

SAFE AND RESILIENT HOSPITAL
GUIDELINE ON THE EMERGENCY
RESPONSE SYSTEM
FOR HEALTHCARE FACILITIES
DURING MISSILE-DRONE
INCIDENTS
UNDER MARTIAL LAW

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Reviewers:

Konstanty Szuldrzyński, MD PhD, Medical Director, National Medical
Institute of the Ministry of Interior and Administration, Warsaw, Poland.

Yuliia Boiko, Head of the Academic and Research Center for Medical
Simulation, Bogomolets National Medical University

Authors:

Tetiana Vezhnovets, Yurii Kuchyn, Maksym Moskalenko, Olha Adamenko,
Ihor Katsitadze, Tetiana Orabina

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LIST OF ABBREVIATIONS

CDC – Centers for Disease Control and Prevention

CMU – Cabinet of Ministers of Ukraine

CP – Civil Protection

ED – Emergency Department

EMS – Emergency Medical Services

ES – Emergency Situation

HCF – Healthcare Facility

LSG – Local Self-Government Body

MCIT – Mass Casualty Incident Triage

MDI – Missile-Drone Incident

MIA – Ministry of Internal Affairs

MOH – Ministry of Health of Ukraine

MPT – Mass Patient Triage

PPE – Personal Protective Equipment

RDA – Regional State Administration

RMA – Regional Military Administration

RRT – Rapid Response Team

SESU – State Emergency Service of Ukraine

SOP – Standard Operating Procedure

SSU – Security Service of Ukraine

TEB – Technogenic and Environmental Safety

USCSS – Unified State Civil Protection System for Population and Territories

WHO – World Health Organization

PREFACE

The war on the territory of Ukraine has significantly changed the operating conditions of healthcare facilities. Missile-drone incidents (MDIs) pose an immediate threat to the lives of patients and staff, disrupt the continuity of medical care, and require healthcare facility managers and employees to take clear, coordinated, and well-practiced actions under emergency conditions.

This guideline presents an integrated system designed to ensure coordinated, effective, and resilient preparedness of healthcare facilities providing outpatient and inpatient care to women and children for rapid response to missile and drone incidents (MDI). The main focus of the guideline is the minimization of human losses, ensuring the safety of patients and staff, and maintaining the healthcare facility's capacity to provide continuous medical care under wartime threats.

The system establishes standardized procedures for staff actions in the case of a missile-drone incident. The algorithms are designed to protect the lives and health of patients and staff, organizing medical triage of casualties in shelters, ensuring continuity of medical care, as well as determining indications and procedures for the evacuation of patients and staff when necessary.

The missile and drone incident (MDI) Response System includes:

- Human resources with a clear distribution of roles, functions, and responsibilities of the Emergency Response Commission, Rapid Response Team, and healthcare facility staff;

- Organizational support in the form of standardized operating procedures;
- Material and technical support for response activities;
- A staff training program for emergency response;
- A standard tool for assessing the safety level and readiness of a healthcare facility for responding to missile-drone incidents.

The system also defines approaches for managing missile-drone incidents (MDIs) and describes staff actions across key response phases: basic readiness, enhanced readiness, activation of the response plan, and recovery of the Rapid Response Team's functioning. In addition, the guideline outlines requirements for organizing a triage area in the event of mass casualties resulting from missile-drone incidents.

Special attention is given to staff training as a critical prerequisite for effective emergency response. The proposed approach is aimed at increasing the resilience of healthcare facilities, reducing risks to the lives and health of patients and staff, and ensuring the continuity of medical care under martial law conditions.

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The preparation of this guideline was supervised by Tetiana VEZHNOVETS, Doctor of Medical Sciences, Professor, Director of the Educational and Research Center "Business School of Bogomolets National Medical University". The team included the Rector of Bogomolets National Medical University, Corresponding Member of the National Academy of Medical Sciences of Ukraine, Professor Iurii KUCHYN; Deputy Director of the Educational and Research Center "Business School of Bogomolets National Medical University", Associate Professor Maksym MOSKALENKO; Assistant Professor of the Department of Surgery, Anesthesiology and Intensive Care of Postgraduate Education Olha ADAMENKO; UNICEF Health Programme Coordinator in Ukraine, Candidate of Medical Sciences Ihor KATSITADZE; Assistant Professor of the Department of Healthcare Management, Doctor of Philosophy Tetiana ORABINA.

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ABOUT THE GUIDELINE

The purpose of this guideline is to strengthen the safety and resilience of healthcare facilities during emergencies associated with wartime risks through the implementation of a systematic approach, structured emergency management, and standardized staff response algorithms.

As a result of the armed aggression of the Russian Federation against Ukraine, healthcare facilities are operating under the constant threat of missile strikes, unmanned aerial vehicle attacks, and loitering munitions (missile and drone incidents, hereinafter — MDI). Under such conditions, healthcare facility preparedness for emergencies is critically important for protecting the lives of patients and personnel, maintaining continuity of healthcare services, operational resilience, and organizational control during incidents.

According to the Ministry of Health of Ukraine, as of July 2026, 2,647 units within 846 healthcare facilities have been damaged or destroyed. A total of 335 objects within 124 facilities have been completely destroyed. The greatest destruction has occurred in healthcare facilities located in Donetsk, Kharkiv, Kherson, Luhansk, Zaporizhzhia, and Mykolaiv regions. Despite these losses, the healthcare system continues to function even in areas of active hostilities: full medical services continue at 1,610 facilities, 186 facilities are operating partially, and 232 facilities have been relocated to alternative premises.

MDI create complex risks for healthcare facilities, including destruction of buildings and engineering systems, fires, smoke contamination, disruption of medical gas systems, loss of electricity and

water supply, and limited access to critically ill and non-ambulatory patients in intensive care units and operating theatres. Additional danger is created by the tactic of secondary strikes following the arrival of emergency responders, transforming the area of medical operations into a secondary impact zone. Without an established response system, healthcare facilities rapidly lose operational resilience and organizational control under such conditions.

The practical value of the guideline lies in providing healthcare facility managers with ready-to-use management solutions and organizational measures before, during, and after missile-drone incidents (MDIs).

The guideline is intended for:

- healthcare facility managers — to establish an effective management system, clear command structure, and facility preparedness for emergency response;
- civil protection officers, safety specialists, and occupational safety engineers — to organize facility protection, maintain critical infrastructure functionality, and ensure technical support for emergency response;
- on-duty clinical and non-clinical personnel — to support structured actions during increased readiness phases, activation of the response plan, and coordinated operations during incidents;
- emergency department personnel — to organize medical triage, manage patient flow, and ensure continuity of care delivery;
- members of the Rapid Response Team (RRT) — to perform functional roles and coordinate actions according to incident development phases;

- representatives of governmental and sectoral institutions involved in emergency management decision-making processes;
- educators and trainers — for the preparation of healthcare professionals, healthcare managers, civil protection specialists, crisis response, and emergency management personnel.

The guideline is aligned with the current legal and regulatory framework of Ukraine (Code of Civil Protection of Ukraine, resolutions of the Cabinet of Ministers of Ukraine, sectoral regulations of the Ministry of Health of Ukraine, orders of the Ministry of Internal Affairs of Ukraine, and the State Emergency Service of Ukraine) and translates general regulatory requirements into practical managerial, organizational, and clinical algorithms for healthcare facilities during emergencies (MDI).

The guideline is based on four key principles.

The first principle is unity of command and coordinated management. The response system provides a clear chain of command, centralized management, and coordinated interaction among all healthcare facility units during emergencies.

The second principle is risk-oriented management and proactive preparedness. The guideline applies an all-hazards approach and emphasizes preparedness through risk assessment, personnel training, standardized operational procedures, and evaluation of actual system readiness.

The third principle is continuity of healthcare services and functional resilience. Organizational and clinical decisions are aimed at maintaining critical healthcare facility functions, preserving operational control, and

ensuring continuity of healthcare delivery even under conditions of infrastructure damage or mass casualty influx.

The fourth principle is practical applicability and operational scalability. The materials of the guideline are based on analysis of real missile and drone incidents in Ukraine and adapted to different emergency scenarios, allowing the response system to scale according to the level of threat and facility resources.

The guideline covers the full emergency management cycle, from preparedness and response to recovery and continuous improvement.

Section 1 describes the healthcare facility response system for missile and drone incidents, including the organizational model, the roles of the Emergency Response Commission and Rapid Response Team (RRT), five response phases — from baseline readiness to recovery, logistics and resource support, and the training program.

Section 2 contains the Standardized Healthcare Facility Safety and Preparedness

Assessment Tool, which includes:

- assessment of healthcare facility safety and preparedness levels;
- assessment of personnel awareness and preparedness;
- results of a field assessment conducted in five pilot healthcare facilities.

The annexes include:

- five Standard Operating Procedures (SOPs) according to MDI response phases;
- functional role action cards for Rapid Response Team members;
- facility safety management instructions;

- healthcare personnel awareness and preparedness assessment questionnaires;
- practical operational recommendations.

For effective implementation of the guideline, healthcare facilities are recommended to:

- integrate SOPs into internal institutional regulatory documents with adaptation to local facility characteristics;
- conduct regular training sessions and simulation exercises;
- apply the Standardized Healthcare Facility Safety and Preparedness Assessment Tool at least once annually or after each real incident.

CHAPTER 1

Healthcare Facility Emergency Response System for Emergencies (Missile-Drone Incidents)

1.1. Role and place of healthcare facilities (HCFs) in the Unified State Civil Protection System

In Ukraine, the Unified State Civil Protection System (USCPS) operates as a comprehensive, multi-level system designed to prevent emergencies, respond to them, and protect the population and territories. It brings together state authorities, local self-government bodies, civil protection forces, as well as enterprises, institutions, and organizations, including healthcare facilities, into a unified management and response mechanism.

The USCPS is built on a hierarchical principle and includes state, regional, local, and facility levels, ensuring a clear distribution of authority and responsibility among all stakeholders. At the state level, policies and regulatory frameworks are defined; at the regional level, coordination and resource management are carried out; at the local level, direct coordination of services and population protection measures is organized; and at the facility level, including healthcare facilities, specific emergency response actions are implemented.

The functioning of the system is regulated by the Civil Protection Code of Ukraine and relevant resolutions of the Cabinet of Ministers of Ukraine, which define its structure, tasks, operational modes, and mechanisms of interaction. The main purpose of the USCPS is to ensure readiness for responding to threats and emergencies, timely public warning, rescue

operations, provision of assistance to affected populations, and minimization of consequences of hazardous events.

Depending on the scale and characteristics of a potential or actual emergency, the following operational regimes may be introduced in Ukraine or within a specific territory: routine functioning, heightened readiness, emergency situation, state of emergency, and special period (martial law). The latter two are introduced by separate laws.

Within the USCPS structure, healthcare facilities operate at the facility level, where direct emergency response measures are implemented. At the same time, they are part of the functional subsystem of the Ministry of Health of Ukraine, which ensures medical protection of the population. This means that the activities of healthcare facilities within civil protection are integrated into the national management system, follow unified principles, standards, and action algorithms, and are coordinated both through the healthcare system and through general civil protection mechanisms.

The specific role of healthcare facilities in the USCPS lies in the fact that they are critical infrastructure that must remain operational even during crises, disasters, armed conflicts, or technological accidents. Unlike many other facilities, healthcare institutions cannot fully cease operations under hazardous conditions, as the need for medical care increases significantly at such times. Therefore, their role in the civil protection system is to ensure the resilience of the healthcare system by maintaining continuity of medical services even in emergency conditions.

At the facility level, healthcare institutions establish their own civil protection components: designated civil protection officers or units are appointed, emergency commissions are formed, response headquarters are

established, emergency response and evacuation plans are developed, and systems of alerting, sheltering, and internal coordination are organized. This enables healthcare facilities to function both as recipients of external assistance and as independently managed operational entities within the broader response system. Thus, within the USCPS, a healthcare facility is not a passive participant but an active center of management and medical response at the institutional level.

The regulatory framework for emergency response in healthcare facilities in Ukraine is multi-level and includes legislative, governmental, and sectoral acts. This system ensures comprehensive regulation—from general principles of civil protection to specific algorithms for medical response and patient triage - thereby enabling efficient, coordinated, and continuous operation of healthcare facilities under emergency conditions (Table 1).

Table 1.

Key legal and regulatory acts governing the organization of emergency response in healthcare facilities (HCFs)

Level	Regulatory / Legal Document	Number, Date	What It Regulates for Healthcare Facilities (HCFs)
Legislative Level			
Law	Code of Civil Protection of Ukraine	No. 5403-VI dated 02.10.2012	Defines the general responsibilities of HCFs in the field of civil protection: management organization, planning, response, alerting,

			evacuation, sheltering, and training.
Regulations of the Cabinet of Ministers of Ukraine			
CMU	On Approval of the Regulation on the Unified State Civil Protection System	No. 11 dated 09.01.2014	Regulates the functioning of the Unified State Civil Protection System; emergency response at the facility level; establishment of commissions, headquarters, and management bodies.
CMU	On Approval of the Procedure for Emergency Response	No. 787 dated 09.10.2013	Defines the stages of emergency response; management and coordination of actions; interaction between facility-level structures.
CMU	On Approval of the Procedure for Training the Population in Actions During Emergencies	No. 223 dated 14.03.2018	Establishes mandatory training and drills for HCF personnel regarding actions during emergencies.
Sectoral Regulations of the Ministry of Health of Ukraine and the Ministry of Internal Affairs of Ukraine			
MoH	On Approval of Methodological Recommendations for Organizing Emergency Medical Care by Healthcare Facilities for Victims of Chemical, Biological, and Radiological Agents (Weapons of Mass Destruction)	No. 607 dated 11.04.2022	Applied in cases of emergency medical care provision to victims affected by chemical, biological, radiological, or nuclear weapons (weapons of mass destruction).

MoH	Order “On Approval of the Regulation on the Functional Subsystem of Medical Protection of the Population within the Unified State Civil Protection System”	No. 542 dated 23.03.2023	Defines the responsibilities of HCFs in civil protection: management, planning, response, alerting, evacuation, sheltering, and staff training.
MoH	Order “On Approval of the Emergency Response Plan of the Ministry of Health in the Field of Medical Protection of the Population and Sanitary Welfare”	No. 2172 dated 21.12.2023	Regulates emergency response planning in HCFs, interaction procedures, actions, and distribution of responsibilities.
MoH	Order “On Approval of the Emergency Response Plan of the Disaster Medicine Service”	No. 151 dated 24.01.2025	Defines the procedures for organizing disaster medicine service response to emergencies, elimination of consequences, ensuring service readiness, provision of free medical care to victims, medical evacuation, and participation in rescue and urgent operations.
MIA	Order “On Approval of the Methodology for Planning Evacuation Measures”	No. 579 dated 10.07.2017	Regulates evacuation procedures in the event of a threat or occurrence of emergencies.
Clinical Standards (Medical Response)			
MoH	Emergency Medical Care Standard	No. 210 dated 03.02.2022	Medical triage of patients of different age groups in emergency departments.

MoH	Emergency Medical Care Standard	No. 368 dated 24.02.2022	Medical triage during mass casualty influx at the early hospital stage.
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In modern conditions of martial law, the role of healthcare facilities (HCFs) within the Unified State Civil Protection System (USCPS) has significantly increased. They are simultaneously required to function as medical institutions, critical infrastructure facilities, hubs for population protection, and participants in an interagency response system. This requires a high level of readiness to operate under conditions of missile-drone incidents, mass casualty influx, partial destruction of buildings, and disruptions in energy supply, water, communication, and logistics. Accordingly, HCFs must be integrated into all levels of civil protection management - from national to facility level - while also maintaining their own autonomous response capacity.

Thus, healthcare facilities occupy a central place in the structure of the USCPS, as they provide the medical component of emergency response, support the functioning of critical infrastructure, and implement medical protection measures for the population at the facility level. Their role goes far beyond traditional clinical care and includes risk management, safety organization, interagency coordination, staff training, participation in emergency response operations, and post-emergency recovery. Therefore, the effectiveness of the USCPS largely depends on the level of preparedness, resilience, and organizational capacity of healthcare facilities.

1.2. Risks of healthcare facility functioning under martial law in Ukraine

In the context of the full-scale war against the Russian Federation, Ukraine operates in an environment of constant and combined threats, including missile strikes, artillery shelling, destruction of critical infrastructure, power supply disruptions, mass casualty events, and disruption of logistics chains.

The main risks for healthcare facilities under wartime conditions include:

- direct damage to buildings and structures due to missile-drone incidents (MDIs) or artillery shelling;
- destruction or damage of engineering systems (electricity, water supply, heating, ventilation, communication systems);
- disruption of continuity of medical care due to partial or complete loss of facility functionality;
- risks to the life and health of patients and staff, especially immobile, severely ill, and critical patients;
- mass influx of casualties, causing excessive strain on human, material, and spatial resources;
- loss or damage of medical equipment, medicines, transport, and support systems;
- need for evacuation of patients and staff under limited time and repeated strike threats;
- psychological exhaustion of healthcare workers operating under chronic stress, uncertainty, and constant danger.

As a result of Russian armed aggression, Ukraine's medical infrastructure has suffered significant destruction and damage. According to the Ministry of Health of Ukraine (<https://shorturl.at/63I9e>), as of July 2026,

2,647 units within 846 healthcare facilities have been damaged or destroyed. A total of 335 objects within 124 facilities have been completely destroyed, and 232 facilities have been relocated to alternative premises.

The most severe damage has occurred in healthcare facilities in Donetsk, Kharkiv, Kherson, Luhansk, Zaporizhzhia, and Mykolaiv regions, which are located in active combat zones or are systematically subjected to shelling. This indicates that for a significant number of healthcare facilities, the risk of damage is not episodic but systemic in nature.

According to data from the United 24 project, in 2025 Russian forces launched more than 60,000 guided aerial bombs, approximately 2,400 missiles, and over 100,000 unmanned aerial vehicles - both strike and reconnaissance types - against Ukraine. These large-scale air attacks were also accompanied by an extraordinary number of air raid alerts, at least 19,033 across the country during the year.

The Ministry of Health of Ukraine, in cooperation with international partners (UNICEF, WHO, UNDP), continues systematic efforts to restore damaged healthcare facilities, ensuring patients' access to quality medical care even under challenging conditions.

Despite extremely difficult circumstances, Ukraine's healthcare system continues to function and adapt to wartime challenges. One of the key priorities is reducing the risk of loss of medical capacity through restoration of damaged facilities, relocation of healthcare units, establishment of shelters, strengthening facility autonomy, and development of continuity-of-operations plans. To date, 703 facilities have been fully restored, and 325 are undergoing partial restoration. At the same time, 65 previously restored facilities have been damaged again due to renewed attacks, confirming a

high risk of repeated impact and the need for resilient healthcare system models.

Despite extensive destruction, medical care continues to be provided. Currently, full medical services are delivered at 1,555 facilities, 185 facilities operate partially, and 234 healthcare institutions have been relocated to other premises. These conditions indicate a high level of operational risk associated with simultaneously maintaining clinical services, ensuring safety of patients and staff, and remaining prepared for new emergencies.

Particular importance is placed on losses in the emergency medical care system, a critical component of wartime response. Since the beginning of the full-scale invasion, 284 emergency medical service vehicles have been destroyed, 175 have been damaged, and 80 have been captured by the enemy. This significantly increases the risk of delayed evacuation of casualties, limits system mobility, and reduces the capacity for timely emergency care.

Thus, under the conditions of war against the Russian Federation, Ukraine's healthcare facilities operate in an environment of high, persistent, and complex risks that threaten not only the material base of medical institutions but also continuity of care, safety of patients and staff, and the overall resilience of the healthcare system. In this context, the implementation of effective risk management systems, emergency response planning, strengthening of healthcare facility resilience, and ensuring their ability to function under the most challenging wartime conditions become critically important.

1.3. Modern international models of emergency response in healthcare facilities

In global practice, emergency response systems in healthcare facilities (HCFs) are based on a comprehensive, integrated risk management approach implemented through the concept of Health Emergency and Disaster Risk Management (Health-EDRM).

In 2015, the UN General Assembly adopted the Sendai Framework for Disaster Risk Reduction 2015–2030. One of its key transformations was the recognition of human health as a central component of disaster risk management systems. The Sendai Framework emphasizes that disasters are not merely sudden events but primarily the result of accumulated risks, including population vulnerability, limited health system capacity, and insufficient preparedness for emergencies.

