk of transmission of infectious particles.

Source: https://www.who.int/publications/m/item/standard-precautions-in-health-care

How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

Duration of the entire procedure: 40-60 seconds

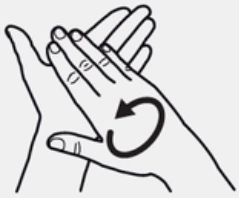
0

Wet hands with water;

1

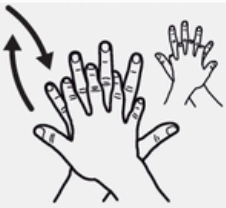
Apply enough soap to cover all hand surfaces;

2



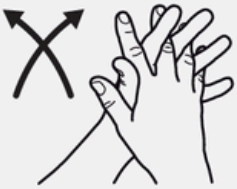
Rub hands palm to palm;

3



Right palm over left dorsum with interlaced fingers and vice versa;

4

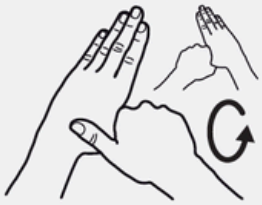


Palm to palm with fingers interlaced;

5

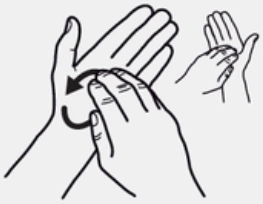
Backs of fingers to opposing palms with fingers interlocked;

6



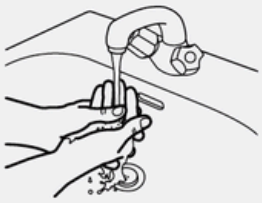
Rotational rubbing of left thumb clasped in right palm and vice versa;

7



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

8

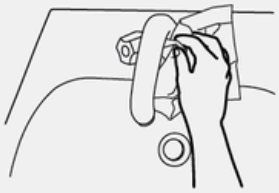


Rinse hands with water;

9

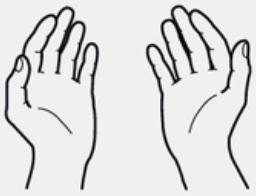
Dry hands thoroughly with a single use towel;

10



Use towel to turn off faucet;

11



Your hands are now safe.

World Health Organization | Patient Safety — A World Alliance for Safer Health Care | SAVE LIVES Clean Your Hands

WHO acknowledges the Hôpitaux Universitaires de Genève (HUG), in particular the members of the Infection Control Programme, for their active participation in developing this material.

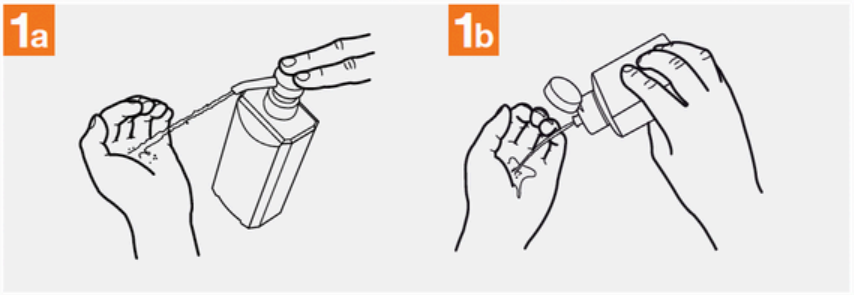
May 2009

How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

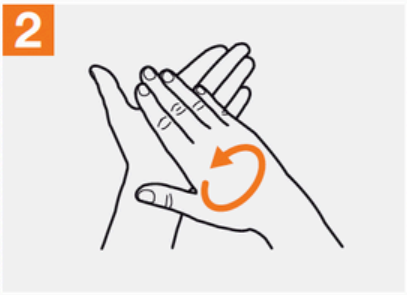
Duration of the entire procedure: 20-30 seconds

1a 1b



Apply a palmful of the product in a cupped hand, covering all surfaces;

2



Rub hands palm to palm;

3

Right palm over left dorsum with interlaced fingers and vice versa;

4

Palm to palm with fingers interlaced;

5

Backs of fingers to opposing palms with fingers interlocked;

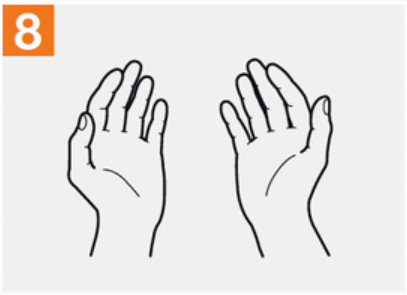
6

Rotational rubbing of left thumb clasped in right palm and vice versa;

7

Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

8



Once dry, your hands are safe.