The Framework operates through four interconnected phases of risk management:

- **Prevention and mitigation** – systematic measures aimed at reducing risks before emergencies occur, including resilient healthcare infrastructure, immunization, strengthening public health, and reducing population vulnerability.
- **Preparedness and readiness** – development and implementation of response plans, staff training, resource stockpiling, and establishment of organizational and procedural response mechanisms.
- **Response** – rapid, coordinated actions during emergencies aimed at saving lives, protecting population health, and minimizing negative consequences.

- **Recovery**, including the concept of “**Build Back Better**” – comprehensive restoration of healthcare systems and communities based on lessons learned, aimed at increasing resilience to future risks.

This approach enables a shift from a reactive model of response to a proactive, integrated health risk management system at all levels - from the local to the global level. It also promotes intersectoral coordination between healthcare systems, civil protection, and other critical sectors, thereby enhancing overall system and community resilience.

The Framework serves as a practical instrument for national institutions in implementing coherent policies, strategies, and measures for disaster risk reduction.

Modern approaches to healthcare facility safety are based on the understanding that the key objective of response systems is not only formal documentation of procedures but their reliable execution under conditions of limited time, resources, and information. In this context, the response system is viewed as a command-and-control system – a set of interconnected managerial processes and tools enabling healthcare leadership to make rapid decisions, coordinate limited resources, and ensure a predictable outcome: timely and effective lifesaving actions.

The management logic involves transforming hospital operations during emergencies from business as usual to incident management mode. In regulatory terms, this corresponds to transitioning a facility from routine functioning to emergency status, accompanied by rapid restructuring of governance, centralized decision-making, and clearly defined functional roles.

During an incident, an HCF transforms from a set of autonomous departments into a unified mobilized system. Management decisions are concentrated in the Hospital Command Center (HCC). In Ukrainian wartime conditions, this role is initially performed by the Healthcare Facility Rapid Response Team (RRT), led by the RRT Lead who acts as the Incident Lead according to international incident management models. The RRT provides operational control and strengthens the capacity of the Healthcare Facility Emergency Commission until a full emergency response headquarters is deployed.

According to Ukrainian legislation, the head of a healthcare facility as an economic entity is responsible for:

- organizing civil protection measures;
- establishing and maintaining readiness of civil protection units;
- developing response plans;
- organizing staff training and regular drills;
- informing the population about safety rules and protective measures;
- providing assistance to affected individuals during emergencies.

A fundamental principle of resilience is a clearly defined chain of command, a hierarchical structure in which every employee understands their reporting line and source of managerial decisions. The system operates on a role-based management principle, where an employee's function during an incident takes precedence over their regular job position.

The response system is built on an all-hazards approach, ensuring universal applicability of safety, communication, logistics, continuity of care, and triage systems regardless of the type of threat. The system must be

scalable and flexible, capable of rapidly adapting to mass casualty influx and returning to normal operations after stabilization of the situation.

As part of the USCPS, HCFs operate on the basis of proactive resilience and integration, achieved through continuous risk and vulnerability analysis. According to current regulations, HCF leadership is required to conduct regular capacity assessments daily or weekly, depending on operational conditions, enabling systematic strengthening of weak points before threats occur. Thus, the response model is not merely a set of formal documents but a functioning system ensuring rapid decision-making, coordinated actions, and continuity of care under complex and combined risks.

The RRT in HCFs consists of specially trained staff who temporarily assume defined roles during a crisis according to the response plan. In routine work, they may hold different positions, but during emergencies they follow a structured incident management algorithm. The main objective of the RRT is to ensure rapid, coordinated, and effective response under conditions of limited resources and high workload.

The key figure is the RRT Lead, who provides overall incident management, makes strategic decisions, and coordinates the team. The Clinical Lead of the RRT is responsible for medical care organization and clinical priorities, while the RRT Triage Lead organizes rapid patient categorization according to severity and routing.

The Resource Lead oversees personnel, medicines, equipment, and bed capacity, ensuring uninterrupted hospital functioning. The Safety and Security Lead is responsible for protection of staff and patients, access control, and risk mitigation.

Thus, through prior training and clear role distribution, the RRT enables systematic functioning even under the most challenging conditions, prevents chaos, supports timely decision-making, reduces errors, and improves survival outcomes. Effective RRT functioning directly influences the ability of an HCF to operate in crisis and save the maximum number of lives.

Additionally, according to WHO recommendations “Hospital emergency response checklist for mass casualty incidents” (WHO Academy, 2025), readiness and response are divided into the following phases: basic readiness, heightened readiness, activation of response plan, mass triage phase, RRT recovery phase, and hospital recovery phase Fig. 1

The introduction of this phased approach ensures that healthcare facilities operate systematically, with a clear understanding of required actions at each stage of an emergency. It allows early staff preparation, definition of procedures, allocation of responsibilities, and prevention of critical errors when time is crucial. For HCFs, this approach provides several practical advantages. First, it ensures continuity of medical care even during sudden surges in demand. Second, it improves resource efficiency, including staff, medicines, equipment, and bed capacity. Third, it significantly reduces system overload and staff burnout by enabling staged response deployment.

Moreover, such a structure enables a timely transition from response to recovery. As a result, the healthcare facility gains the capacity to operate effectively during a crisis and rapidly return to stable functioning after its resolution while preserving workforce capacity and maintaining the quality of medical care.

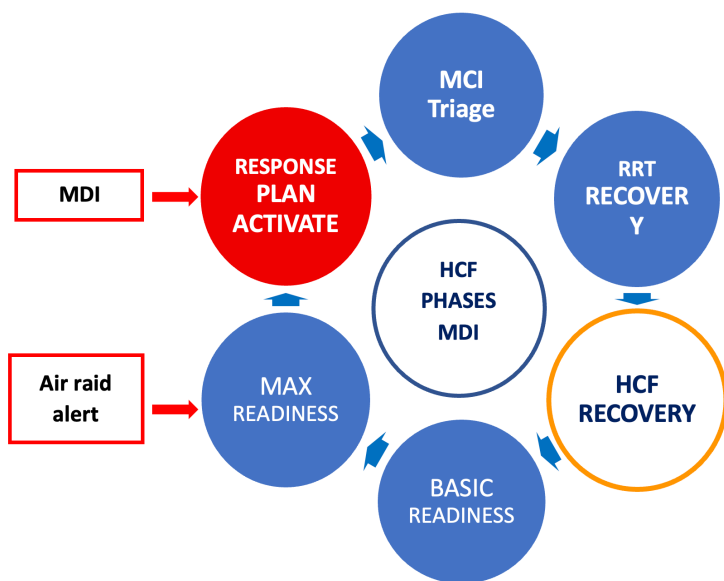


Figure 1. Scheme of healthcare facility (HCF) functioning from the readiness phase to emergency (incident) phases (MDI)

In the context of the full-scale war against the russian federation, the implementation of such approaches in Ukraine has become particularly relevant. Healthcare facilities operate in a high-risk environment that requires a shift from a predominantly reactive model toward proactive, risk-oriented management aimed at ensuring the resilience of the healthcare system, continuity of medical care, and effective emergency response.

1.4. Structural and functional model of the proposed emergency response system in healthcare facilities

The primary goal of the emergency response system is to ensure rapid, coordinated, continuous, and safe response, reduce the impact of the human factor, enhance the organizational resilience of the facility, and maintain the capacity to provide medical care in crisis conditions.

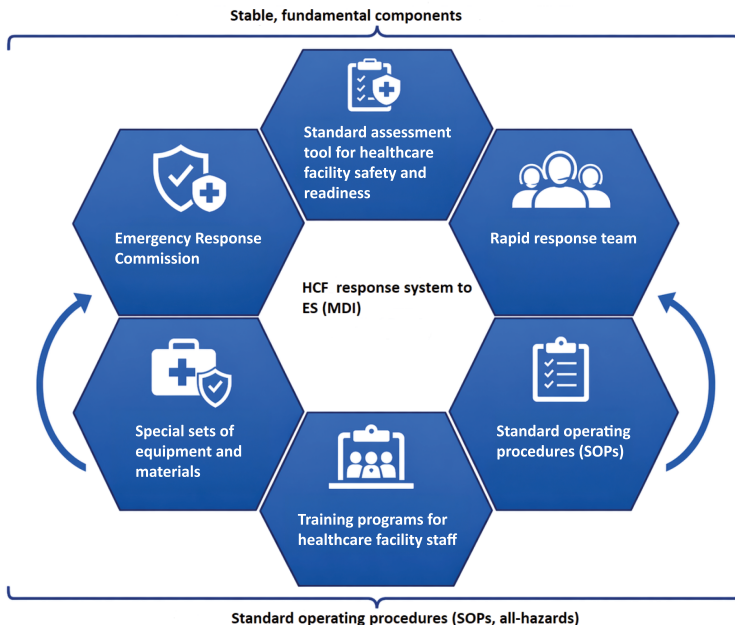


Figure 2. Key Elements of the Emergency Response System in a Healthcare Facility

The proposed model includes six interrelated components that ensure the functioning of the emergency response system in healthcare facilities. They are conventionally divided into three stable, fundamental components and three integrated functional components that form the practical response capacity of the facility (Fig. 2).

The stable elements of the emergency response system in healthcare facilities include those that establish the foundation of the institution's organizational readiness and must be implemented regardless of the specific type of threat. The first fundamental element is the Emergency Response Commission, which performs the functions of strategic management, coordination, and decision-making in the field of preparedness and response. This body provides organizational leadership of the system, defines the facility's emergency response policy, distributes responsibilities, and monitors the implementation of response measures. The second element is a standard assessment tool for healthcare facility safety and readiness, which enables an objective evaluation of the institution's capacity to respond to emergencies, identification of vulnerabilities, assessment of existing risks, and establishment of a basis for managerial decision-making. This approach ensures a transition from intuitive or purely formal management to management based on an evidence-based assessment of readiness status. The third stable element is the Emergency Operations Center (EOC), which ensures the operational implementation of managerial and practical actions in the event of an emergency.

The integrated functional elements of the system ensure the practical implementation of response activities and are adapted to a specific risk or emergency scenario according to the all-hazards principle. The first functional element is standard operating procedures (SOPs), which define clear algorithms of staff actions at different stages of an emergency. SOPs ensure the standardization of actions, reduce the risk of errors under stressful conditions, accelerate response processes, and guarantee coordinated functioning of all structural units of the healthcare facility. The second

functional element of the system is healthcare staff training programs aimed at developing practical response skills and preparing personnel to work under conditions of time pressure, high risk, and uncertainty. Regular education, training sessions, simulation exercises, and emergency scenario drills are essential prerequisites for the functioning of the entire system. The third functional element of the system consists of specialized kits of equipment and materials that ensure the facility's resource preparedness for emergency response. These may include medical kits, triage kits, personal protective equipment, reserve supplies, communication tools, and other material resources necessary for rapid response and maintenance of healthcare facility operations under crisis conditions.

Thus, the proposed emergency response system in healthcare facilities integrates strategic management, readiness assessment, operational response, standardization of actions, staff training, and resource support. The key advantage of the system lies in the fact that it is not limited to a formal response plan but rather establishes a comprehensive system of organizational resilience capable of functioning under conditions of uncertainty, time constraints, and increased risk.

The proposed model makes it possible to integrate international approaches to incident management into the practice of Ukrainian healthcare facilities and creates a foundation for the transition from fragmented response to systematic, risk-oriented, and functionally resilient emergency management.

1.5. Components of the Healthcare Facility Emergency Response System

An emergency in a healthcare facility is a managerial crisis in which decisions must be made rapidly under conditions of incomplete or contradictory information, high risks, and potentially irreversible consequences. Under such circumstances, the effectiveness of response depends not so much on the individual qualities of specific personnel, but rather on the existence of a clearly structured management system.

For this reason, a systemic approach to the organization of emergency response is essential. Its core principle is that all actions within the healthcare facility are interconnected, decisions are made according to a unified logic, and roles and responsibilities are predefined. Such an approach eliminates dependence on individual improvisation and ensures coordinated actions of the entire team.

An emergency response system makes it possible to transform a chaotic and dangerous situation into a manageable process. It enables informed managerial decision-making even under time pressure, minimizes the impact of the human factor, prevents disorganization and chaos, and ensures continuity of healthcare facility operations even during prolonged crisis conditions.

In practice, the only effective approach for a healthcare facility manager during an emergency is a pre-established system that defines how to think, how to act, and who is responsible for specific tasks. Such a system becomes

the foundation for rapid, coordinated, and effective response, directly influencing patient survival and personnel safety.

The healthcare facility management system during emergencies (incident management situations) consists of four main components: organizational support, human resources provision, logistical and technical support, and staff preparedness for emergency response (Fig. 3).

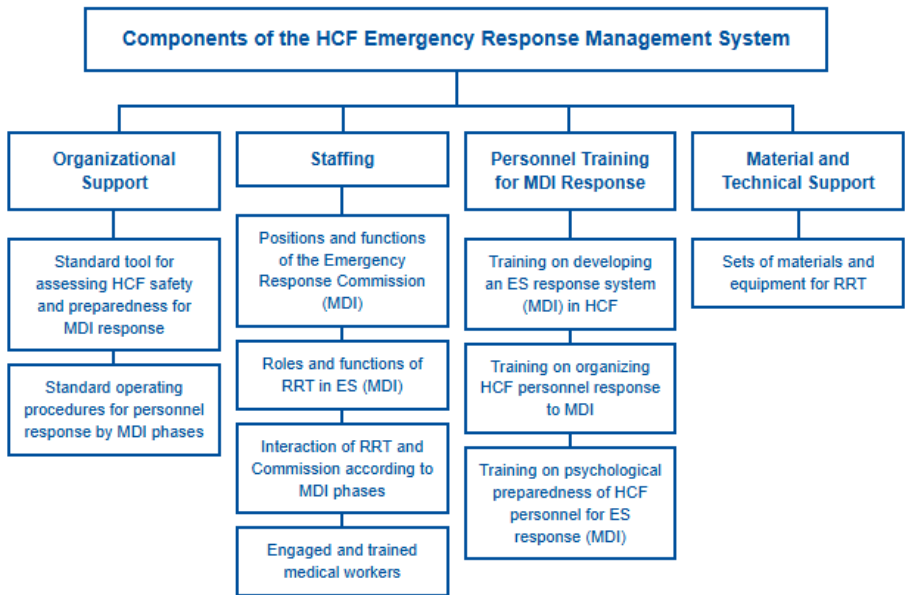


Figure 3. Components of the Healthcare Facility Emergency Response Management System (MDI)

The organizational support of the HCF emergency response management system for emergencies caused by missile-drone incidents (MDIs) is achieved through the implementation of a standard assessment tool for evaluating the safety and preparedness of healthcare facilities for

MDI response, as well as Standard Operating Procedures (SOPs) corresponding to the phases of response.

Staffing support includes the establishment within the HCF of a permanent Emergency Response Commission and a specially formed Hospital Rapid Response Team (RRT), organized according to defined roles and composed of previously trained HCF specialists. Particular attention in the MDI response system is given to the distribution of functions between the Commission and the RRT, as well as to establishing effective communication for their coordinated work. All healthcare workers of the HCF are involved in providing medical care during emergencies. For effective and coordinated performance, healthcare workers must be trained in emergency response algorithms for MDIs.

The SOPs corresponding to the phases of the incident define the functions of the Emergency Response Commission, the RRT, and the roles of healthcare workers. Five standard operating procedures have been developed:

1. SOP No. 1 “Basic Readiness of a Healthcare Facility for Rapid Response to an Emergency Situation (Missile-Drone Incident)”;
2. SOP No. 2 “Heightened Readiness of a Healthcare Facility for Rapid Response to an Emergency Situation (Missile-Drone Incident)”;
3. SOP No. 3 “Activation of the Healthcare Facility Response Plan to an Emergency Situation (Missile-Drone Incident)”;
4. SOP No. 4 “Organization of the Triage Area and Internal Triage Zones in Healthcare Facilities During a Missile-Drone Incident”;

5. SOP No. 5 “Recovery of the Rapid Response Team and Resources after an Emergency Situation (Missile-Drone Incident)”.

Material and technical support provides for the availability within the HCF of five special RRT kits corresponding to the phases of the incident:

- Kit No. 1 — RRT Incident Management Kit;
- Kit No. 2 — Mass Casualty Triage Kit;
- Kit No. 3 — Recommended Equipment List for the “Green” Triage Zone;
- Kit No. 4 — Recommended Equipment List for the “Yellow” and “Red” Triage Zones;
- Kit No. 5 — Humanitarian Resources List.

The contents of the kits are described in SOP “Basic Readiness of the Healthcare Facility for Rapid Response to an Emergency Situation (Missile-Drone Incident)”.

The key element of the emergency response system for MDIs is people (healthcare workers and other HCF personnel). Special attention should be paid to preparing personnel for prompt and coordinated response to MDIs. Prevention of chaotic staff actions during MDIs is ensured through training programs on MDI response organization and psychological preparedness for working under emergency conditions.

1.6. Phases of an Emergency Caused by MDI

A missile-drone incident (MDI) is an event involving an aerial attack with the combined use of missiles (ballistic, cruise, etc.) and unmanned aerial vehicles (drones, loitering munitions, etc.). Recently, the threat posed by the enemy’s use of long-range guided aerial bombs (GABs) has

increased. The consequences of such incidents may include strikes on civilian infrastructure, deaths or injuries, and falling debris.

Effective management of response to the above-mentioned incidents can minimize disruptions in the provision of essential healthcare services and save many lives.

The main feature of the MDI response system under martial law conditions is that healthcare facilities in Ukraine, which may simultaneously accommodate or receive a large number of casualties, are themselves at potential risk or may already have sustained damage.

Response to MDIs is proposed to be carried out according to the following incident phases:

1) Basic Readiness Phase

- Ensuring stable, coordinated, and effective readiness of the HCF for rapid response to threats related to MDIs in order to minimize human losses, guarantee the safety of personnel and patients, and preserve the HCF's capacity for continuous medical care delivery;
- Basic readiness is implemented before an MDI occurs and must be continuous and integrated into the routine activities of the HCF.

2) Heightened Readiness Phase

- Ensuring the readiness of the HCF and RRT to activate the MDI Response Plan after receiving the "AIR RAID ALERT" signal;
- During the Heightened Readiness Phase, heightened vigilance is expected from the HCF;
- The HCF RRT is activated to verify available human resources and appropriate material and technical support and, whenever possible,

ensure the relocation (escort) of patients and healthcare workers to shelters.

3) Response Plan Activation Phase

- Defining the actions of HCF personnel in the event of the direct occurrence of an MDI, aimed at preserving the lives and health of patients and staff, conducting medical triage of casualties in shelters, organizing continuous medical care delivery, and determining indications for evacuation of patients and personnel if necessary;
- Determining the HCF's capacity for continued provision of medical care.

4) MCI Triage Phase

- Ensuring the readiness of the HCF RRT to deploy a triage area and organize triage zones in the event of an emergency caused by an MDI;
- Ensuring rapid, safe, and coordinated medical triage under conditions of limited time, personnel, space, and resources;
- Ensuring continuity of medical care delivery within the facility, including situations involving partial infrastructure damage, power outages, communication disruptions, or the need to relocate triage zones.

5) RRT Recovery Phase

- Ensuring effective restoration of RRT resources and activities after an emergency (MDI) in order to restore the HCF's capacity to provide medical care and create safe conditions for personnel and patients.

1.7. Human Resource Provision of the Emergency Response System (MDI) in Healthcare Facilities

Components of human resource provision for emergency response to MDI in healthcare facilities:

- Emergency Response Commission;
- Healthcare Facility Rapid Response Team (RRT);
- Distribution of functions between the Emergency Response Commission and the RRT;
- Healthcare professionals of the facility.

The interaction between the Emergency Response Commission and the RRT roles during an MDI is shown in Figure 4.

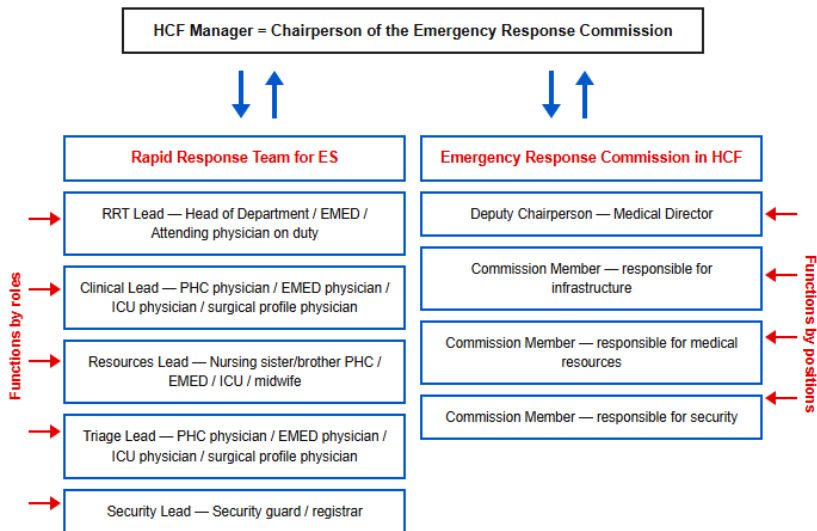


Figure 4. Scheme of interaction between the Emergency Response Commission and the roles of the Healthcare Facility Rapid Response Team (RRT) during MDI

The interaction between the RRT and the Emergency Response Commission of the healthcare facility across the phases of MDI is shown in Figure 5. The main actions of the Healthcare Facility Emergency Response Commission and the RRT roles are presented in SOP No. 1 of the guideline.

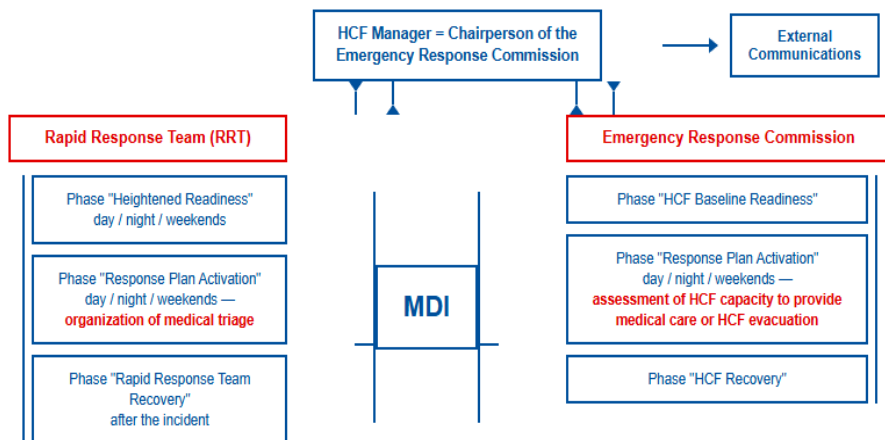


Figure 5. Interaction between the Healthcare Facility Rapid Response Team (RRT) and the Emergency Response Commission across the phases of MDI in healthcare facilities

1.8. Material and Technical Support of the MDI Response System

The material and technical support of the MDI emergency response system is provided through the following specialized response kits:

- 1) Kit No. 1. RRT Incident Management Kit;
- 2) Kit No. 2. Mass Casualty Triage (MCT) Kit;
- 3) Kit No. 3. Recommended Equipment List for the “green” triage zone;

- 4) Kit No. 4. Recommended Equipment List for the “yellow” and “red” triage zones;
- 5) Kit No. 5. Humanitarian Resources List.

Kit No. 1 (RRT Incident Management Kit) is designed for rapid response to MDI and other mass casualty emergencies. It ensures effective coordination of healthcare facility staff, establishment and functioning of the RRT, operational management involving trained personnel, role allocation among team members, and coordination between the RRT and the Healthcare Facility Emergency Commission. The kit also supports assessment of the facility’s operational capacity under emergency conditions and ensures continuity of medical care for casualties.

Key requirements:

- The kit must be located in the healthcare facility shelter;
- A backup (duplicate) kit must be stored in another safe location designated for RRT operations;
- Responsibility for storage, inventory control, and replenishment lies with a person appointed by official order of the healthcare facility;
- Completeness and expiration dates must be checked monthly or after each use.

Kit No. 2 (Mass Casualty Incident Triage Kit) is intended for organizing and conducting the initial stage of medical triage during incidents with a large number of casualties. It is used for patient identification, marking triage categories, maintaining initial records, and

documentation. It provides staff with the necessary tools for rapid establishment of a triage area and effective management of patient flow.

Key requirements:

- All kits must be stored in designated and clearly labeled locations (mobile carts, containers, or cabinets);
- The kit must be located in the healthcare facility shelter or near the emergency department (ED) when no active air-raid alert is present;
- A backup kit must be stored in another safe location designated for RRT operations;
- Completeness and expiration dates must be checked monthly or after each use;
- Restocking is carried out through the resource manager or the person responsible for medical supply logistics;
- Responsibility for storage, inventory control, and replenishment lies with a designated responsible person appointed by official order.

Kit No. 3 is designed to provide basic medical care for patients with minor injuries in accordance with the Emergency Medical Care Standard “Medical Triage” (green category). It should be located in the healthcare facility shelter or near the emergency department (ED) when no active air-raid alert is present. Kit No. 3 is used in the green zone, where care is provided to patients who do not require emergency or resuscitation interventions and are able to move independently.

Key requirements:

- All kits must be stored in designated and clearly labeled locations (mobile carts, containers, or cabinets);

- Completeness and expiration dates must be checked weekly or after each use;
- Restocking is carried out through the resource manager or the person responsible for medical supplies;
- Responsibility for storage, inventory control, and replenishment lies with a designated responsible person appointed by official order.

Kit No. 4 is designed to provide advanced medical care for severely injured patients in accordance with the Emergency Medical Care Standard “Medical Triage” (yellow and red categories). It should be located in the healthcare facility shelter or near the emergency department (ED) when no active air-raid alert is present. Kit No. 4 is used in the red zone, where care is provided to patients requiring emergency or resuscitation interventions and who are unable to move independently.

Key requirements:

- All kits must be stored in designated and clearly labeled locations (mobile carts, containers, or cabinets);
- Completeness and expiration dates must be checked weekly or after each use;
- Restocking is carried out through the resource manager or the person responsible for medical supplies;
- Responsibility for storage, inventory control, and replenishment lies with a designated responsible person appointed by official order.

Kit No. 5 – Humanitarian Resources List

Humanitarian resources include everything necessary for survival, safety, preservation of basic dignity, and the ability to endure waiting during an emergency situation. Humanitarian support must be planned already at the stage of baseline readiness of the healthcare facility. This helps reduce panic and aggression when people have access to water, warmth, and information. It also protects medical staff from overload and stress, improving the stability of RRT operations. Transparent communication and dignified conditions build trust in the facility and reduce complaints.

In addition, special attention must be given to vulnerable groups (children, elderly people, and persons with special needs), which is a key element of a safe and ethical environment.

1.9. Organizational Support of the MDI Response System: SOPs by Phases

A Standard Operating Procedure (SOP) is a formally defined, standardized document that contains a sequential, detailed algorithm for performing a specific activity, operation, or managerial process within an organization. SOPs ensure standardization of staff actions, process optimization, reduction of error risks, and compliance with legal requirements, quality standards, and safety regulations.

SOPs are a key instrument of a process-based and risk-oriented approach, aligned with modern concepts of quality management (ISO 9001), clinical management, and safety organization.

A SOP serves as a bridge between regulatory requirements, best practices, and real operational processes. It is aimed at improving efficiency, minimizing variability in staff actions, and fostering a responsible

management culture in emergency response (MDI). The main value of SOPs lies in transforming staff actions from improvisation into a clearly defined, controlled process that reduces the influence of the human factor in stressful conditions. Standardization of actions reduces the likelihood of errors caused by fatigue, panic, or overload. At the same time, SOPs accelerate response by enabling immediate action without time loss for discussion or decision-making in critical moments.

An important advantage is that SOPs clearly define roles and responsibilities, preventing duplication of functions, conflicts, and managerial chaos. This ensures coordinated actions across all departments, where each employee understands their task and operates within a unified logic.

In addition, SOPs ensure continuity of medical care, enabling healthcare facilities (HCFs) to function even in complex and prolonged crisis conditions. They also reduce dependence on individual staff members by ensuring continuity and interchangeability of personnel. Another important aspect is the psychological effect: SOPs increase staff sense of control, reduce stress levels, and support team performance. The implementation of SOPs allows healthcare facilities to transform emergency response from a chaotic process into a structured, stable, and effective system of actions.

Emergency conditions are always associated with high stress levels, time pressure, and the need for rapid decision-making. In such circumstances, SOPs become critically important, as they ensure clarity, speed, and coordination of staff actions.

SOPs reduce dependence on individual experience by standardizing task execution regardless of shift or staff training level. This is especially important when new or less experienced staff are involved, and it also reduces the risk of critical errors with serious consequences.

Moreover, SOPs significantly shorten decision-making time, as staff act according to predefined algorithms, enabling immediate response without additional discussion.

An important advantage is that SOPs ensure coordination among all categories of personnel - medical, administrative, technical, and security staff. They also guarantee continuity of actions, allow rapid integration of new employees into the response process, and maintain system control even during prolonged or large-scale incidents. Essentially, SOPs function as a “management framework,” defining responsibilities and sequences of actions that enable staff to act confidently, systematically, and effectively in the most challenging conditions.

The development of effective SOPs in healthcare facilities is based on several key principles ensuring their practicality, clarity, and effectiveness in emergencies.

First, SOPs must be clear and unambiguous to ensure uniform understanding among all staff. Another important principle is safety priority, where every decision and action is aimed at protecting patients and personnel.

Standardization of actions is also essential, allowing unified response approaches and predictable processes. At the same time, special attention is given to minimizing the human factor through the use of clear algorithms, instructions, and checklists that reduce errors in stressful conditions.

SOPs must also include a clear distribution of roles and responsibilities to prevent duplication of functions.

Another key principle is ensuring process continuity regardless of staff changes or working conditions. At the same time, SOPs should remain flexible within the standard framework, allowing adaptation to specific situations without losing control.

In addition, SOPs must be integrated into the overall management system of the facility rather than existing formally. A mandatory condition for their effectiveness is regular review and updating, which allows incorporation of new experience, environmental changes, and process improvement.

Adherence to these principles enables the creation of SOPs that function effectively in crisis conditions and ensure systematic, fast, and safe actions within healthcare facilities.

The purpose of SOPs is to ensure:

- consistency and reproducibility of actions regardless of the operator;
 - standardization of internal processes in accordance with regulatory, sectoral, and legal requirements;
 - improved quality of services or operations, ensuring transparency and controllability;
 - reduction of errors, incidents, and undesirable deviations in critical and routine processes;
 - staff training, including onboarding of new employees and upskilling of existing personnel.
- **Typical SOP structure:**

- **General section** (ensures unique identification of the document within the organization, includes version control, review, updating, and storage procedures);
- **Purpose and scope** (defines the aim of the procedure and the departments, processes, or situations it applies to);
- **Terms, definitions, abbreviations** (standardizes terminology used in the document);
- **Resource provision** (defines human, material, and technical resources required for implementation);
- **Executors** (distribution of functions, responsibilities, and levels of accountability among participants);
- **Procedure execution** (a structured step-by-step algorithm describing stages, conditions, required resources, documents, equipment, and quality and safety criteria);
- **Monitoring and evaluation** (defines quality indicators, monitoring methods, frequency of control, and responsible persons);
- **Regulatory framework** (list of legal and regulatory documents governing the process);
- **Appendices** (additional materials related to implementation: checklists, forms, tests, etc.).

SOP review cycle:

Periodic review of SOPs is carried out when new regulatory documents are approved or existing ones are amended, but not less than once per year. Mandatory review is required in case of an MDI occurring within the healthcare facility. SOPs remain valid until they are revoked or replaced by a new version.

1.10. Training as a Tool to Strengthen Healthcare Facility Readiness and Capacity

The development of organizational capacity of healthcare facilities (HCFs) is a process of building the institution's safety potential, which includes staff training, strengthening of the technical base, and development of a safety culture. In the modern management paradigm, HCFs are transforming into a Learning Organization - a system that continuously adapts through learning, error analysis, and innovation implementation. This necessarily includes:

- 1) Staff, together with the HCF leadership, undergo specialized training in incident management based on the international Hospital Incident Command System (HICS). The focus of this training is the centralization of managerial decision-making within the Rapid Response Team (RRT), which serves as a prototype of an operational hospital command center. The RRT ensures the operational allocation of human and material resources, coordinates all staff activities through role-based management, and eliminates duplication of functions.
- 2) Role-based training in HCFs aims to ensure that each employee clearly understands their function within the RRT. In this model, the functional role during an incident (e.g., patient registration officer or triage officer) takes priority over routine administrative positions, ensuring coordinated actions, faster decision-making, and effective coordination under emergency conditions.
- 3) Mastery of clinical protocols and skills based on international life-saving standards: Basic Life Support (BLS); Advanced Life Support (ALS);

Pediatric Advanced Life Support (PALS); Advanced Trauma Life Support (ATLS); Focused Assessment with Sonography for Trauma (FAST); and preparedness for Chemical, Biological, Radiological, and Nuclear (CBRN) threats.

- 4) Simulation exercises are a critical tool for verifying the effectiveness of implemented Standard Operating Procedures (SOPs) - formalized algorithms ensuring consistent actions regardless of the executor. “Scalable response capacity” simulation formats involve mass casualty scenarios that exceed the facility’s routine capacity. This allows evaluation of triage effectiveness in accordance with healthcare standards and HCF requirements.
- 5) Special attention is given to MDI scenarios, which include specialized drills for immediate patient relocation to safe areas upon the “AIR RAID ALERT” signal, verification of life-support system autonomy, organization of transport for immobile and critical patients (including those requiring oxygen support), ensuring continuity of medical care, and practicing interagency coordination with the State Emergency Service (SES), National Police, and other response structures under conditions of complete communication and digital network failure.
- 6) Each training activity in HCF must conclude with a results analysis phase aimed at systematically strengthening weak points and improving emergency preparedness. An important element is capacity assessment using a standardized evaluation tool, where a staff readiness level above 80% is considered an indicator of high institutional resilience and readiness. Training and simulation results must directly inform the

adaptation of emergency response and evacuation plans, ensuring alignment with real wartime and hybrid threat conditions.

- 7) Debriefing is an integral part of this process: a hot debriefing is conducted immediately after an event or training and focuses on rapid collection of key insights, identification of critical errors, and assessment of staff emotional state, while a cold debriefing is conducted after some time and involves in-depth analysis of actions, management decisions, coordination, and effectiveness of applied response algorithms.
- 8) Special attention should be given to team capacity recovery, including timely replenishment of human and material resources, staff rotation and recovery after intensive workload, recruitment of additional specialists, replenishment of medical supplies, and provision of psychological support.
- 9) In conclusion, the system of continuous training and simulation builds the capacity of healthcare facilities to function as an autonomous unit of organizational resilience.

1.11. Building Psychological Resilience of the RRT

An essential component of healthcare facility capacity for emergency response is the development of psychological resilience among staff, as the ability of a team to maintain functionality, controllability, and coordinated actions under stress directly affects the continuity of medical care. Any modern healthcare facility emergency response system must take into account the negative impact of emergencies on the psychological state of healthcare workers, as this determines the team's ability to act in a coordinated manner under stress. An important element is the facility's

capacity to prepare and, when necessary, rapidly deploy psychological support specialists. The level of resilience is defined as the team's ability to recover and continue functioning after severe stress events, which directly influences the continuity of medical care delivery. Acute stress management includes training in psychological stabilization techniques (Psychological First Aid) during mass casualty incidents, including psychosocial support training for healthcare workers and patients. Staff preparation for working under stress involves acquiring Psychological First Aid skills, which are ensured through regular simulation-based training.

CHAPTER 2

STANDARD TOOL FOR ASSESSING THE READINESS AND SAFETY OF HEALTHCARE FACILITIES FOR EMERGENCY RESPONSE (MDI)

2.1. Background to the Development of the Standard Tool

According to the requirements of the Ministry of Health of Ukraine, in particular, Order of the Ministry of Health of Ukraine No. 151 of 24 January 2025, “On Approval of the Emergency Response Plan of the Disaster Medicine Service,” a healthcare facility is required to conduct a preliminary and operational review (analysis) of its capacity to ensure the timely mobilisation of the necessary resources of the Disaster Medicine Service and to optimise the available resources of healthcare facilities (hereinafter — HCF).

An operational review (analysis) of HCF capacity is performed by the Emergency Commission when an emergency occurs at an HCF, in order to identify damage, determine the facility’s capacity for further functioning, and assess its ability to continue medical care (Appendix 1 to SOP No. 3, Activation of the HCF Emergency Response Plan (RDI)).

A preliminary review of HCF capacity is an assessment conducted by the head of the HCF once a week, during routine operations, and daily, under a heightened readiness regime (Appendix 1 to SOP No. 1, Basic HCF Readiness for Rapid Emergency Response (MDI): Checklist for the Preliminary Review of HCF Capacity).

During routine operations and heightened readiness, the preliminary review of HCF capacity is performed using a unified questionnaire that contains operational information on:

- 1) the condition of buildings, sanitation and engineering systems, and medical equipment: the condition of water supply and wastewater networks, electricity supply, reserves of drinking and utility water, access to the Internet, availability of heating during the autumn–winter period, the number and technical condition of medical transport vehicles, reserves of fuel and lubricants, alternative power sources and their capacity, communication tools, including computers, landline and mobile phones, and radios;
- 2) the HCF bed capacity and the availability of vacant beds by profile;
- 3) the number of critical patients requiring life-support measures;
- 4) staffing levels of specialist physicians and medical personnel as a percentage.

This information is important for the prompt managerial decisions regarding HCF readiness for emergency response; however, it does not provide a sufficient basis for strategic development decisions concerning the HCF emergency response system through the integrated consideration of organisational, managerial, infrastructural, communication, medical, and human resources. Therefore, this guideline proposes a Standard Tool for Assessing HCF Safety and Readiness for Emergency Response, which may be used for expert evaluation of the system described above. The Standard Tool consists of two components: determining the level of HCF readiness and safety for emergency response, and determining the level of HCF staff awareness and preparedness on emergency response (Figure 6).

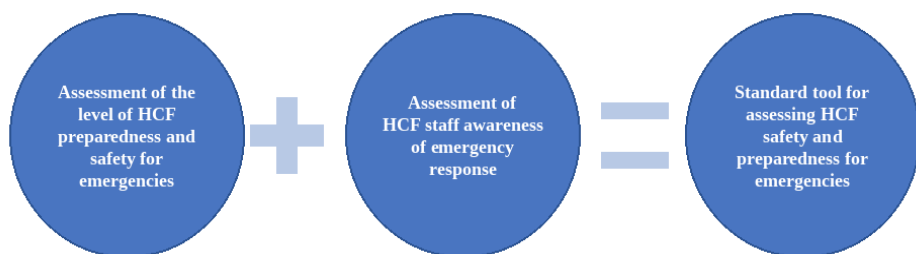


Figure 6. Components of the standard tool for assessing HCF readiness for emergency response (MDI).

Determining the level of HCF safety and readiness for emergencies makes it possible to assess the organisational management under emergency conditions, external communications during an emergency, the availability of infrastructure and resources, the capacity to ensure continuity of medical care during an emergency, the organisation of staff engagement and training, and readiness for HCF recovery after an emergency.

Determining the level of HCF staff awareness makes it possible to assess both the declared organisational readiness of the HCF for emergency response and the actual functional readiness of staff to respond to emergencies (Table 2).

Table 2.

**Organisational readiness of the HCF and functional readiness of staff
for emergency response**

ORGANISATIONAL READINESS	FUNCTIONAL READINESS
How the system is designed and declared: who is responsible for management; what plans, algorithms, SOPs, and resources are provided	How the system actually works: whether staff know their roles, routes, procedures, communication channels, and response algorithms
Respondents: heads of structural units, heads of departments, deputy medical directors, chief nurses	Respondents: HCF staff at different levels — physicians, nurses, midwives, junior medical staff, non-medical staff
Questions are formulated acc. to a management perspective: “Has ... been approved?”, “Has ... been appointed?”, “Has ... been established?”	Questions are formulated acc. to a performer’s perspective: “Do you know ...?”, “Have you completed ...?”, “Do you take part in ...?”

Organisational readiness is the presence of an emergency response system (MDI) that includes plans, algorithms, standard operating procedures (hereinafter - SOPs), resources, and designated responsible persons with clearly defined functions.

Functional readiness is the possession by staff of the skills and knowledge required for emergency response (MDI), specifically: role functions, routes, procedures, communication channels, and response algorithms.