World Health Organization | Patient Safety — A World Alliance for Safer Health Care | SAVE LIVES Clean Your Hands

May 2009

16: Scene safety

Determining and maintaining scene safety is the highest priority for prehospital providers.

Scene safety is dynamic and must be constantly re-evaluated. If a previously safe scene becomes unsafe, providers should adapt their response as needed to maintain safety for all.

If a provider becomes ill or injured, not only can they no longer help the original patient(s), but they may require assistance themselves. Safety priority is prioritized in three tiers; each should be considered and addressed:
1. Safety of yourself **2. Safety of the scene** **3. Safety of the patient**

Safety considerations for each stage of prehospital response are detailed below

CALL-TAKING AND DISPATCH

- Personal and health data security
- Communications security
- Co-dispatching appropriate services when needed e.g. police services

INITIAL RESPONSE

- Vehicle safety standards, including certification and preventative maintenance
- Road traffic safety standards, including speed limit guidelines
- Emergency vehicle operation training, including use of emergency lights and sirens
- Personal safety, including seatbelt use and mobile device use

SCENE

- Safe parking that provides for safe patient compartment accessibility; in a dangerous area, parking by reversing into a space can allow a more rapid exit
- Protocols for roadway responses: parking angle (e.g. fend off position), safety vest use, and flare/triangle use
- Scene size up from the vehicle prior to entry
- Review of any known information about prior dispatches to the address
- Awaiting police arrival for high-risk call types with possible severe or ongoing violence, e.g. gunshots or stabbings
- Awaiting fire department arrival prior to approaching a structure on fire or with a possible toxic exposure
- Awaiting public utility arrival when concerned for electrical hazards, e.g. downed power lines or electrified railways
- Donning and doffing appropriate PPE
- Identifying animals and taking appropriate precautions
- Ensuring adequate light in dark environments, and avoid looking at bright sources (e.g. smartphone screens)
- Practicing safe lifting techniques to avoid injury to providers or patient
- Maintaining a clear exit pathway and strategy at all times
- Management of bystanders in public or crowded scenes
- Securing vehicle to prevent theft or vehicle or equipment while at scene
- Specific protocols should be developed for special contexts such as wilderness, high-angle, water, confined space, etc. Safe response to these contexts will typically require additional training

DURING TRANSPORT

- Proper use of safety restraints for all passengers, including patients
- Safe stretcher locking device to prevent movement
- Securing all equipment prior to vehicle movement
- Use of sharps containers and safe biohazard waste disposal
- If interventions are required that require the provider to remove their seatbelt, ambulance should pull over and stop
- Ongoing use of safe driving practices

AT FACILITY

- Safe lifting and patient movement practices
- Safe parking of vehicles and avoidance of engine idling

FOLLOWING CALL

- Decontamination to level required based on call
- Safe disposal or all sharps and biohazard waste
- Restocking of all equipment used
- Correction of any other safety issues identified during previous call
- Debriefing as required with partner or agency, including mental health support as appropriate

17: Elements to be considered in developing a prehospital mass casualty incident plan

SITUATION ANALYSIS

- The role and place of the prehospital system in the healthcare system and the community.
- The hazards and risks that can be reasonably expected.

ROLES AND RESPONSIBILITIES

- The overall command structure: functions, roles, responsibilities, composition, place.
- Standard Operating Procedures (SOPs) and Supplemental Emergency Response Plans (SERPS – i.e., developed by the various components of the system for organizing their own activities).
- Job descriptions for key personnel (also known as *job action sheets*).