This approach enables an objective assessment of HCF resilience and provides a basis for managerial decisions aimed at eliminating discrepancies between planning and implementation, which is a key factor in effective emergency response.

2.2. Methodology for Determining the Level of HCF Readiness and Safety for Emergencies (MDI)

The methodology includes determining the level of HCF readiness and safety for emergency response (MDI) using 70 indicators grouped into 7 modules (Table 3):

Table 3.

Structure of the questionnaire for determining the level of HCF readiness and safety for emergencies (MDI)

Module	Title	Indicators	Max. points
M1	Organisational foundations of management under emergency conditions	14	28
M2	External communications during an emergency	7	14

M3	HCF infrastructure, resources, and shelters	16	32
M4	Continuity of medical care during an emergency	11	22
M5	Facility safety infrastructure	9	18
M6	Engagement and training of HCF staff (Staff and Training)	9	18
M7	Organisation of HCF recovery after an emergency	4	8
Total	7 modules	70	140

Each indicator is assessed using the scale “Yes,” “Partially,” and “No,” corresponding to 0 to 2 points as follows:

2 points — the answer “Yes,” if the relevant element has been fully implemented, documented, communicated to staff, and its practical capacity has been verified during training, drills, or actual application.

1 point — the answer “Partially,” if the relevant element has not been fully implemented, has only limited confirmation, does not cover all necessary staff, structural units, or response stages, or has not been properly verified during training or practical exercises.

0 points — the answer “No,” if the relevant element is absent, has not been implemented, has not been documented, staff have not been prepared, or its implementation is not confirmed in practice.

The maximum score for the integral indicator of the level of HCF readiness and safety for emergencies (hereinafter — the integral indicator) across all indicators is 140 points (70 indicators × 2 points).

The integral indicator is calculated using the following formula:

$$\text{Integral indicator (\%)} = (\text{points obtained} / 140) \times 100$$

The results are determined both at the level of the overall integral indicator and separately for each module, which enables a detailed analysis of the system and the identification of functional risk areas.

The results obtained are interpreted according to the following scale:

0–39% — critically low level

40–69% — low level

70–84% — satisfactory level

85–100% — safe and resilient level

The list of 70 indicators, formulated as questions, is presented in the questionnaire for determining the level of HCF readiness and safety for emergencies (MDI) in Table 4.

Table 4.

**Questionnaire for determining the level of HCF readiness and safety
for emergencies (MDI)**

Co de	Questions/Indicators	Possible points
Module 1 Organisational foundations of management under emergency conditions (MDI)		
M 1.1	Has a person responsible for emergency response been designated by an HCF order?	Yes = 2 Partially = 1 No = 0
M 1.2	Has an Emergency Response Commission been established and approved within the HCF?	Yes = 2 Partially = 1 No = 0
M 1.3	Has the list of functions of the members of the HCF Emergency Response Commission been defined?	Yes = 2 Partially = 1 No = 0
M 1.4	Has the emergency response plan been communicated to staff and applied during training?	Yes = 2 Partially = 1 No = 0
M 1.5	Has the Response Plan been adapted to military air-threat scenarios, including night-time conditions?	Yes = 2 Partially = 1 No = 0

M 1.6	Does the Response Plan provide procedures for warning and informing HCF staff, patients, and visitors?	Yes = 2 Partially = 1 No = 0
M 1.7	Has the algorithm for activating the Response Plan been approved, with responsible persons and communication?	Yes = 2 Partially = 1 No = 0
M 1.8	Are there algorithms / standard operating procedures for staff actions during an air raid alert?	Yes = 2 Partially = 1 No = 0
M 1.9	Are there algorithms / standard operating procedures for staff actions during an emergency?	Yes = 2 Partially = 1 No = 0
M 1.1 0	Is there an algorithm for appointing an Incident Commander and functional assistant leads for different response areas during an emergency?	Yes = 2 Partially = 1 No = 0
M 1.1 1	Has a reserve group of HCF staff been defined, with functions assigned in the event of an emergency?	Yes = 2 Partially = 1 No = 0
M 1.1 2	Has an algorithm been defined for transferring authority and involving additional staff, beyond members of the Emergency Response Commission, during an emergency?	Yes = 2 Partially = 1 No = 0
M 1.1 3	Is the team able to deploy the management system within the first minutes after an incident, as confirmed by training?	Yes = 2 Partially = 1 No = 0

M 1.1 4	Is the HCF's capacity to provide medical care to affected persons (casualties) (casualties) during an emergency monitored and analyzed permanently?	Yes = 2 Partially = 1 No = 0
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Module 2

External communications during an emergency

M2.1	Have plans / algorithms for interaction with key external services and agencies been approved (State Emergency Service of Ukraine, Emergency Medical Services, Regional Military Administration)?	Yes = 2 Partially = 1 No = 0
M2.2	Are various communication tools available and tested (radio stations, handheld radios, mobile phones, satellite communications, and others) for interagency communication?	Yes = 2 Partially = 1 No = 0
M2.3	Is there an algorithm for informing staff, patients, and visitors about potential emergency threats and risks?	Yes = 2 Partially = 1 No = 0
M2.4	Is there a plan for evacuating patients and staff to other HCFs?	Yes = 2 Partially = 1 No = 0
M2.5	Is there an algorithm for informing staff, patients, and visitors about relocation and evacuation?	Yes = 2 Partially = 1 No = 0

M2.6	Has the procedure for exchanging information with other HCFs been defined in the event that patients need to be transferred / evacuated?	Yes = 2 Partially = 1 No = 0
M2.7	Has a person responsible for external communications and information been designated?	Yes = 2 Partially = 1 No = 0

Module 3

HCF infrastructure, resources, and shelters

M3.1	Is the HCF equipped with the necessary equipment and means for evacuating patients to other HCFs?	Yes = 2 Partially = 1 No = 0
M3.2	Is the HCF equipped with the necessary equipment and means for moving patients into shelters, and does it have appropriate routes?	Yes = 2 Partially = 1 No = 0
M3.3	Does the facility have an emergency power source?	Yes = 2 Partially = 1 No = 0
M3.4	Has a fuel reserve been created for emergency power supply during an emergency?	Yes = 2 Partially = 1 No = 0
M3.5	Has a drinking water supply system been established for emergency conditions?	Yes = 2 Partially = 1 No = 0

M3.6	Has a utility water supply system been established for emergency conditions?	Yes = 2 Partially = 1 No = 0
M3.7	Has a reserve of food products and medicines been created for the emergency period?	Yes = 2 Partially = 1 No = 0
M3.8	Has a reserve of medicines been created for the emergency period?	Yes = 2 Partially = 1 No = 0
M3.9	Are the expiry dates of reserve medicines monitored?	Yes = 2 Partially = 1 No = 0
M3.10	Is an inventory of critical equipment for emergency care conducted?	Yes = 2 Partially = 1 No = 0
M3.11	Is the reserve drinking water supply system protected from contamination and unauthorised access?	Yes = 2 Partially = 1 No = 0
M3.12	Is the shelter suitable for accommodating patients and staff?	Yes = 2 Partially = 1 No = 0
M3.13	Is the shelter equipped with basic life-support systems, and is it adapted for patients with limited mobility, severely ill patients, and patients requiring oxygen support?	Yes = 2 Partially = 1 No = 0

M3.14	Do the shelter or reserve premises allow medical care to be provided?	Yes = 2 Partially = 1 No = 0
M3.15	Has the operation of the generator / emergency power supply in the shelter premises been tested?	Yes = 2 Partially = 1 No = 0
M3.16	Is a ventilation and air filtration system provided in the shelter?	Yes = 2 Partially = 1 No = 0

Module 4

Continuity of medical care during an emergency

M4.1	Does the HCF have an approved instruction or algorithm for moving patients into shelter during military air threats and missile/drone incidents?	Yes = 2 Partially = 1 No = 0
M4.2	Have separate algorithms for moving low-mobility, severely ill, and critical patients into shelters been defined?	Yes = 2 Partially = 1 No = 0
M4.3	Are reserve spaces / locations within the HCF provided for deploying medical care during an emergency?	Yes = 2 Partially = 1 No = 0

M4.4	Has an algorithm for rapid discharge or transfer of patients to another HCF been approved?	Yes = 2 Partially = 1 No = 0
M4.5	Have shelters or reserve locations been checked for readiness to ensure continuity of medical care?	Yes = 2 Partially = 1 No = 0
M4.6	Is telemedical or remote consultation available in the event of an emergency?	Yes = 2 Partially = 1 No = 0
M4.7	Has an algorithm for mass casualty incident (MCI) triage during an emergency been approved?	Yes = 2 Partially = 1 No = 0
M4.8	Is the emergency department supplied with medical materials and medicines for 72 hours?	Yes = 2 Partially = 1 No = 0
M4.9	Is the emergency department supplied with materials and means for medical triage of affected persons (casualties), and is it ready for their practical use during an emergency?	Yes = 2 Partially = 1 No = 0
M4.10	Does the facility have procedures for handling bodies in the event of mass fatalities?	Yes = 2 Partially = 1 No = 0
M4.11	Is the HCF capable of deploying the necessary areas for mass casualty incident (MCI) triage in the shelter, and does it have the corresponding resources?	Yes = 2 Partially = 1 No = 0

MODULE 5

Facility safety infrastructure

M5.1	Do the HCF buildings have basic engineering and technical elements of physical protection (safe rooms or protected zones within departments, reinforced concrete walls and floors, blast-resistant doors, blast-resistant glazing, underground operating rooms, and intensive care units)?	Yes = 2 Partially = 1 No = 0
M5.2	Are the facility territory and perimeter monitored by security personnel and video surveillance?	Yes = 2 Partially = 1 No = 0
M5.3	Do movement / evacuation routes have markings, diagrams, and backup lighting (in corridors, shelters, stairwells, operating rooms, and intensive care units)?	Yes = 2 Partially = 1 No = 0
M5.4	Is there a centralised system for alerting staff, patients, and visitors about an emergency?	Yes = 2 Partially = 1 No = 0
M5.5	Are additional alerting means available (megaphones, loudspeakers, etc.) to inform staff, patients, and visitors about an emergency?	Yes = 2 Partially = 1 No = 0
M5.6	Is the HCF equipped with an automated centralised emergency alerting system (for example, functioning loudspeakers in all premises and departments) and clear information	Yes = 2 Partially = 1 No = 0

	transmission algorithms to prevent chaos and disorganisation?	
M5.7	Are fire safety and firefighting systems available and operational (smoke and heat detectors, voice notification systems, illuminated evacuation signs, carbon dioxide and powder fire extinguishers, fire hose reel cabinets with hoses, fire blankets, automatic sprinkler systems, fire doors, and fire curtains)?	Yes = 2 Partially = 1 No = 0
M5.8	Are all hospital departments provided with serviceable fire extinguishers in accordance with fire safety requirements?	Yes = 2 Partially = 1 No = 0
M5.9	Are electronic medical data backed up, and does the facility have basic cybersecurity measures (data backup, secure servers, antivirus software)?	Yes = 2 Partially = 1 No = 0

MODULE 6

Engagement and training of HCF staff (Staff and Training)

M6.1	Does the HCF have an up-to-date staff contact list and an algorithm for emergency call-out outside regular shifts?	Yes = 2 Partially = 1 No = 0
M6.2	Do staff know their roles and functions during an emergency?	Yes = 2 Partially = 1 No = 0

M6.3	Are mechanisms provided for staff rotation, rest, and psychological support during an emergency?	Yes = 2 Partially = 1 No = 0
M6.4	Are regular emergency response training sessions / simulations conducted for HCF staff?	Yes = 2 Partially = 1 No = 0
M6.5	Do staff receive training in triage (sorting of affected persons / casualties), evacuation, and acute stress reactions during incidents or emergencies?	Yes = 2 Partially = 1 No = 0
M6.6	Are regular interagency trainings conducted with the participation of HCF staff and other rescue services and institutions (State Emergency Service of Ukraine, Regional Military Administration, Public Health Centres, etc.)?	Yes = 2 Partially = 1 No = 0
M6.7	Is a structured analysis (hot and cold debriefing) conducted after training sessions and incidents?	Yes = 2 Partially = 1 No = 0
M6.8	Do staff know the algorithm of actions during an air raid alert, and have they been informed about missile and drone threats?	Yes = 2 Partially = 1 No = 0
M6.9	Do staff know the assembly point, shelter routes, and actions corresponding to their role?	Yes = 2 Partially = 1 No = 0

MODULE 7

Recovery of HCF operational capacity after an emergency

M7.1	Has the HCF approved a resource recovery plan after an emergency?	Yes = 2 Partially = 1 No = 0
M7.2	Is there an algorithm for collecting data on HCF losses and damage?	Yes = 2 Partially = 1 No = 0
M7.3	Does the facility have defined mechanisms for interaction with communities, donors, and partners to restore and strengthen existing resources?	Yes = 2 Partially = 1 No = 0
M7.4	Are response plans updated after incidents and emergencies?	Yes = 2 Partially = 1 No = 0

2.3. Methodology for Assessing the Level of Awareness of HCF Managers and Staff Regarding Emergency Response (MDI)

The methodology provides for assessing the level of awareness of managers of various structural units and staff using two separate questionnaires, each containing 40 key indicators (Table 5). The indicators are grouped into five modules reflecting the key components of the emergency response system.

Table 5.

**Structure of the questionnaire for assessing the level of awareness of
HCF staff and managers regarding emergencies (MDI)**

Module	Title	Assessed object	Indicators	Max score
M1	Organisational foundations of management under emergency conditions	Management structure, responsible persons, civil protection plans, staff action algorithms, night protocols, evacuation procedures, movement of low-mobility patients	12	24
M2	Communications during emergencies	Communication channels, algorithm for interaction with response services, alternative communication tools, accessibility of contacts, procedure for informing relatives of affected persons (casualties)	5	10
M3	Infrastructure, resources, and shelters	Material resources, reserves, availability and functionality of shelters, their adaptation for different	9	18

		categories of patients, critical equipment, firefighting means		
M4	Continuity of medical care	Access to emergency care, AED, deployment of a triage area, mass casualty incident (MCI) triage algorithm, horizontal/vertical movement from the anesthesiology and intensive care unit	8	16
M5	Engagement and training of staff	Frequency of training, participation in simulations, medical triage training, BLS/PBLS, interagency drills, psychological support	6	12
Total	5 modules	40 key readiness indicators	40	80

Both questionnaires follow a common logic, making it possible to assess the response system simultaneously in two dimensions: organisational readiness at the management level and functional readiness at the level of practical implementation by staff. This makes it possible to identify management gaps between what is formally provided for in documents and what staff actually know and are able to perform. This discrepancy is one of the key risks during emergencies (MDI), when the

effectiveness of response depends not on the existence of a plan as a document, but on the ability of HCF staff to act quickly, in a coordinated manner, and safely.

Each question (indicator) is assessed with a maximum of 2 points — “Yes,” 1 point — “Partially,” and 0 points — “No.”

The questionnaires differ in the formulation of questions: for managers, they are phrased from a management perspective — “Has ... been approved?”, “Has ... been appointed?”, “Has ... been established?”; for staff, questions are phrased from the performer’s perspective — “Do you know ...?”, “Have you completed ...?”, “Do you take part in ...?”.

The maximum score for the integral indicator across all indicators is 80 points (40 indicators × 2 points).

The integral indicator of the level of awareness of HCF managers or staff regarding emergency response (MDI) is calculated using the following formula:

$$\text{Integral indicator (\%)} = (\text{points obtained} / 80) \times 100$$

The results are determined both at the level of the integral indicator and separately for each module, which enables a detailed analysis of the system and the identification of functional risk areas.

The results obtained are interpreted according to the following scale:

0–39% — critically low level

40–69% — low level

70–84% — satisfactory level

85–100% — safe and resilient level

A distinctive feature of the methodology is the possibility of comparing the results obtained for managers and staff. This makes it possible to identify management gaps (discrepancies) between what managers declare and what staff actually know and are able to perform. In other words, it identifies the difference between the organisational readiness of the HCF and the functional readiness of staff for emergency response. These discrepancies are among the key risks during emergencies (MDI), when response effectiveness depends not on the existence of formal documents, but on the ability of HCF staff to act quickly and in a coordinated manner.

Formula for calculating the implementation gap

$$\Delta_i = M_i - S_i$$

where:

- Δ_i — the implementation gap for indicator i (in percentage points);
- M_i — the average score of managers for indicator i (%);
- S_i — the average score of staff for indicator i (%).

Interpretation of discrepancies

- $\Delta_i > 0$ — managers rate the component higher than staff → possible overestimation of readiness by management and a blind-spot risk.
- $\Delta_i \approx 0$ — aligned assessment by managers and staff → the most stable condition, effective communication, and awareness.
- $\Delta_i < 0$ — staff rate the component higher than managers → requires more detailed analysis to determine the reasons for these differences.

2.4. Analysis of Readiness and Resilience for Emergency Response (MDI) in 5 Pilot HCFs Based on the Use of the Standard Tool

The pilot assessment of readiness for emergency response (MDI) was conducted in 5 HCFs in Ukraine, including 3 multidisciplinary children's hospitals and 2 perinatal centres (Odesa, Dnipro, and Kyiv).

The integral indicators for assessing the level of HCF readiness and safety for emergency response in the 5 HCFs are presented in Figure 7.

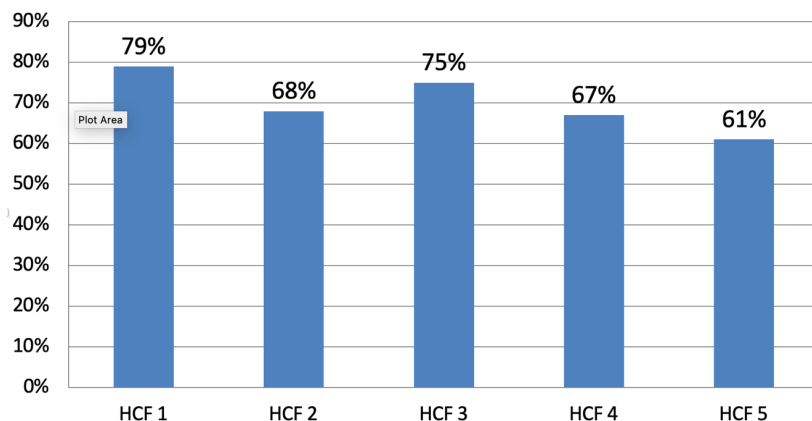


Figure 7. Integral indicators of HCF readiness and safety for emergency response (MDI).

The results of the assessment of the level of HCF readiness and safety for emergency response according to the integral indicator are presented below.

HCF 1 achieved the highest integral readiness indicator - 79%, which corresponds to a satisfactory level of readiness. This indicates a sufficiently developed organisational and managerial response system and the capacity to ensure continuity of medical care during emergencies. HCF 2

demonstrated a result of 68%, which corresponds to a low level of readiness. This indicator suggests that certain response system elements have been implemented; however, significant gaps remain in ensuring facility resilience. HCF 3 achieved 75%, which also corresponds to a satisfactory level of readiness. This indicates a sufficiently developed organisational and managerial response system and the capacity to ensure continuity of medical care during emergencies. HCF 4 received 67%, corresponding to a low level of readiness. This result indicates the presence of some implemented elements of the response system, but also significant gaps in ensuring facility resilience. HCF 5 demonstrated the lowest readiness indicator - 61%, also characterised as a low level of readiness. This may indicate insufficient preparedness of the facility for effective emergency response and the need to implement comprehensive measures to improve safety and resilience.

Overall, the results show that among the 5 assessed HCFs, only two facilities achieved a satisfactory level of readiness, while the majority require further improvement of their emergency response systems.

The profile of indicators across the 7 modules for assessing HCF readiness and resilience for emergency response (MDI) is presented in Figure 8.

Module/ Title	HCF 1	HCF 2	HCF 3	HCF 4	HCF 5
M1. Organisational foundations of management under emergency conditions	68%	68%	75%	71%	43%
M2. External communications during an emergency	100%	64%	79%	88%	64%
M3. HCF infrastructure, resources, and shelters	81%	81%	75%	65%	91%
M4. Continuity of medical care during an emergency	68%	55%	68%	60%	50%
M5. Facility safety infrastructure	78%	56%	83%	64%	89%
M6. Engagement and training of HCF staff (Staff and Training)	83%	78%	83%	61%	39%
M7. Organisation of HCF recovery after an emergency	88%	63%	50%	60%	25%
Points obtained / max points	110/140	95/140	105/140	91/136	86/140

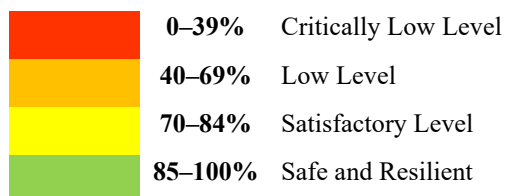


Figure 8. Profiles of HCF readiness and safety for emergency response (MDI).

The findings indicate that the readiness profile of HCF 1 is characterised predominantly by satisfactory and safe levels across most modules. The highest results were demonstrated in module M2, “External Communications During Emergencies” - 100%, and module M7,

“Organisation of HCF Recovery After an Emergency” - 88%, which corresponds to a safe and resilient level. This indicates an effectively organised system of external interaction and the presence of mechanisms for post-crisis recovery. In modules M3, “Infrastructure, Resources and HCF Shelters” - 81%, M5, “Facility Safety Infrastructure” - 78%, and M6, “Staff and Training” - 83%, the facility has a satisfactory level of readiness. This points to an adequate level of resource provision, the development of safety infrastructure, and staff preparedness. At the same time, modules M1, “Organisational Foundations of Management” - 68%, and M4, “Continuity of Medical Care” - 68%, remain within the low-level range, which may indicate the formalisation of management processes and the need to improve mechanisms ensuring stable operations during emergencies.

The profile of HCF 2 is characterised by a predominance of low readiness levels, with individual satisfactory indicators. The best result was recorded in module M3, “Infrastructure, Resources and HCF Shelters” — 81%, which indicates an appropriate level of material and technical support and shelter preparedness. A satisfactory level was also established for module M6, “Staff and Training” — 78%, indicating relatively adequate staff preparedness and the conduct of training activities. At the same time, most other modules showed low scores: M1 — 68%, M2 — 64%, M4 — 55%, M5 — 56%, and M7 — 63%. The most critical area is module M4, “Continuity of Medical Care,” which indicates risks to the stable functioning of the facility during emergencies.

HCF 3 demonstrates the highest scores across almost all modules. Most modules are at a satisfactory level: M1 - 75%, M2 - 79%, M3 - 75%, M5 - 83%, and M6 - 83%. This indicates a systemic approach to organising

readiness, developing safety infrastructure, and preparing staff. Particularly high results were recorded in modules M5 and M6, which point to the proper development of safety mechanisms and an effective staff training system. At the same time, modules M4, “Continuity of Medical Care” - 68%, and M7, “Organisation of Recovery After an Emergency” - 50%, remain at a low level. This indicates insufficient facility readiness to ensure stable operations under crisis conditions and limited planning of recovery processes.

The profile of HCF 4 is characterised predominantly by a low level of readiness, with some satisfactory results. The highest score was achieved in module M2, “External Communications During Emergencies” — 88%, which corresponds to a safe and resilient level. This indicates an effectively organised system of external interaction. A satisfactory level was established for module M1, “Organisational Foundations of Management” - 71%. At the same time, modules M3 - 65%, M4- 60%, M5- 64%, M6 - 61%, and M7 - 60% are characterised by low levels. The most critical issues concern continuity of medical care, development of safety infrastructure, and staff preparedness, which may negatively affect the facility’s effectiveness during emergencies.

The profile of HCF 5 is the most uneven and combines high and critically low indicators. The highest results were achieved in module M3, “Infrastructure, Resources and HCF Shelters” - 91%, and module M5, “Facility Safety Infrastructure” - 89%, corresponding to a safe and resilient level. This indicates an adequate level of resource provision and a high level of physical safety of the facility. At the same time, modules M1 - 43%, M2 - 64%, and M4 - 50% remain at a low level, indicating insufficient

organisational and managerial readiness. Particular attention should be paid to modules M6, “Staff and Training” - 39%, and M7, “Organisation of Recovery After an Emergency”- 25%, which correspond to critically low levels. This indicates the absence of systematic staff training, insufficient drills and practical skills development, and the de facto absence of effective planning for post-crisis recovery of the facility.

Overall, the assessment results allow several systemic trends to be identified, namely: the most developed areas among HCFs are infrastructure, resources, shelters, and external communications; the most problematic areas are continuity of medical care, staff training, and the organisation of post-crisis recovery; most facilities demonstrate an imbalance between material and technical readiness and organisational/staff capacity; the presence of individual high indicators does not ensure overall system resilience without comprehensive development (Figure 9).

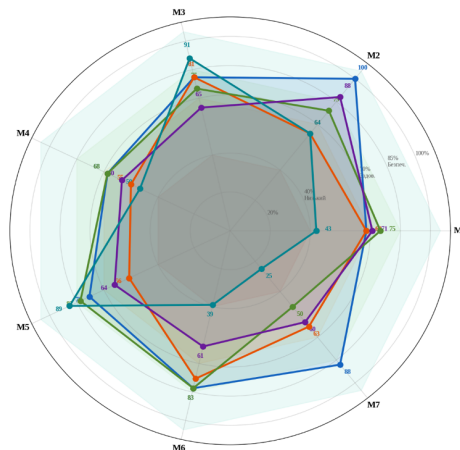


Figure 9. Module-based indicators of HCF safety and readiness for emergency response (MDI), %

The results indicate the need for a comprehensive approach to improving HCF readiness for emergencies (MDI), in particular:

- improving management and coordination systems;
- developing mechanisms to ensure continuity of medical care;
- providing systematic staff training and conducting practical drills;
- implementing plans for post-crisis recovery of facility operations;
- ensuring the integrated development of all components of the HCF safety and resilience system.

The analysis of the awareness level of unit managers and staff was conducted for 5 pilot HCFs (Odesa, Dnipro, and Kyiv). The total number of respondents was 1,105, including 165 unit managers and 940 staff members. The integral and module-based indicators of HCF staff awareness regarding emergency response (MDI) are presented in Table 5.

Table 5.

**Integral and module-based indicators of HCF staff awareness
regarding emergency response (MDI)**

Module/ Title	HCF 1	HCF 2	HCF 3	HCF 4	HCF 5
M1. Organisational foundations of management under emergency conditions	87.5%	84.2%	85.8%	86.0%	82.3%

M2. Communications during emergencies	87.7%	77.8%	74.1%	78.8%	73.7%
M3. Infrastructure, resources, and shelters	90.5%	84.8%	83.9%	87.1%	79.6%
M4. Continuity of medical care	84.9%	66.9%	73.5%	73.6%	70.9%
M5. Engagement and training	81.8%	61.0%	70.7%	64.1%	59.2%
Integral indicator	86.8%	76.6%	79.2%	79.8%	74.9%

The results of the staff awareness assessment reflect the functional dimension of HCF readiness, that is, the practical level of HCF staff preparedness for emergency response.

The analysis of module-based indicators from the staff survey demonstrates a clear structure of strong and weak readiness components and makes it possible to assess the actual functional capacity of facilities at the operational level. The most consistently high results were recorded in module M1, “Organisational Foundations” (82.3-87.5% across all HCFs), which show an adequate level of staff mastery of basic response algorithms, with warning procedures and initial actions in the event of an emergency. This forms the necessary basis for implementing a response system; however, it does not guarantee effectiveness without support from the other components.

Module M2, “Communications,” demonstrates a noticeable differentiation between facilities. HCF 1 (87.7%) and HCF 4 (78.8%) have relatively strong positions, whereas HCF 2 (77.8%), HCF 3 (74.1%), and HCF 5 (73.7%) show more vulnerable indicators. This variability indicates uneven development of communication capacities, while alternative communication channels remain a key risk area in all facilities.

Module M3, “Infrastructure,” is the second most developed component (79.6–90.5%) and confirms the presence of relatively adequate material and technical support, as well as staff awareness of the location and use of protective shelters.

At the same time, module M4, “Continuity of Medical Care,” remains a critical risk area. In HCF 2 (66.9%) and HCF 5 (70.9%), indicators are at the threshold of a satisfactory level, and they show limited capacity to ensure medical care under crisis-related strain. The most critical issues are the availability of defibrillators, established algorithms for moving severely ill and low-mobility patients, and the organisation of triage areas.

Module M5, “Training,” is the weakest component in all examined facilities (59.2–81.8%) and demonstrates a systemic deficit in staff preparedness. Particularly low results were recorded in HCF 2 (61.0%), HCF 4 (64.1%), and HCF 5 (59.2%), indicating insufficient readiness for emergencies. Training in medical triage, as well as basic (BLS/PBLS) and advanced cardiopulmonary resuscitation (ALS/PALS), is not systematic. Combined with relatively high safety infrastructure indicators, this creates a structural mismatch between resource provision and staff readiness, which is one of the key limitations of the overall effectiveness of the response system.

The radar chart (Figure 10) reflects the integrated profile of staff awareness on emergency response in each facility and enables the visualisation of indicator levels and their internal balance.

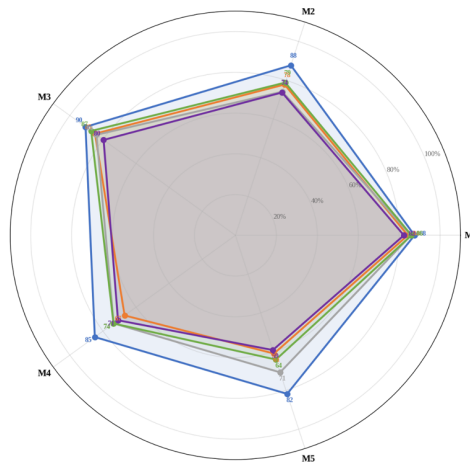


Figure 10. Module-based indicators of staff awareness in the 5 pilot HCFs regarding emergency response (MDI), %

HCF 1 forms the most even and broad profile, with the minimum indicator recorded in module M5. HCF 3 demonstrates an even profile without sharp declines, indicating stable, although not maximal, readiness. By contrast, HCF 2 and HCF 5 show clearly defined gap areas in modules M4, “Continuity of Care,” and M5, “Training,” which form a critical “blind spot” in the response system. HCF 4 is characterised by an asymmetric profile: relatively strong positions in modules M1 and M3 are combined with weakness in M5, indicating uneven development of organisational components.

The integral and module-based indicators of awareness among managers of HCF structural units regarding emergency response (MDI) are presented in Table 6.

Table 6.

Integral and module-based indicators of awareness among managers of HCF structural units regarding emergency response (MDI)

Module/ Title	HCF 1	HCF 2	HCF 3	HCF 4	HCF 5
M1. Organisational foundations of management under emergency conditions	92.7%	83.3%	87.5%	90.8%	88.8%
M2. Communications during emergencies	95.9%	83.3%	80.8%	91.4%	82.6%
M3. Infrastructure, resources, and shelters	95.6%	75.9%	82.5%	92.0%	86.0%
M4. Continuity of medical care	96.5%	72.2%	77.9%	90.0%	79.4%
M5. Engagement and training	94.0%	50.0%	81.4%	77.9%	55.6%
Integral indicator	94.7%	74.4%	82.7%	89.1%	80.6%

The results of the awareness assessment of unit managers reflect the organisational dimension of HCF readiness , that is, the level at which the

response system is designed, formalised, and implemented through managerial decisions. In this dimension, substantial variability is observed between facilities.

HCF 1 is a facility in which all awareness indicators reach a high level of safety and resilience (92.7-96.5%), with the highest integral indicator (94.7%). At the same time, comparison with staff assessments (86.8%) reveals differences, which indicates the need to confirm these results through practical implementation.

HCF 2 is a facility in which managers assess the system below the safe level in two critical modules at once - M4 (72.2%) and M5 (50.0%). This assessment somewhat correlates with staff results for M4 (66.9%) and M5 (61.0%) and indicates a high level of managerial reflexivity - the ability to objectively identify weaknesses in the system. This creates prerequisites for more effective planning of readiness-strengthening measures.

HCF 3 demonstrates a satisfactory level across all modules (from 77.9% to 87.5%), as well as the best alignment with staff assessments. This configuration indicates a balanced management system in which managerial decisions correspond to the actual state of operational processes.

HCF 4 reaches a safe level in most modules; however, M5, “Training” (77.9%), remains the only critical area. Combined with previously identified systemic gaps assessments, this points to an underestimated risk related to staff preparedness for emergency response.

HCF 5 demonstrates the most critical situation in module M5, “Training” (55.6%), where the indicator is not only below the satisfactory level, but also lower than the staff’s own assessment (59.2%). This “reverse discrepancy” is unique within the sample and indicates that management

recognises the depth of the problem, while also emphasising the systemic nature of the training deficit.

Thus, the results obtained from managers confirm that in most facilities the response system has been formally established; however, its actual effectiveness is limited by insufficient staff training and uneven development of key functional modules.

Overall, the radar chart (Figure 11) reflects the integrated awareness profile of managers of structural units regarding emergency response in each facility and enables the visualisation of indicator levels and their internal balance. It should be noted that in the overwhelming majority of HCFs, module M5, “Engagement and Training,” remains the least developed component for nearly all facilities except HCF 1, indicating the need to strengthen training systems, drills, and staff involvement in the practical implementation of emergency response actions.

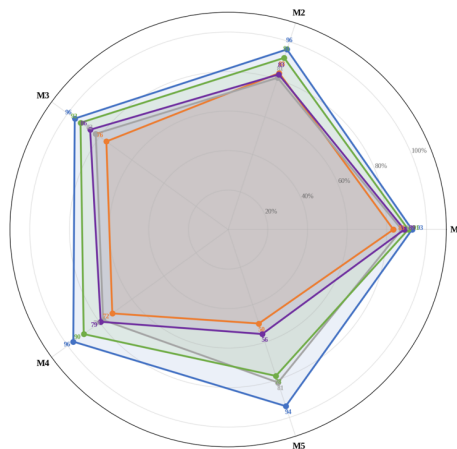


Figure 11. Module-based indicators of awareness among managers of structural units in the 5 pilot HCFs regarding emergency response (MDI), %

A comparison of the integral awareness indicators of managers and staff across facilities shows that in all HCFs — $\Delta = +7.9$ percentage points (HCF 1), $\Delta = +3.5$ percentage points (HCF 3), $\Delta = +9.3$ percentage points (HCF 4), and $\Delta = +5.7$ percentage points (HCF 5) — except HCF 2 ($\Delta = -2.2$ percentage points), managers' awareness assessments exceed those of staff. This indicates a certain overestimation of organisational HCF readiness by unit managers compared with the functional readiness of staff for emergency response.

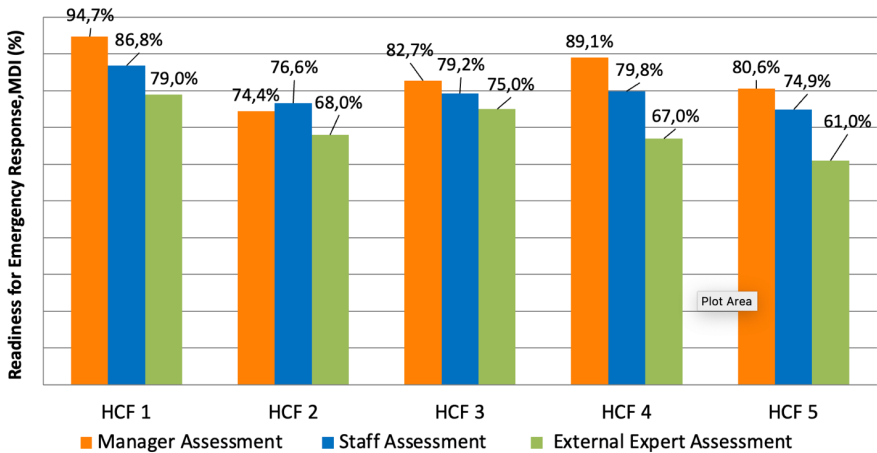


Figure 12. Three-dimensional assessment of HCF safety and readiness for emergency response (MDI)

The generalised assessment of HCF readiness for emergency response demonstrates the predominance of satisfactory and safe levels of readiness (Figure 12). The highest integral indicators were recorded in HCF 1, where staff assessments (86.8%) and manager assessments (94.7%) correspond to a safe level, indicating a well-developed response system and a high level

of managerial capacity. High results were also demonstrated by HCF 4, especially among managers (89.1%). HCF 3 is characterised by a satisfactory level of readiness with a tendency toward a safe level, while HCF 2 and HCF 5 show lower integral indicators, especially according to the independent expert assessment (68% and 61%, respectively), indicating the presence of systemic gaps in emergency preparedness.

Across all facilities, managers' assessments are higher than those of staff and independent experts, which may indicate a more optimistic perception of HCF readiness at the managerial level. At the same time, the independent expert assessment is lower in all HCFs than the awareness results, and this confirms the need to strengthen practical readiness, staff training, and emergency response mechanisms.

2.5. Conclusion to chapter 2

The Standard Tool for Assessing HCF Readiness and Safety makes it possible to assess the level of organisational and functional readiness for emergency response (MDI).

Comparison of three independent sources of assessment: external expert assessment, assessment of awareness among managers of structural units, and assessment of staff awareness regarding emergency response (MDI) — makes it possible to form a three-dimensional view of the actual readiness of HCFs for emergencies. This approach reveals systemic discrepancies between declared and actual HCF capacity.

Overall, the results confirm that the readiness of a healthcare facility cannot be assessed solely through the presence of infrastructure or formal documents. It is formed as an integrated characteristic that includes

managerial professionalism, staff preparedness, coordination of actions, and recovery capacity. It is the balance of these components that determines the actual resilience of the system and its ability to function effectively during emergencies.

GENERAL CONCLUSION

In the context of full-scale war and the persistent threat of missile and drone incidents (MDI), the healthcare system of Ukraine operates in an environment of prolonged and compound risks that directly affect patient and staff safety, the protection of critical infrastructure, and the continuity of healthcare delivery. For healthcare facilities, these risks are particularly significant due to the high concentration of patients with limited mobility, critically ill patients, and other vulnerable patient groups, dependence on life-support systems, and the need to maintain uninterrupted operation of operating theatres and intensive care units even during air-raid threats.

The guideline “Safe and Resilient Hospital: Emergency Response System for Missile and Drone Incidents under Martial Law Conditions” presents a contemporary integrated management model for healthcare facility emergency response adapted to the realities of wartime Ukraine. The proposed approach is grounded in the principles of Health Emergency and Disaster Risk Management (Health EDRM), the Hospital Incident Command System (HICS), the all-hazards approach, and contemporary concepts of crisis management, where emergencies are viewed not merely as clinical or technical problems, but as complex management challenges requiring rapid decision-making, coordinated use of limited resources, and the preservation of organisational resilience and operational continuity.

The central management premise of the guideline is the transition from fragmented and reactive response practices to a proactive, systemic, and risk-oriented incident management model. During an emergency, a healthcare facility shifts from its routine mode of operation to an incident

management mode, in which key management decisions are coordinated through the Rapid Response Team (RRT), functioning as the facility's incident management and coordination centre. This approach ensures unity of command, a clearly defined chain of command, allocation of responsibilities through functional roles, and minimisation of the risk of uncoordinated or chaotic actions under critical conditions.

The response framework is based on the key principles of contemporary emergency management. The principle of unified command ensures that the healthcare facility functions as an integrated system with centralised coordination of actions. A predictable chain of command enables every staff member to clearly understand their role, responsibilities, and reporting lines during an incident. This principle establishes clear accountability among all members of the Rapid Response Team and ensures effective coordination among healthcare facility units. The use of common terminology and standardised response procedures reduces the risk of communication failures between clinical personnel, administrative units, and external emergency response services.

A major strength of the framework is its scalability and flexibility. Response operations can be scaled progressively according to the scope, complexity, and severity of an incident without the need to redesign coordination mechanisms from the ground up. At the same time, the framework is integrated into the national civil protection system and provides for external coordination with the State Emergency Service of Ukraine, Emergency Medical Services, the National Police, other healthcare facilities, and governmental authorities. Another essential principle is proactive

preparedness, which assumes that readiness activities begin before an incident occurs through continuous vulnerability analysis, risk assessment, implementation of standard operating procedures, personnel training, and verification of actual operational capability.