TRIGGERING THE PLAN

- The alarm and its processing
- The activation of the plan and its tiers
- Mobilizing personnel (e.g., "call back" procedures for staff who are not at work when the incident occurs)

OPERATIONAL AREAS

- Scene safety assessment: determining the positioning of scene resources, need for decontamination capability, need for additional resources such as public safety /police /environmental hazard control resources.
- Forward control post
- Inner cordon
- Outer cordon
- Main treatment areas
  - First aid post
  - Casualty clearing station
- Transportation related
  - Central holding area
  - Patient transport area
  - Access route
  - Egress route
- Communications
- Hospitals
  - Receiving area designation developed with local hospitals
- Family and media centres
- Management of fatalities on scene

SUPPORT FOR OPERATIONAL AREAS

- Security
- Essential supplies
- Maintenance of critical equipment
- Ancillary services
- Continuity of operations
- Psychosocial support (for patients, families, staff)

COORDINATING WITH OTHER PUBLIC SERVICES AND HEALTH FACILITIES

- Coordination mechanisms with other public services (Memoranda of Understanding; Standard Operating Procedures).
  - Police, fire, utilities
  - Health care facilities
- Medical charts and special forms used in emergency situations when the plan is activated; this includes patient tracking.
- Communication systems and sharing of information procedures.

COMMUNITY RELATIONS

- Relationship with the community (including the key services such as fire and police).

PREPAREDNESS

- Training of staff
- Exercises
- Validation of the plan
- Revision and updating of the plan
- Special sub plans for fire, terrorist attack, chemical, and epidemic incidents.

18: Definitions for special event medical resources

Resource	Definition
Emergency care access number	Event staff and/or safety personnel have the capability to notify any medical emergency and to provide access per prehospital service provider organization standards.
Aid station with basic prehospital provider	A fixed or mobile facility with the ability to provide basic care staffed by at least one basic prehospital providers or higher skill level personnel. Basic care is defined as treatment of minor medical conditions and injuries by care providers who have received training in first aid, at the basic level. Examples of first aid care are cleaning, bandaging, and treating simple wounds such as scrapes and shallow cuts, providing cold packs for musculoskeletal strains and bruises, and giving drinking water and a place to rest for patients who are mildly dehydrated. Each fixed aid station should have an AED (if locally available) and MCI treatment kit present at all times. Examples of an aid station are a tent, a clinic, an ambulance, or vehicle of some type. The aid station must have emergency care access number communications capability. Basic prehospital providers who are employees of locally permitted ambulance services are recommended due to their familiarity with local policy, procedure, and protocol. It is also recommended that any event employing multiple aid stations also have a designated emergency event director and establish a liaison with the emergency communication centre and any relevant public safety organizations to improve coordination.
Aid station with advanced provider: nurse or physician	A similar facility to an aid station with a basic prehospital providers but staffed by at least one advanced provider such as a nurse or physician, holding a current local license. The nurse or physician should be experienced in emergency medical care and triage of seriously ill or injured patients to higher levels of care and should have training in the management of MCIs. Physicians and/or nurses are recommended for larger crowd sizes or events needing sobering services; advanced prehospital provider may be substituted for smaller size crowds as outlined in operational resource: *Minimum resources for special events*.
Mobile resources	Mobile (“roving”) medical resources are non-ambulance based basic prehospital providers, or higher-level providers, that are deployed throughout the footprint of a special event and may be on foot, bicycles, or motorized transport cart/vehicle (small 4 wheel drive all-terrain vehicle, moped, motorcycle, etc.) Mobile resources must be able to provide, as a minimum, first aid care at a BLS level, and must have communication capability, by radio, cell phone, or other medium. Each mobile resource should carry an AED at all times (where available).

19: Minimum resources for special events

Event type	Estimated crowd size*	CPR & emergency number access	Aid station with basic prehospital provider [1]	Aid Station with advanced prehospital provider or higher	Advanced ambulance [2]	Mobile resources
Athletic/ sporting[3] event	<2,500	Required	Recommended	Recommended		
	2,500 - 15,500	Required		Required	Required (may need multiple units)	Required
	15,500 - 50,000	Required		Required	Required (may need multiple units)	Required (multiple units)
	>50,000	Required		Required	Required (multiple units)	Required (multiple units)
Other events (e.g concerts, festivals, other non-mobile events)	<2,500	Required	Recommended	Recommended		
	2,500 - 15,500	Required	Required	Recommended	Required (may need multiple units)	Recommended
	15,500 - 50,000	Required		Required	Required (may need multiple units)	Required
	>50,000	Required		Required	Required (multiple units)	Required (multiple units)

* Maximum number of attendees at peak time
1 - Automatic external defibrillator required for all events larger than 2,500 attendees
2 - Multiple ambulances may be required depending on event history and size. Recommend 1 unit per 10,000 participants or spectators (additional resources may be necessary for isolated or hard-to-access areas)
3 - More than 1 aid station is recommended for parades/sporting events taking place over 2 km or more. Mobile refers to the event changing geographic location such as a road race, bicycle event, or open water competition. Non-mobile events take place within the same venue.