The key components of the emergency response framework in healthcare facilities comprise integrated functional elements that support practical implementation and can be adapted to specific threat scenarios according to the all-hazards approach. The first component is a set of standard operating procedures that establish standardised staff response procedures and action algorithms across different phases of an emergency. These procedures ensure predictable decision-making, coordination between facility units, and minimisation of errors under stressful conditions. The second component is a system of continuous training and simulation exercises designed to strengthen practical response skills and prepare personnel to operate under conditions of time pressure, high workload, and uncertainty. Regular drills, role-based training, simulation exercises, and interagency exercises are essential prerequisites for maintaining operational readiness. The third component is the availability of dedicated response resource kits and reserves that ensure the autonomous operational capability of the facility during disruptions to logistics, communications, or mass casualty incidents.

Particular emphasis is placed on strengthening organisational capability and developing a learning organisation. In contemporary emergency preparedness systems, the level of safety is determined not by the existence of formal documents, but by the ability of personnel to act in accordance

with clearly defined roles, response procedures, and incident scenarios. Regular training, simulation exercises, analysis of operational shortcomings, and systematic updating of response procedures ensure continuous improvement and enhance institutional resilience.

Another essential component of the system is the development of psychological and organisational resilience within response teams. Regular trainings, hot and cold debriefings, psychological support for personnel, and recovery of Rapid Response Team capacity and response resources contribute to the facility's ability to maintain functionality even after repeated incidents or prolonged crisis-related pressure.

An important component of the guideline is the Standard Tool for Assessing Healthcare Facility Preparedness and Safety, which enables evaluation of organisational and functional readiness to respond to emergencies and missile or drone incidents. Comparison of three independent sources of assessment, namely external expert assessment, assessment by heads of facility units, and assessment by staff members, provides a multidimensional understanding of actual preparedness and enables identification of systemic gaps between declared preparedness and actual operational capability.

The findings confirm that the preparedness of a healthcare facility cannot be assessed solely on the basis of available infrastructure or formal documentation. It is determined by the level of management maturity, personnel readiness, coherence of actions, recovery capability, and the actual functionality of the organisation under crisis conditions.

Thus, the model presented in this guideline is not merely a collection of algorithms or formal recommendations, but a comprehensive incident management framework that supports rapid decision-making, coordinated action, continuity of healthcare delivery, and the resilience of healthcare facilities operating under martial law conditions and complex, evolving threats.

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APPENDIX 1

Standard Operating Procedure No. 1

BASIC READINESS OF A HEALTHCARE FACILITY FOR RAPID RESPONSE TO AN EMERGENCY SITUATION (MISSILE AND DRONE INCIDENT)

1. GENERAL INFORMATION

Title	SOP No. 1. Basic readiness of a healthcare facility for rapid response to an emergency situation (missile-drone incident)
Document code / number	SOP-01 / ES-MDI
Version (revision)	1.0
Effective date	«__» _____ 20__.
Developed by	Emergency Response Commission of the Healthcare Facility
Agreed by	Medical Director
Approved by	General Executive Officer / Director
Storage	The hard copy of the document is stored at the headquarters of the Emergency Response Commission. The e- version is placed in the internal database of standard operating procedures (SOPs) of the Healthcare Facility.

Document category	Internal regulatory document of the Healthcare Facility
Distribution	All structural subdivisions of the facility; where necessary, the relevant local self-government bodies, the State Emergency Service of Ukraine, and the Regional Military Administration.
Review and update procedure	The SOP is regularly reviewed upon approval of new regulatory acts or amendments to existing ones (Section 9), but at least once a year. The SOP is obligatory reviewed if a missile-drone incident occurs on the territory of the healthcare facility. The SOP remains in force until cancelled or replaced by a new version.
Access	A paper copy of the documents shall be kept at the headquarters of the Emergency Response Commission. The electronic version shall be kept in the internal electronic SOP database of the healthcare facility. The previous version of the SOP, after it is replaced by a new version, shall be stored in the HCF archive (electronic or paper) for at least 5 years.

2. LIST OF ABBREVIATIONS

AMU Administrative and Maintenance Unit

ICU - Department of Anaesthesiology and Intensive Care

ED - Emergency Medical Care Department

SESU - State Emergency Service of Ukraine

PPE - Personal Protective Equipment
HCF - Healthcare Facility
CMU - Cabinet of Ministers of Ukraine
MIA - Ministry of Internal Affairs of Ukraine
MoH - Ministry of Health of Ukraine
MCIT - Mass Casualty Incident Triage
ES - Emergency Situation
PC - Personal Computer
MDI - Missile and Drone Incident
SOP - Standard Operating Procedure
CP - Civil Protection
MV - Mechanical Ventilation

3. PURPOSE

To ensure sustainable and coordinated readiness of the healthcare facility for rapid response to threats related to missile-drone incidents, in order to minimize human losses, ensure the safety of staff and patients, and maintain the facility's capacity to provide medical care.

4. SCOPE OF APPLICATION

This SOP applies to all departments and staff of the HCF who are involved or may be involved in rapid response or support activities in high-risk situations (missile-drone incidents)

5. RESOURCE PROVISION

Resources required for implementation of this SOP

Human resources:

- HCF management (director, deputy directors according to allocated responsibilities)
- Emergency Response Commission
- Rapid Response Team for MDI
- Medical staff
- Technical service personnel (engineering services)
- Civil protection specialists / security staff
- Psychologists / social workers
- Other personnel

Material and technical resources:

- Shelters / protected areas (shelters, bomb shelters)
- Backup power supply (generators, batteries)
- Communication systems (radios, backup phones, loudspeakers, centralized alert system)
- Reserve supplies of drinking and technical water, food products
- Medical supplies (dressings, antiseptics, oxygen, stretchers, wheelchairs, etc.)
- Medicines and pharmaceuticals
- Personal protective equipment (PPE) (protective suits, face shields, masks, glasses, gloves)
- Kit No. 1 for rapid response
- Kit No. 2 for mass casualty triage (MCIT)
- Kit No. 3 for the “green” triage zone
- Kit No. 4 for the “yellow” and “red” triage zones
- Kit No. 5 List of humanitarian resources
- RRT Role Distribution Flowchart for MDI Emergency Response

6. ROLES, RESPONSIBLE PERSONS, AND THEIR MAIN FUNCTIONS

Roles	Positions of Executors	Main Functions
Head of the Emergency Response Commission	Chief Executive Officer / Director of the healthcare facility	1. Overall management of the basic readiness of the healthcare facility; 2. Decision-making on activation of subsequent response phases; 3. Monitoring implementation of the Emergency Response Plan and SOPs.
Deputy Head of the Emergency Response Commission	Medical Director / Deputy Director for Medical Affairs / Head of the Emergency Medical Care Department	1. Organization and control of the availability and content of Kits No. 1–2; 2. Monitoring the readiness of clinical departments, on-duty teams, and availability of medical supplies and drugs; 3. Organization of staff training on emergency response.
Commission member responsible for infrastructure (non-medical resources)	Deputy Director for Administrative and Maintenance Affairs	1. Monitoring the functionality of power supply, water supply, drainage (sewage), heating, ventilation, medical gas supply, fire alarm, and fire suppression systems;

		2. Conducting weekly technical monitoring of shelters, generators, and elevators.
Commission member responsible for medical resources	Chief Nursing Officer	1. Organization of supply and control of Kits No. 3–4; 2. Verification and maintenance of stocks of medical devices and drugs; 3. Ensuring continuity of supply of medical devices and medicines.
Commission Member – Security Responsible	Security Officer	1. Monitoring the safety of buildings and territory, and the functionality of shelters; 2. Organizing duty shifts, checking communication systems and emergency channels, defining and equipping safe zones and shelters, and mobile deployment areas.

7. ACTION ALGORITHMS

No	Action	Responsible Position
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1	Assess the condition of buildings	Deputy Director for Administrative and Maintenance Affairs
2	Assess the condition of the centralized water supply and sewage systems	Deputy Director for Administrative and Maintenance Affairs
3	Verify the availability of drinking/technical water (72-hour reserve)	Deputy Director for Administrative and Maintenance Affairs
4	Verify the availability of food supplies (72-hour reserve)	Head of Catering Unit
5	Verify the availability of medical devices, drugs (72-hour reserve), and Kits No. 3–4	Chief Nursing Officer/ Chief Nurse
6	Check the availability of centralized electricity supply and the condition of electrical systems	Deputy Director for Administrative and Maintenance Affairs
7	Check the functionality of backup power sources (generators, batteries), assess capacity and autonomy duration	Deputy Director for Administrative and Maintenance Affairs
8	Check the functioning of the centralized heating system (autumn-winter period)	Deputy Director for Administrative and Maintenance Affairs

9	Verify fuel and lubricant reserves (72-hour autonomous operation)	Deputy Director for Administrative and Maintenance Affairs
10	Check the number and condition of sanitary transport vehicles	Deputy Director for Administrative and Maintenance Affairs
11	Check internet connection status	Deputy Director for Administrative and Maintenance Affairs
12	Check readiness of alternative communication systems (landline/mobile phones, radios, PCs)	Deputy Director for Administrative and Maintenance Affairs
13	Verify hospital bed capacity: total number of beds and availability of free beds by department	Medical Director/Head
14	Collect updated information on critically ill patients (requiring life support) and immobile patients	Medical Director/Head
15	Collect updated information on available medical staff (physicians and nursing personnel) on duty	Medical Director/Head
16	Verify availability of Kits No. 1–2	Medical Director/Head

17	Define positions assigned to key roles in the Emergency Operations Center during MDI response	Medical Director/Head
18	Verify the availability of the Civil Protection Instruction on staff actions in healthcare facilities during air raid alerts (Appendix 6 to the manual)	

Note: The assessment shall be conducted in accordance with the Healthcare Facility Capacity Preliminary Assessment Checklist (Appendix 1 to this SOP).

8. MONITORING AND CONTROL

- Compliance with this SOP is monitored through the Healthcare Facility Capacity Preliminary Assessment Checklist, which is submitted to the Chief Executive Officer / Director after being signed by all members of the Commission according to their respective areas of responsibility, in accordance with applicable regulatory and legal documents and the internal procedures of HCF.
- Periodic review of this SOP is conducted upon approval of new or amended regulatory and legal documents (Section 9), but not less than once per year.
- Mandatory review of this SOP is conducted in the event of a missile-drone incident (MDI) occurring within the healthcare facility area.

9. REGULATORY ACTS

9.1. Laws of Ukraine:

9.1.1. Code of Civil Protection of Ukraine dated 2 October 2012 No. 5403-VI (as amended).

URL: <https://zakon.rada.gov.ua/laws/show/5403-17#Text>

9.1.2. Law of Ukraine dated 19 November 1992 No. 2801-XII (as amended)

“Fundamentals of the Legislation of Ukraine on Health Care”.

URL: <https://zakon.rada.gov.ua/laws/show/2801-12#Text>

9.1.3. Law of Ukraine dated 12 May 2015 No. 389-VIII (as amended) “On the Legal Regime of Martial Law”.

URL: <https://zakon.rada.gov.ua/laws/show/389-19#Text>

9.1.4. Law of Ukraine No. 3310-IX dated 09 August 2023 “On State Reserves”.

URL: <https://zakon.rada.gov.ua/laws/show/3310-20#Text>

9.2. Resolutions of the Cabinet of Ministers of Ukraine:

9.2.1. Resolution of the Cabinet of Ministers of Ukraine dated 26 June 2013 No. 444 (as amended) “On Approval of the Procedure for Training the Population to Act in Emergencies”.

URL: <https://zakon.rada.gov.ua/laws/show/444-2013-%D0%BF#Text>

9.2.2. Resolution of the Cabinet of Ministers of Ukraine dated 23 October 2013 No. 819 (as amended) “On Approval of the Procedure for Training Managers and Specialists Whose Activities Are Related to the Organization and Implementation of Civil Protection Measures”.

URL: <https://zakon.rada.gov.ua/laws/show/819-2013-%D0%BF#Text>

9.2.3. Resolution of the Cabinet of Ministers of Ukraine dated 30 October 2013 No. 841 (as amended) “On Approval of the Procedure for Evacuation in the Event of the Threat or Occurrence of Emergencies”.

URL: <https://zakon.rada.gov.ua/laws/show/841-2013-%D0%BF#Text>

9.2.4. Resolution of the Cabinet of Ministers of Ukraine dated 9 January 2014 No. 11 “On Approval of the Regulation on the Unified State Civil Protection System”.

URL: <https://www.kmu.gov.ua/npas/246985837>

9.2.5. Resolution of the Cabinet of Ministers of Ukraine dated 8 July 2015 No. 469 (as amended) “On Approval of the Regulation on Specialized Civil Protection Services”.

URL: <https://zakon.rada.gov.ua/laws/show/469-2015-%D0%BF#Text>

9.2.6. Resolution of the Cabinet of Ministers of Ukraine dated 30 September 2015 No. 775 (as amended) “On Approval of the Procedure for Creation and Use of Material Reserves (Except State Reserves) for Prevention of Emergencies and Elimination of Their Consequences”.

URL: <https://zakon.rada.gov.ua/laws/show/775-2015-%D0%BF#Text>

9.2.7. Resolution of the Cabinet of Ministers of Ukraine dated 23 January 2024 No. 70 “On Approval of the Procedure for Organizing and Exercising Control over Compliance by State Authorities and Local Self-Government Bodies with the Requirements of Legislation in the Sphere of Civil Protection”.

URL: <https://www.kmu.gov.ua/npas/pro-zatverdzhennia-poriadku-orhanizatsii-ta-zdiisnen-a70>

9.3. Orders of the Ministry of Health of Ukraine:

9.3.1. Order of the Ministry of Health of Ukraine dated 24 February 2022 No. 368 “On Approval of the Emergency Medical Care Standard ‘Medical Triage in the Event of Mass Arrival of Casualties at the Early Hospital Stage’”.

URL: <https://moz.gov.ua/uk/decrees/nakaz-moz-ukraini-vid-24022022--368-pro-zatverdzhennja-standartu-ekstrenoi-medichnoi-dopomogi-medichne-sortuvannja-pri-masovomu-nadhodzhenni-postrazhdalih-na-rannomu-gospitalnomu-etapi>

URL: <https://www.dec.gov.ua/mtd/medychne-sortuvannya-pry-masovomu-nadhodzhenni-postrazhdalych-na-rannomu-gospitalnomu-etapi/>

9.3.2. Order of the Ministry of Health of Ukraine dated 14 March 2022 No. 482 “On Amendments to the List and Scope of Goods, Works and Services Needed to Ensure the Needs of the Health Care Sector under Martial Law”.

URL: <https://zakon.rada.gov.ua/rada/show/v0482282-22#Text>

9.3.3. Order of the Ministry of Health of Ukraine dated 09 May 2022 No. 761 (as amended) “On Approval of the List of Medical Equipment Needed to Ensure the Needs of the Health Care Sector under Martial Law”.

URL: <https://zakon.rada.gov.ua/rada/show/v0482282-22%23Text#Text>

9.3.4. Order of the Ministry of Health of Ukraine dated 23 March 2023 No. 542 (as amended) “On Approval of the Regulation on the Functional Subsystem of Medical Protection of the Population within the Unified State Civil Protection System”.

URL: <https://zakon.rada.gov.ua/laws/show/z0590-23#n17>

9.3.5. Order of the Ministry of Health of Ukraine dated 24 January 2025 No. 151 “On Approval of the Emergency Response Plan”.

URL: <https://moz.gov.ua/uk/decrees/nakaz-moz-ukrayini-vid-24-01-2025-151-pro-zatverdzhennya-planu-reaguvannya-na-nadzvichajni-situaciyi-sluzhboyu-medicini-katastrof>

9.3.6. Joint Order of the Ministry of Health of Ukraine and the Ministry of Internal Affairs of Ukraine dated 3 April 2018 No. 275/600 “On Approval of the Instruction on Interaction between the State Emergency Service of Ukraine and the Ministry of Health of Ukraine in the Event of Emergencies”.

URL: <https://zakon.rada.gov.ua/laws/show/z0479-18#Text>

9.4. Orders of the State Emergency Service of Ukraine:

9.4.1. Order of the SESU dated 06 June 2014 No. 310 (as amended) “On Approval of the General Training Program for Employees of Enterprises, Institutions and Organizations on Actions in Emergencies”.

URL: <https://zakon.rada.gov.ua/rada/show/v0310388-14#Text>

9.4.2. Order of the SESU dated 03 January 2024 No. 8 “On Approval of Organizational and Methodological Guidelines for Training the Population to Act in Emergencies for 2024–2025”.

URL: https://zakon.rada.gov.ua/rada/show/v0008388-24?find=1&text=%D0%BC%D0%B5%D0%B4%D0%B8%D1%87%D0%BD%D0%B8%D1%85#w1_1

9.5. Orders of the Ministry of Internal Affairs of Ukraine:

9.5.1. Order of the Ministry of Internal Affairs dated 21 October 2014 No. 1112 (as amended) “On Approval of the Regulation on Organization of the Educational Process for Functional Training”.

URL: <https://zakon.rada.gov.ua/laws/show/z1398-14#n14>

9.5.2. Order of the Ministry of Internal Affairs dated 10 July 2017 No. 579 “On Approval of the Methodology for Planning Evacuation Measures”.

URL: <https://zakon.rada.gov.ua/laws/show/z0938-17#Text>

9.5.3. Order of the Ministry of Internal Affairs dated 16 October 2018 No. 835 “On Approval of the Model Regulation on Territorial Courses of Civil Protection and Life Safety, and Educational and Methodological Centers of Civil Protection and Life Safety”.

URL: <https://zakon.rada.gov.ua/laws/show/z1256-18#Text>

9.5.4. Order of the Ministry of Internal Affairs dated 28 November 2019 No. 991 “On Approval of the Procedure for Organization and Conduct of Special Facility-Based Civil Protection Exercises and Training Sessions”.

URL: <https://zakon.rada.gov.ua/laws/show/z0046-20#Text>

9.6. Methodological recommendations:

9.6.1. Organization and Conduct of Evacuation Measures in the Event of Emergencies. Study guide, second updated edition / Training and Methodological Center of Civil Protection and Life Safety of Chernivtsi Region / 2024, Chernivtsi, 138 p.

URL: <https://nmc.dsns.gov.ua/upload/6/0/3/1/7/2024-posibnik-po-evakuaciyi-bez-dokumentiv.pdf>

10. APPENDICES TO SOP No. 1

- Checklist for the Healthcare Facility Capacity Preliminary Assessment (Appendix 1)
- Checklist for Kit No. 1: Incident Management Kit for the Emergency Operations Center (Appendix 2)
- Checklist for Kit No. 2: Mass Casualty Triage Kit (Appendix 3)
- Checklist for Kit No. 3: Indicative equipment list for the “green” triage zone (Appendix 4)
- Checklist for Kit No. 4: Indicative equipment list for the “yellow” and “red” triage zones (Appendix 5)
- Checklist for Kit No. 5: List of humanitarian resources (Appendix 6)
- Checklist for Kit No. 6: RRT Role Distribution Flowchart for MDI Emergency Response (Appendix 7)

Checklist for Preliminary Assessment of Healthcare Facility Capacity (Weekly Inspection)

No	Information	Capacity assessment	Status	Responsible person	Mark / date	Comment / signature
1	Condition of premises	Technical condition is satisfactory	✓ / ✗	Deputy Director for Administrative and Maintenance Affairs		
		Requires maintenance	✓ / ✗			
2	Condition of centralized water supply / sewage systems	Technical condition is satisfactory	✓ / ✗	Deputy Director for Administrative and Maintenance Affairs		
		Requires maintenance	✓ / ✗			
3	Availability of drinking/technical water reserves	Drinking water available / insufficient	✓ / ✗	Deputy Director for Administrative and Maintenance Affairs		_____ litres
		Drinking water available / insufficient	✓ / ✗			_____ Litres

	(72-hour supply)	Technical water	✓ / ✗			—— Litres
		Technical water available / insufficient	✓ / ✗			—— Litres
4	Availability of food supplies (72-hour supply)	Food supplies	✓ / ✗	Head of Catering Unit		—— hours
		Food supplies available / insufficient / absent	✓ / ✗			—— hours
5	Availability of medical supplies and drugs (72-hour supply)	Medical supplies	✓ / ✗	Chief Nursing Officer		—— hours
		Drugs	✓ / ✗			—— hours
6	Centralized electricity supply and electrical systems	Available / functional	✓ / ✗	Deputy Director for Administrative and Maintenance Affairs		
		Damaged / unavailable	✓ / ✗			
7	Status of backup power sources	Operational / available	✓ / ✗	Deputy Director for Administrative and		autonomy duration is
		Damaged / unavailable	✓ / ✗			—— hours

	(generators, batteries) and autonomy duration			Maintenance Affairs		
8	Central heating system (autumn-winter period)	Available / functional / unavailable / damaged	✓ / ✗	Deputy Director for Administrative and Maintenance Affairs		
			✓ / ✗			
9	Fuel and lubricant reserves (72-hour autonomy)	Available	✓ / ✗	Deputy Director for Administrative and Maintenance Affairs		____ L / ____ hours
		Insufficient / absent	✓ / ✗			____ L / ____ hours
10	Number and condition of sanitary transport	Fully operational / available	✓ / ✗	Deputy Director for Administrative and Maintenance Affairs		____ units
		Unavailable / non-functional	✓ / ✗			____ units
11	Internet access	Stable / internal network functional	✓ / ✗	Deputy Director for Administrative and		

		Unavailable / damaged internal work	✓ / ✗	Maintenance Affairs		
12	Alternative communication systems (phones, radios, PCs)	Sufficient / operational	✓ / ✗	Deputy Director for Administrative and Maintenance Affairs		_____ units
		Absent / insufficient / non-functional	✓ / ✗			_____ units
13	Bed capacity (by departments)	Total number of beds /	✓ / ✗	Medical Director/Head		_____ beds
		Number of available beds	✓ / ✗			_____ beds
14	Patients requiring life support and immobile patients	Critical patients	✓ / ✗	Medical Director/Head		_____ persons
		Immobile patients	✓ / ✗			_____ persons
15	Staffing levels (percentage of required staff)	Physicians	✓ / ✗	Medical Director/Head		_____ persons, representing _____% of the required capacity

		Nursing staff				— persons, representi ng ____% of the required capacity
16	Availability of Kits No. 1–2	Fully equipped	✓ / ✗	Medical Director/Hea d		
		Require replenishment	✓ / ✗			
17	Availability of Kits No. 3–4	Fully equipped	✓ / ✗	Medical DirectorHea d		
		Require replenishment	✓ / ✗			

Note: In the event of an emergency involving chemical, biological, radiological, or nuclear threats, regardless of the results of the rapid assessment of healthcare facility capacity, the response is in accordance with the emergency response plans.

Incident Management Kit for the RRT

The Incident Management Kit for the RRT is intended for rapid response to missile-drone incidents (MDI) and other mass casualty emergencies. It ensures effective coordination of healthcare facility staff actions, establishment and functioning of the rapid response team (RRT), operational management with involvement of trained personnel, distribution of roles among team members, and coordination of the RRT with the healthcare facility Emergency Response Commission.

The kit supports the assessment of the healthcare facility's capacity to act under emergency conditions and ensures continuity of medical care for casualties.

1. The kit shall be located in the healthcare facility shelter.
2. A reserve (duplicate) kit shall be stored in another safe location designated for RRT deployment during an incident (RRT lead, safety officer, clinical lead, resource manager, triage manager).
3. Responsibility for storage, inventory control, and replenishment of completeness is assigned to a designated person appointed by the healthcare facility order.
4. The kit shall be checked monthly or after each use to ensure completeness and validity of contents.

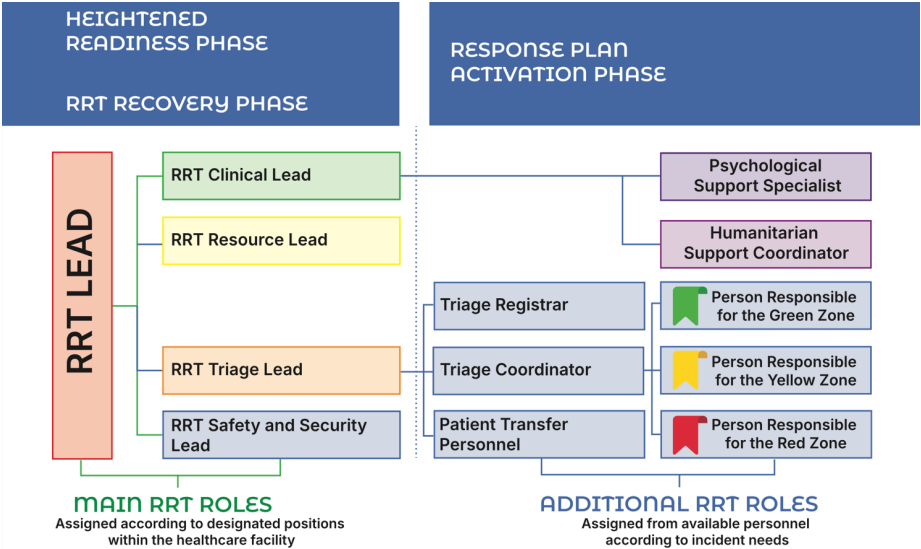
ROLE DISTRIBUTION PROTOCOL *(to SOP No. 1)*

Healthcare facility RRT during emergency response in the basic readiness phase

No	Role	Name, Surname	Date/Time	Mobile Phone Number	Signature
1	RRT Lead				
2	RRT Clinical Lead				
3	RRT Resource Lead				
4	RRT Safety and Security Lead				
5	RRT Triage Lead				

Note: Roles are assigned at the beginning of each duty shift / working shift every day.

Integrated Flowchart of Main and Additional Roles in the RRT
(to SOP No. 1)



Checklist for Kit No. 1 (to SOP No. 1)
Incident Management Kit for the RRT

№	Item	Quantity / Notes	Availability (Yes/No)
1	Flowcharts for the distribution of RRT roles during emergency response (MDI)		 / 
2	Protocol for assignment and distribution of rapid response team (RRT) roles: RRT Lead, Clinical Lead, Resource Lead, Safety and Security Lead, and Triage lead		 / 
3	Algorithm cards for each RRT member: RRT Lead, Clinical Lead, Resource Lead, Safety and Security Lead, Triage Lead, and each additional role		 / 
4	List of emergency contacts - operational coordination center of territorial SESU bodies, regional emergency medical care and disaster medicine dispatch service of the MoH of Ukraine, healthcare departments of regional military administrations, health departments, Public Health Center, and other rescue services		 / 
5	Identification safety vests for RRT members with clearly marked functions (separate vests for the RRT Lead, Clinical		 / 

	Lead, Resource Lead, Safety and Security Lead, Triage Lead, as well as universal vests for additional rapid response team members)		
6	Hospital plan/schematic map indicating all buildings, departments, entrances, exits, shelters, evacuation routes, and deployment locations for mass casualty triage zones (MCIT)		✓ / ✗
7	Map/list of other healthcare facilities with contacts , indicating patient and casualty transportation routes, evacuation points, shelters, and nearest healthcare institutions and hospitals		✓ / ✗
8	List of healthcare facility personnel with contact information who may be involved in emergency rapid response teams		✓ / ✗
9	List of reserve medical personnel with contacts (including staff currently off duty)		✓ / ✗
10	Flashlights with spare rechargeable batteries or batteries for operation in low-light conditions or power outages, including head-mounted or clothing-mounted flashlights		✓ / ✗
11	Portable radios with charging stations to ensure coordination among RRT leads		✓ / ✗

12	Signboards: “Evacuation Point / Assembly Point”		 / 
13	Electronic tablet (with charger) containing instructions, algorithms, and contact phone numbers for activation of the rapid incident response plan		 / 
14	Mobile container or cart for storage and transportation of Kit No. 1 materials to another deployment location		 / 
15	Office supplies (markers, pens, pencils) for documentation and labeling		 / 

Checklist for Kit No. 2 – MCIT

Mass Casualty Incident (MCI) Triage Kit

Purpose. The kit is intended for organization and implementation of the first stage of medical triage during incidents involving a large (mass) number of casualties. It is used for patient identification, designation of triage categories, primary registration, and documentation.

The kit provides personnel with all necessary resources for rapid deployment of a triage point and effective management of casualty flow.

Notes:

1. All kits shall be stored in designated and labeled locations (mobile cart, container, or cabinet).
2. The kit shall be located in the healthcare facility shelter or in close proximity to the admission department / Emergency Medical Care Department (EMCD) in the absence of military threats and active air raid alerts.
3. A reserve (duplicate) kit shall be located in another safe area designated for deployment of the incident rapid response team (RRT Lead, Clinical Lead, Resource Lead, Safety and Security Lead, Triage Lead).
4. Completeness and expiration dates shall be checked monthly or after each use.

5. Replenishment of supplies shall be organized through the Resource Lead or the person responsible for material and technical medical support of the healthcare facility.
6. Responsibility for storage, inventory control, and restoration of completeness shall be assigned to a designated person appointed by official healthcare facility order.
7. The storage location of the MCIT kit shall be clearly marked, and hospital personnel shall be instructed regarding its location.

Update / Inspection Log

Date	Full Name	Position of Responsible Person	Signature

Checklist for Kit No. 2 – Mass Casualty Incident (MCI) Triage Kit

Note: The minimum quantity of medical supplies, consumables, and other required equipment shall be determined considering the estimated number of potential casualties: number of beds + number of healthcare facility personnel + an additional percentage for potential visitors.

No.	Item	Quantity / Notes	Mark (select)
1	Identification tools		

1.1.	Identification safety vests for personnel involved in medical triage	10 units	✓ / ✗
1.2.	Reflective elements and chemical light sticks for object identification in darkness	20–30 units	✓ / ✗
1.3.	Flashlights or portable light sources for operation in limited lighting conditions, including head-mounted or clothing-mounted lights	10 units	✓ / ✗
2	Personal protective and safety equipment		
2.1.	Protective gloves for personnel (S, M, L)	100 pairs each size	✓ / ✗
2.2.	Respirator masks and protective goggles	20 units	✓ / ✗
2.3.	Protective helmets	10 units	✓ / ✗
3	Triage materials		
3.1.	Color-coded triage wristbands (red, yellow, green, black) for rapid visual patient marking according to severity	200 each: green, yellow, red; 50 black (gray)	✓ / ✗
3.2.	Triage cards (registration forms) for documenting patient assessment results and medical decisions (SOP No. 4 MCIT)	200 units	✓ / ✗

3.3.	Office supplies (markers, pens, pencils) for documentation and labeling	20 units	✓ / ✗
4	Documentation and accounting		
4.1.	Patient registration log - consolidated accounting table (including electronic format, e.g., Excel) used by the registrar for accounting of all patients categorized by triage level (red, yellow, green, black), including mandatory recording of further routing and location of each individual	1 unit (or 1 per triage zone in mass casualty situations)	✓ / ✗
4.2.	Consolidated incident summary form* (final registration of adult and pediatric casualties examined, hospitalized, discharged, transferred, deceased, or awaiting reassessment/re-triage during MCIT)	1 general report	✓ / ✗
4.3.	Healthcare facility report on injured and deceased persons		✓ / ✗
5	Critical intervention kit for triage personnel		
5.1.	Critical hemorrhage control: • Tourniquet	10 each	✓ / ✗

	• Compression bandage • Gauze/bandage for wound packing • Marker for time indication		
5.2.	Tactical scissors	2 units	✓ / ✗
5.3.	Airway management: • Oropharyngeal airways (multiple sizes) • Nasopharyngeal airways (multiple sizes) • Barrier ventilation device, mask, or shield	2–3 units of each size	✓ / ✗
5.4	Mobile container or cart (labeled TRIAGE / MCIT) for storage, transportation, and placement of materials at the triage site	1 unit	✓ / ✗
6	Communication and coordination: • Radios / communication kits • Spare batteries or rechargeable batteries • List of important phone numbers and radio frequencies • Loudspeaker with batteries and rechargeable batteries	4–5 units (1 for the team leader, 1 for each triage zone, and 1 for the registrar)	✓ / ✗
7	Triage zone deployment kits (green, yellow, red, black)**	1 set each	✓ / ✗

Note

***Consolidated Incident Summary Form.** After completion of medical triage and evacuation of casualties to healthcare facilities, the Triage Manager prepares written information in free format containing the following data:

- date, time, and location of the emergency situation;
- start time (defined from the arrival of the first casualty in the primary triage zone) and end time (defined by evacuation of the last casualty);
- number of casualties and their distribution according to triage categories;
- patient routing information: destination and receiving healthcare facility;
- number of medical personnel involved in medical triage;
- number of medical personnel involved in management of the medical consequences of the emergency.

The information shall be submitted to the healthcare facility director and members of the Emergency Response Commission.

****List of contents of triage zone deployment kits**

No.	Item	Quantity	Notes	Mark (select)
1	In case of deployment of the zone outside the healthcare facility (HCF) or in another building - two grey sheets for receiving casualties	2 units	In case of deployment of primary and secondary triage zones within the	 / 

	(primary triage stage), minimum size 6 × 4.5 m, allowing placement of up to 10 casualties on stretchers. Alternatively: any covering material (tarpaulin, tent, or similar) for separation.		HCF or another building - appropriate signage, markings, or labels for zone identification.	
2	In case of deployment of the zone outside the healthcare facility or in another building - green, yellow, red, and black sheets, each with a minimum size of 6 × 4.5 m, allowing placement of up to 10 casualties on stretchers. Alternatively: any covering material of other colors (tarpaulin, tent, etc.) with subsequent color marking of zones using flags, tapes, cones, or similar means.	1 sheet of each color, or colored cones/tape for visual marking of triage areas	In case zones are located inside HCF buildings - appropriate colored signs, labels, and markings for zone identification.	✓ / ✗
3	Barrier tape	2 units		✓ / ✗
4	Kits according to Checklists No. 3 and No. 4	Separate for each triage zone		✓ / ✗

***If the triage area is located outdoors, it is advisable to use fabric screens to visually separate zones, as well as to create space for placing equipment and casualties. If the triage site and zones are arranged in a shelter/safe facility, it is necessary to take into account the available floor area to ensure the unobstructed movement of casualties on stretchers (see SOP No. 4 MCIT for details).

Appendix 4 to SOP No. 1

**Checklist of Kit No. 3: Indicative list of equipment
for the “green” triage area**

Purpose: Kit No. 3 is intended to provide basic medical care to casualties with minor injuries in accordance with the Emergency Medical Care Standard “Medical Triage” (green category). The kit should be located in the healthcare facility’s shelter or in close proximity to the emergency department / emergency medical care unit (EMCU) in the absence of military threats and active air-raid alerts.

Kit No. 3 is used in the “green” triage area, where care is provided to casualties who are able to move independently, are in a stable condition, and whose treatment can be safely delayed for an extended period without risk to life.

Notes:

1. All kits must be stored in designated and clearly marked locations (mobile trolley, container, or cabinet).

2. Completeness checks and verification of expiry dates must be carried out monthly or after each use.
3. Replenishment of supplies is carried out through the resource manager or the person responsible for medical supply logistics within the healthcare facility.
4. Responsibility for storage, accounting, and replenishment of completeness lies with the person appointed by official order of the healthcare facility.

Update / verification

Date	Full Name	Responsible Person	Signature

Checklist of Kit No. 3 – Indicative list of equipment

for the “green” triage area

Note: The minimum quantity of medical supplies, consumables, and other necessary equipment is determined based on the estimated number of potential casualties: number of beds + number of healthcare facility staff + an additional percentage for potential visitors.

No.	Item	Quantity / Notes	Mark (select)
1	Basic care supplies for minor injuries		
1.1.	Dressing materials (sterile bandages, gauze pads, dressings, adhesive plasters of various sizes)	20 pcs each	✓/✗

1.2.	Compression bandages, dressing packs, triangular bandages (“sling bandage”)	20 pcs each	✓ / ✗
1.3.	Tourniquet, compression bandage, gauze/bandage for wound packing; marker for time labeling	20 pcs each	✓ / ✗
1.4.	Chemical cold packs	20 pcs	✓ / ✗
1.5.	Medical atraumatic scissors	2 pcs	✓ / ✗
1.6.	Antiseptic solutions for superficial wound treatment	2–3 pcs	✓ / ✗
1.7.	Hydrogel burn dressings	20 pcs	✓ / ✗
1.8.	SAM-type splints or equivalent; finger splints	2 sets	✓ / ✗
1.9.	Cervical collars (adult and pediatric)	10 pcs each	✓ / ✗
2	Protective equipment		
2.1.	Disposable protective gloves (S, M, L)	100 pairs each	✓ / ✗
2.2.	Protective goggles	5 pcs	✓ / ✗
2.3.	Personal protective equipment (PPE) for staff (protective masks, face shields, gowns)	20 pcs each	✓ / ✗
2.4.	Antiseptic agents (gel, wipes, or sprays)	10 pcs	✓ / ✗
2.5.	Container for disposal of used materials	1–2 pcs	✓ / ✗
2.6.	Thermal blankets; chemical heat packs	40 pcs each	✓ / ✗
3	Set for measuring vital signs (blood pressure monitor, pulse oximeter, stethoscope, glucometer) with spare chargers, batteries, and accumulators	2 sets	✓ / ✗

4	Flashlight or portable lighting source; chemical light sticks	5 pcs / 20–40 pcs	✓ / ✗
5	Tactical scissors	2 pcs	✓ / ✗
6	Basic emergency kit (analgesics, antihypertensives, antihistamines, saline solution or eye wash drops, antiseptic eye drops, glucose tablets, aspirin, epinephrine auto-injector, nitroglycerin spray, metered-dose inhaler with short-acting β_2 -agonist such as salbutamol and/or fenoterol. Medicines should be available in adult doses (e.g., tablets) and in pediatric forms such as syrups or suppositories.)	2 sets	✓ / ✗
7	Automated external defibrillator (AED) with multifunctional electrode pads for adults and children	1 pc	✓ / ✗
8	Mobile container or trolley (marked: GREEN TRIAGE AREA) for storage, transport, and on-site arrangement of materials used in triage operations	1 pc	✓ / ✗

Checklist of Kit No. 4 – Indicative list of equipment

for the “yellow” and “red” triage areas

Purpose: Kit No. 4 is intended to provide advanced resuscitation care to casualties with moderate and severe injuries in accordance with the Emergency Medical Care Standard “Medical Triage” (yellow and red categories). The kit should be located in the healthcare facility’s shelter or in close proximity to the emergency department / emergency medical care unit (EMCU) in the absence of military threats and active air-raid alerts.

Kit No. 4 is designed for providing care to casualties in the following categories:

- **“Yellow”** – casualties for whom treatment may be delayed for several hours without a threat to life. However, it must be remembered that categories may change rapidly; therefore, medical staff must be prepared to respond accordingly.
- **“Red”** – casualties in critical condition requiring immediate life-saving interventions. The scope of care may include control of massive external bleeding, restoration and maintenance of airway patency, support of breathing function, and support of circulatory function.

Notes:

1. All kits must be stored in designated and clearly marked locations (mobile trolley, container, or cabinet).
2. Separate kits must be formed and clearly labeled for the “yellow” and “red” zones.

3. Completeness checks and verification of expiry dates must be carried out monthly or after each use.
4. Replenishment of supplies is carried out through the resource manager or the person responsible for medical supply logistics within the healthcare facility.
5. Responsibility for storage, accounting, and replenishment of completeness lies with the person appointed by official order of the healthcare facility.
6. The minimum quantity of medical supplies, consumables, and other necessary equipment is determined based on the estimated number of potential casualties: number of beds + number of healthcare facility staff + an additional percentage for potential visitors.