20: Medical dispatch workflow

Emergency call (answered by call taker)

Initial assignment to medical, fire, police, or other

If medical: follow the **5 steps** below

1. Identify location and call-back information

2. Assign priority (refer to operational resource: *Priority based dispatch*)

Emergency priority:	**All other priorities:**
• Immediate resource dispatch • Collect further information	• Collect further information • Resource dispatch

3. Pre-arrival instructions (refer to operational resource: *Medical dispatch pre-arrival instructions*)

4. Documentation

5. Call-taker closes call & becomes available for next call; ongoing call management passes to dispatcher

INFORMATION TO BE COLLECTED FOR EACH CALL	
• caller name • call back details • patient complaint • patient age and sex	• location • time stamps: call received, answered, dispatched • further information (complaint specific)

21: Priority based dispatch

THIS SHOULD BE LOCALLY DEVELOPED, CONSIDERING THE TEXT BELOW

The goal of priority based dispatch is to allocate the appropriate type and quantity of resources to a request for assistance within a predefined targeted time frame.

- The medical dispatch triage system should be capable of taking input from the caller and produce an output that fits into the resource matrix of the local system.
- The output from the triage system should be standardized and reproducible with different dispatchers utilizing the same resources for callers reporting similar medical conditions.
- The medical dispatch triage system should be developed in the context of locally available resources and needs.

KEY ELEMENTS OF THE SYSTEM

- A call-taker receives the call and determines it to be medical in nature.
- A call type is assigned, coding the call to a chief complaint.
  - Chief complaint list is predetermined locally.
  - The call type should produce a standard response from the list of components below.
- For each chief complaint, a brief algorithm should be developed based on simple questions that the call-taker can ask the caller to determine the level of response needed.
- Levels of response should be predetermined in the context of locally available resources.

DEFINING THE LEVEL OF RESPONSE

Level of response should be defined by a matrix including the following components:

- Time sensitivity
  - Immediate (may use lights and sirens for response)
  - Urgent
  - Non-urgent
- Appropriate level of service
  - Basic ambulance
  - Advanced ambulance
  - Higher-level services (e.g. helicopter, physician, etc.)
  - Non-medical technical support (e.g. police, fire, utilities, search and rescue, etc.)
- Number of resources needed
  - Single
  - Multiple
- Geographic location of call in relation to responding resources
  - Projected response and transport times
- System status
  - Availability of ambulances at current time

22: Medical dispatch pre-arrival instructions

THIS SHOULD BE LOCALLY DEVELOPED, CONSIDERING THE TEXT BELOW

The goal of medical dispatch pre-arrival instructions is to provide simple procedures to a caller that can be executed by the caller without any formal training. They should be scripted and dispatchers should be trained in their delivery.

Instructions should be developed for a predetermined list of conditions. The conditions chosen for pre-arrival instructions should have time-sensitive interventions.

The interventions chosen should be simple, with a low risk of harm to the patient or the lay provider and require minimal supplies.

EXAMPLES OF CONDITIONS THAT MAY BE SUITABLE FOR PRE-ARRIVAL INSTRUCTIONS

- CPR (context dependant for compressions instructions)
- Irregular breathing (Heimlich, check airway, sweep, recovery position)
- Unconscious (recovery position)
- Bleeding control (using available materials for pressure dressing/tourniquet)
- Childbirth (positioning, standard simple things to help/avoid)
- Seizure (remove harmful objects)
- Safety of scene (separate patient from ongoing dangers while avoiding injuring self)

INSTRUCTIONS SHOULD INCLUDE RECOMMENDATIONS FOR THE FOLLOWING

- Stay with the patient until help arrives
- Enhance safety of the scene if possible (e.g. traffic indicators for a road traffic crash)
- Call back if the condition worsens or changes
- Help guide prehospital personnel to the patient from nearest access point

23: Prehospital intervals

INTERVAL	DESCRIPTION	SUB-INTERVAL	DESCRIPTION OF SUB-INTERVAL
Response interval	Time from the receipt of the emergency call until the emergency vehicle arrives on the scene.		
On-scene interval	Time from when the first emergency vehicle arrives at the scene of the emergency to when the vehicle leaves the scene either with the patient, transporting them to a health facility, or when it has been determined that a patient no longer requires treatment or transport. This is an aggregate of time spent on the scene, composed of several components.	Patient access	Time taken to reach the patient from the moment the emergency vehicle arrives on the scene.
		Initial assessment	Duration of the initial medical assessment of the patient.
		Scene treatment	Time spent providing medical treatment on the scene.
		Patient removal	Time taken to remove the patient from the scene to the ambulance.
Transport interval	Time from leaving the scene to arriving at the health facility.		
Delivery interval	Time from health facility arrival to the transfer of patient care to the facility staff.		
Recovery interval	Time taken for providers and equipment to be ready for another incident.		

24: Facility pre-arrival report form

Use this tool to help facilitate efficient and safe communication during handover of a patient from prehospital provider to higher level of care.

KEY CONSIDERATIONS IN NOTIFYING A RECEIVING FACILITY:	
Always confirm the name of the contacted receiving facility via closed loop communication method (e.g. have the receiving facility confirm they are receiving the transmission).	☐
If there are multiple receiving facilities in the system, have the receiving facility identify itself during the communication.	☐
Keep reports as brief as possible and use clear speech.	☐

ALWAYS REPORT THE FOLLOWING INFORMATION TO THE RECEIVING FACILITY:	
Confirm that the receiving facility can clearly hear the transmission.	☐
Prehospital provider ID number or identifier.	☐
State the reason for contacting the receiving facility or physician (e.g., consult, notification of transport).	☐
Transport priority and estimated time of arrival.	☐
Number of patients.	☐
Report patient's: age, gender, chief complaint, and mechanism of injury or onset of illness.	☐
Level of consciousness.	☐
Complete set of pertinent vital signs that could be obtained.	☐
Pertinent positive, and negative, physical findings.	☐
Pertinent medical history that may relate to, or complicate, the chief complaint.	☐
Interventions already initiated, patient's response (including pertinent vital signs trends), and any problems encountered (e.g., unable to control airway or stop haemorrhage).	☐
Other special situations (e.g., infectious disease, contaminated patient, hazardous material exposure requiring decontamination prior to entry of receiving facility).	☐
High-acuity conditions requiring additional support include trauma with shock, cardiac arrest, stroke, neonate, or obstetrics delivery imminent	☐

ALWAYS CONFIRM THAT THE REPORT HAS BEEN RECEIVED IN FULL:	
Always confirm via closed loop communication method that the receiving facility has correctly noted all of the transmitted information	☐

25: SBAR handover tool - out of hospital

Use this tool to help facilitate efficient and safe communication during handover of an emergency patient from community, clinic or prehospital ambulance transfer.

S — Situation

- **Identify yourself, your role & location** ☐
- **Identify patient** (name, age, sex) ☐
- **State major problem** (medical or trauma) ☐
- **State reason for transfer or handover** ☐
  (e.g. needs ongoing emergency care for bleeding)

B — Background

Describe:

- ***What*** **the patient is complaining of** ☐
- ***When*** **the patient became ill or injured** ☐
- ***Where*** **the patient became ill or injured** ☐
- ***How*** **the patient became ill or injured** ☐
- **Any past medical or surgical history, medications or allergies** ☐

A — Assessment

Describe any findings and care provided for:

- **Check for major bleeding** ☐
- **Airway problem** ☐
- **Breathing problem** ☐
- **Circulation problem** ☐
- **Disability problem** ☐
- **Exposure** ☐

Describe any medication taken or given ☐

R — Recommendation

- **State your recommendation** (what you feel should happen next) ☐
  (e.g. transfer for ongoing emergency care)
- **Describe any concerns** ☐
  (e.g. social, security, infectious risk)

Confirmation: Ask the receiver to repeat back key information and clarify any questions.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