1. MEDICINAL PRODUCTS (minimum list)

No.	Item	Unit	Quantity*	Availability (Yes/No)
1	Epinephrine (Adrenaline) 0.18%, 1 ml	ampoule	30	✓ / ✗
2	Amiodarone 150 mg / 3 ml	ampoule	20	✓ / ✗
3	Glucose 5%, 200 ml	vial	10	✓ / ✗
4	Lidocaine 10%, 2.0 ml	ampoule	10	✓ / ✗
5	Glucose 10%, 200 ml	vial	10	✓ / ✗
6	Sodium chloride solution for infusion 0.9%, 100 ml	ampoule	10	✓ / ✗
7	Sodium chloride solution for infusion 0.9%, 400 ml	vial	50	✓ / ✗

8	Sterofundin solution for infusion 500 ml or other balanced iso-osmolar solution	vial	50	✓ / ✗
9	Tranexamic acid 100 mg/ml, 5 ml	ampoule	20	✓ / ✗
10	Magnesium sulfate 25%, 5 ml	ampoule	10	✓ / ✗
11	Potassium chloride solution for infusion 7.5%, 20 ml	vial	2	✓ / ✗
12	Calcium chloride 10%, 10 ml	ampoule	10	✓ / ✗
13	Sodium bicarbonate 4.2%, 200 ml	vial	2	✓ / ✗
14	Salbutamol inhalation spray	vial	2	✓ / ✗
15	Naloxone 0.04%, 1 ml	ampoule	10	✓ / ✗
16	Dobutamine solution 250 mg / 50 ml	vial	2	✓ / ✗
17	Norepinephrine tartrate 16 mg	ampoule	5	✓ / ✗
18	Metaraminol (Mesaton) 1%, 1 ml	ampoule	5	✓ / ✗
19	Atropine sulfate 0.1%, 1 ml	ampoule	20	✓ / ✗
20	Urapidil (Ebrantil), 5 ml	ampoule	20	✓ / ✗
21	Metoprolol (Betaloc), 5 ml	ampoule	5	✓ / ✗
22	Nitroglycerin 1%, 2 ml	ampoule	2	✓ / ✗
23	Hydrocortisone IV 100 mg	vial	4	✓ / ✗
24	Diphenhydramine or Chloropyramine	ampoule	5	✓ / ✗
25	Heparin 5000 IU/ml, 5 ml	vial	2	✓ / ✗

26	Ondansetron 4 mg / 2 ml	ampoule	10	✓ / ✗
27	Paracetamol solution 1.0 g / 100 ml	vial	10	✓ / ✗
28	Meloxicam injection solution	ampoule	20	✓ / ✗
29	Non-steroidal anti-inflammatory drugs and/or other analgesics such as dexketoprofen, nefopam, or others	ampoule	10 each	—
30	Dried plasma (lyophilized)	piece	20	✓ / ✗
31	Dexamethasone 4 mg/ml, 1 ml	ampoule	10	✓ / ✗

2. MEDICAL DEVICES AND INSTRUMENTS

2.1 Hemorrhage control (minimum list)

No.	Item	Unit	Quantity	Availability (Yes/No)
31	Tourniquet (windlass type)	pcs	20	✓ / ✗
32	Hemostatic bandages (with agent)	pcs	10	✓ / ✗
33	Hemorrhage control device for junctional bleeding	pcs	2	✓ / ✗
34	Gauze / bandage for wound packing	pcs	10	—

2.2 Airway management (minimum list)

No.	Item	Unit	Quantity	Availability (Yes/No)
35	Nasopharyngeal airway (adult sizes 28–32 Fr; pediatric sizes 12–26 Fr)	pcs	2 of each size	✓/✗
36	Supraglottic airway / laryngeal mask (i-gel sizes 1, 1.5, 2, 2.5, 3, 4.5)	pcs	1–2 of each size	✓/✗
37	Oropharyngeal airway (Guedel) of various sizes	pcs	2 of each size	✓/✗
38	Surgical cricothyrotomy set	pcs	2	✓/✗
39	Bag-valve-mask (Ambu bag) adult / neonatal	pcs	3/3	✓/✗
40	Decompression needle	pcs	5	✓/✗
41	Medical suction device (manual / automatic)	pcs	2	✓/✗
42	Capnometer	pcs	5	✓/✗
43	Bacterial breathing filter (adult / pediatric / neonatal)	pcs	5 / 5 / 5	✓/✗
44	Suction catheters (sizes 6, 8, 10, 12, 16, 20)	pcs	5 of each size	✓/✗
45	Magill forceps	pcs	2	✓/✗
46	Mouth opener (gag)	pcs	5	✓/✗
47	Oxygen cylinder 2 L with regulator	pcs	10	✓/✗
48	Nasal cannulas for adults	pcs	5	✓/✗

49	Nasal cannulas for children	pcs	5	✓/✗
50	Oxygen mask with reservoir for adults	pcs	5	✓/✗
51	Oxygen mask with reservoir for children	pcs	5	✓/✗
52	Laryngoscope with blades size 1–4 set / Video laryngoscope (if available)	set	1	✓/✗
53	Endotracheal tubes with cuff (sizes 3, 3.5, 4, 4.5, 5, 6, 6.5, 7.0, 7.5, 8; cuffed and uncuffed)	pcs	1 of each size	✓/✗
54	L-shaped connector for ventilator circuit	pcs	5	✓/✗
55	Pulse oximeter	pcs	3	✓/✗
56	Portable transport ventilator with independent power supply (optional)	pcs	1–2	✓/✗
57	Cathejell or water-based lubricant	pcs	2	✓/✗
58	Narrow adhesive tape for fixation of endotracheal tubes	pcs	2	✓/✗

2.3 Infusion therapy and intravenous access (minimum list)

No.	Item	Unit	Quantity	Availability (Yes/No)
59	Intravenous catheters 14–18G	pcs	10	✓/✗

60	Intravenous catheters 20–22G	pcs	20	✓ / ✗
61	Intravenous catheters 24–26G	pcs	10	✓ / ✗
62	Intraosseous access device (with needles), adult / pediatric	pcs	1/1	✓ / ✗
63	Syringes 2 ml / 10 ml / 20 ml	pcs	50 / 100 / 100	✓ / ✗
64	Infusion / blood transfusion set (with filter)	pcs	10	✓ / ✗
65	Infusion extension line 20 cm with 3-way stopcock	pcs	10	✓ / ✗
66	Infusion extension line 150 cm	pcs	20	✓ / ✗
67	Injection / aspiration port (Mini-Spike)	pcs	10	✓ / ✗
68	Infusion rate regulator (Exadrop / Nutrapur) with integrated IV infusion system or alternative: syringe and infusion pump with independent power supply	pcs	10	✓ / ✗
69	3-way stopcock R3V	pcs	20	✓ / ✗
70	Infusion fluid warming device	pcs	1–2	✓ / ✗

2.4 Dressing materials (minimum list)

No.	Item	Unit	Quantity	Availability (Yes/No)
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70	Gauze bandages (10 cm × 3.5 m)	pcs	20	✓ / ✗
71	Elastic bandages (5 m × 10 cm)	pcs	10	✓ / ✗
72	Self-adherent bandages (10 cm × 4 m)	pcs	30	✓ / ✗
73	Elastic compression bandages (10 / 14 / 20 cm)	pcs	5 / 5 / 5	✓ / ✗
74	Triangular bandage (sling)	pcs	2	✓ / ✗
75	Occlusive dressing kits (vented / non-vented)	pairs	5	✓ / ✗
76	Hydrogel dressings 20 × 20 cm	pcs	30	✓ / ✗
77	Adhesive tape 5 cm / 2 cm (fabric-based, 5 m roll)	pcs	5	✓ / ✗
78	Sterile gauze pads 15 × 15 cm	pcs	100	✓ / ✗
79	Sterile gauze pads 5 × 5 cm	pcs	100	✓ / ✗
80	Disposable surgical forceps	pcs	10	✓ / ✗

2.5 Other equipment (minimum list)

No.	Item	Unit	Quantity	Availability (Yes/No)
81	Non-sterile nitrile gloves (S, M, L, XL)	pairs	100 each size	✓ / ✗
82	Thermal blanket (standard / multi-layer / heated)	pcs	100 / 20 / 2	✓ / ✗
83	Rigid cervical collar (adjustable) + pediatric	pcs	10/10	✓ / ✗

84	Flexible immobilization splint (10 × 90 cm)	pcs	10	✓ / ✗
85	Pelvic binder (sizes S and L)	pcs	3/10	✓ / ✗
86	Rigid eye shield	pcs	10	✓ / ✗
87	Atraumatic scissors (18 cm)	pcs	3	✓ / ✗
88	Soft stretchers	pcs	5	✓ / ✗
89	Scoop stretchers	pcs	2	✓ / ✗
90	Foldable stretchers (4-section)	pcs	1	✓ / ✗
91	Portable pulse oximeter / patient monitors	pcs	3	✓ / ✗
92	Stethoscope	pcs	3	✓ / ✗
93	ECG electrodes (adult and pediatric)	pcs	50 each	✓ / ✗
94	Blood pressure monitor with cuffs for adults and children + stethoscope	pcs	2	✓ / ✗
95	Defibrillator with multifunction electrodes for adults and children	pcs	1	✓ / ✗
96	Gastric tubes CH 10, 12, 14, 16, 18, 22	pcs	1 of each size	✓ / ✗
97	Urine collection bags	pcs	10	✓ / ✗
98	Medical flashlight (diagnostic lamp) / otoscope	pcs	2	✓ / ✗
99	Biohazard medical waste disposal bags	pcs	20	✓ / ✗
100	Reinforced adhesive tape (5 m × 4 cm)	pcs	2	✓ / ✗

101	Warning barrier tape	pcs	2	✓ / ✗
102	Medical backpack (30–35 L) (if required)	pcs	1–2	✓ / ✗
103	Delivery kit (including full supplies for physiological childbirth, including covering materials and absorbent sheets, as well as an extended set for complicated deliveries)	pcs	2	✓ / ✗
104	Newborn care kit (clothing set, blanket, diapers, umbilical cord clamping set, neonatal CPR equipment such as Ambu bag, masks, suction devices, and other essential newborn care items)	pcs	2	✓ / ✗

3. OTHER EQUIPMENT (each healthcare facility adds necessary items depending on its profile)

No.	Item	Unit	Quantity	Availability (Yes/No)
1	Water bath	pcs	—	✓ / ✗
2	Patient warming equipment	pcs	—	✓ / ✗
3	Uninterruptible power supply (UPS) units	pcs	—	✓ / ✗

Checklist of Kit No. 5

List of humanitarian resources

Humanitarian resources include everything necessary for people's survival, safety, preservation of basic dignity, and the ability to endure waiting during an emergency situation.

It is critically important to plan humanitarian support already at the stage of basic preparedness of a healthcare facility, rather than during the incident itself. This helps reduce panic and aggression among people - they become more cooperative when they have access to water, warmth, and clear information.

From a management perspective, this directly affects the operational efficiency of the facility: the throughput of the triage area and emergency department is maintained, as staff spend time on treatment rather than conflict resolution and explanations. At the same time, infection control is supported through organized flows, basic hygiene, and environmental monitoring.

Humanitarian support also protects medical staff from overload and stress, increasing the stability of the emergency response system. Transparent communication and dignified conditions build trust in the facility, reduce complaints and rumors, and thus improve crowd control.

Special attention must be given to vulnerable groups - children, elderly people, and persons with disabilities - as a key element of a safe and ethical environment.

Thus, humanitarian resources are not an additional component, but a full-fledged tool for managing flows, safety, and operational stability of healthcare facilities in crisis conditions.

1. Indicative list of recommended humanitarian resources that may be required during MDI response *(each healthcare facility determines quantities independently)*

Note: The minimum quantity of supplies, consumables, and other necessary equipment is determined based on the estimated number of potential casualties: number of beds + number of healthcare facility staff + an additional percentage for potential visitors.

No.	Basic humanitarian resources	Availability (Yes/No)
1.1.	Drinking water (bottled)	✓ / ✗
1.2.	Food supplies, ready-to-eat rations, special dietary nutrition	✓ / ✗
1.3.	Blankets, thermal blankets, heating devices	✓ / ✗
1.4.	Basic clothing and footwear	✓ / ✗
1.5.	Hygiene supplies: soap, wipes, diapers, feminine hygiene products, toilet paper	✓ / ✗
1.6.	Seating and rest facilities (folding chairs, etc.)	✓ / ✗
1.7.	Temporary sleeping arrangements (mattresses, sleeping pads, folding beds)	✓ / ✗
1.8.	Flashlights, power banks, charging stations	✓ / ✗
1.9.	Water containers, thermos flasks, disposable tableware	✓ / ✗

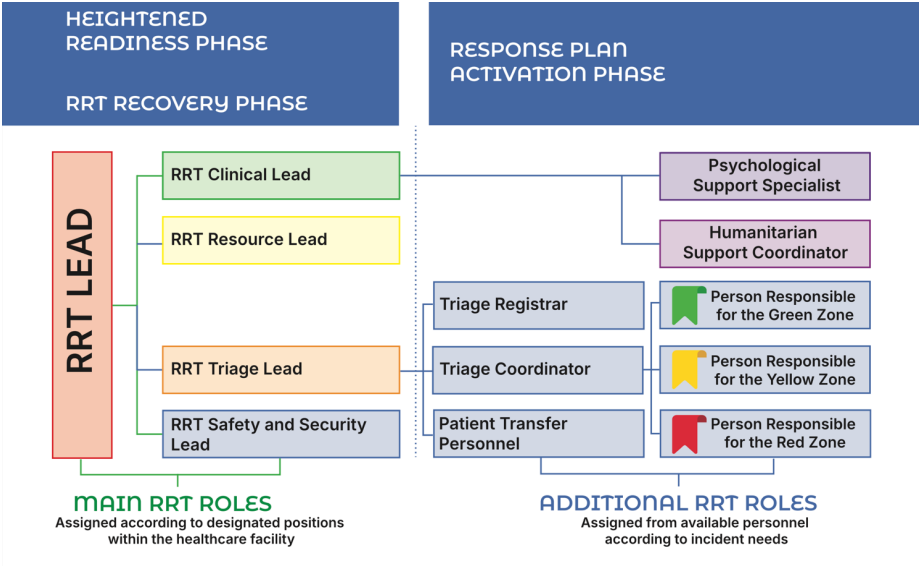
2	Support and coordination	
2.1.	Information materials, navigation signage, announcements, translation services (information desk)	✓/✗
2.2.	Communication tools and family reunification support	✓/✗
2.3.	Lists, contact information, waiting area organization	✓/✗
2.4.	Basic psychological first aid for patients, relatives, and staff	✓/✗
3	Resources for vulnerable groups	
3.1.	Infant nutrition, feeding bottles/nipples, breast milk substitutes (for infants who cannot be breastfed and/or where donor milk is unavailable)	✓/✗
3.2.	Care supplies for bedridden patients (wet wipes, diapers, absorbent pads, positioning cushions, blankets, etc.)	✓/✗
3.3.	Assistive devices for persons with disabilities (wheelchairs, walkers, crutches, white canes, etc.)	✓/✗
3.4.	Glasses, hearing aids, spare batteries for assistive devices	✓/✗
3.5.	Infant warming supplies (thermal mattresses, warmers, blankets, mobile incubator boxes)	✓/✗

2. Brief recommendations for organizing humanitarian support in healthcare facilities during a short-term MDI response:

1. Appoint a humanitarian support coordinator and a deputy (backup).
2. Establish a list of resources and a minimum stock for the first hours of the incident.
3. Define distribution points separately for patients, relatives, and staff.
4. Set up a relatives' waiting area and a separate private information room for confidential communication.
5. Introduce simple rules: where to go, where to wait, and when information updates will be provided.
6. Maintain contact details of external support sources for critical situations (municipal services, volunteers, the Ukrainian Red Cross Society, suppliers, etc.).
7. Keep records of distributed items, remaining stock, and replenishment needs.
8. Ensure provision of basic psychological support.
9. Maintain continuous communication with the RRT Lead.

Note! The organization of a humanitarian hub is not limited to the above recommendations. Each healthcare facility should expand and adapt humanitarian support according to its profile, expected duration of the active phase of the critical incident, and availability or accessibility of external assistance. For example, maternity wards, pediatric hospitals, and palliative care units require significantly larger humanitarian resources and reserves, as patients in these settings are more vulnerable to cold, lack of food, and other adverse conditions. These groups require additional staff for basic care due to limited or absent self-care capacity, physical limitations, or psychological characteristics related to childhood.

RRT Role Distribution Flowchart for Emergency Response to MDI



APPENDIX 2

Standard Operating Procedure No. 2

HIGHTENED READINESS OF A HEALTHCARE FACILITY FOR RAPID RESPONSE TO AN EMERGENCY SITUATION

(MISSILE AND DRONE INCIDENT)

1. GENERAL INFORMATION

Title	SOP No. 2. Heightened readiness of a healthcare facility for rapid response to an emergency situation (missile-drone incident)
Document code / number	SOP-02 / ES-MDI
Version (revision)	1.0
Effective date	« __ » _____ 20__.
Developed by	Emergency Response Commission of the Healthcare Facility
Agreed by	Medical Director
Approved by	General Executive Officer / Director
Storage	The hard copy of the document is stored at the headquarters of the Emergency Response Commission. The e- version is placed in the internal database of standard operating procedures (SOPs) of the Healthcare Facility.
Document category	Local regulatory act of the Healthcare Facility

Distribution	All structural subdivisions of the facility; where necessary, the relevant local self-government bodies, the State Emergency Service of Ukraine, and the Regional Military Administration.
Review and update procedure	The SOP is periodically reviewed when new or amended regulatory documents are approved (Section 9), but at least once per year. Mandatory review is conducted in the event of an incident involving MDI within the healthcare facility area. The SOP remains in effect until it is cancelled or replaced by a new version.
Access	A paper copy shall be kept at the headquarters of the Emergency Response Commission; electronic copy - in the internal SOP database of the Healthcare Facility. The previous version of the SOP, once replaced by a new version, must be retained in the healthcare facility's archive (electronic or paper) for at least 5 years.

2. LIST OF ABBREVIATIONS

ICU - Department of Anaesthesiology and Intensive Care

ED – Emergency Medical Care Department

SESU – State Emergency Service of Ukraine

HCF – Healthcare Facility

RRT – Rapid Response Team

MCIT – Mass Casualty Incident Triage

RRK – Rapid Response Kit

AD – Admission Department

MDI – Missile-Drone Incident

SOP – Standard Operating Procedure

EMC – Emergency Medical Care Center

3. PURPOSE

To ensure the readiness of the healthcare facility and the rapid response team to activate the response plan for a missile-drone incident (MDI) following an “AIR ALERT” signal.

4. SCOPE OF APPLICATION

All structural units of the healthcare facility, including medical, administrative, technical, and security services.

Emergency response during the heightened readiness phase is managed by the Rapid Response Team for MDI. The RRT includes: team lead, clinical lead of the RRT, RRT resource lead, RRT security lead, and RRT triage lead.

The heightened readiness mode of the healthcare facility is automatically activated upon receiving the “**AIR ALERT**” signal.

5. RESOURCE SUPPORT

Implementation of this SOP is ensured through the use of available human, material-technical, and informational resources of the healthcare facility.

6. ROLES, EXECUTORS, AND THEIR MAIN FUNCTIONS

Role	Position of executors	Main functions
RRT Lead	Head of Admission Department (AD) / Head of Emergency Medical Care Department (EMCD) / On-duty senior physician of the healthcare facility	1. Organizes the readiness of the RRT and the healthcare facility for full activation of the MDI Response Plan. 2. Coordinates the actions of all services and monitors implementation of the Emergency Response Plan (MDI).
RRT Clinical Lead	Physician of AD / physician of EMCD / surgeon / anaesthesiologist	1. Ensures control of patient and staff movement to shelters and coordinates medical staff in shelters (safe areas) to maintain continuity of medical care.
RRT Resource Lead	Nurse/nurse officer of AD / nurse/nurse officer of EMCD / registered nurse / midwife	1. Ensures access to shelters and stocks of medicines and dressing materials. 2. Ensures access to Kits No. 1–4.
RRT Safety and Security Lead	Security officer / medical registrar of AD	1. Ensures access to backup power supply and access to the healthcare facility (gates, barriers, doors, etc.).

		2. Disables elevators and opens emergency exits and stairwells.
RRT Triage Lead	Physician of AD / physician of EMCD / surgeon / anaesthesiologist	1. Prepares for triage area deployment. 2. Organizes triage zones and assigns responsible staff for each zone. 3. Organizes medical care delivery and manages patient flow control.
Healthcare Facility Staff	All staff on duty	1. Follows instructions of the RRT Lead. 2. Assists in patient evacuation to shelters and ensures continuity of care in shelters. 3. Complies with safety rules and internal regulations.

7. ACTION ALGORITHMS

The RRT operates in the heightened readiness phase after receiving an “AIR ALERT” signal, including daytime / night-time / weekends and public holidays, and ensures:

1. Notification of the healthcare facility and the head of the healthcare facility about transition to the heightened readiness phase after receiving the “AIR ALERT” signal.
2. Monitoring and supervision of patient and staff evacuation to shelters.
3. Coordination of healthcare facility operations during the heightened readiness phase.
4. Preparation of the RRT and healthcare facility for full activation of the MDI Response Plan.
5. Transition of the healthcare facility to full activation of the Emergency Response Plan in case of an MDI occurrence.

7.1. Actions of the RRT Lead

- 7.1.1. Receives centralized city notification of an air alert.
- 7.1.2. Activates internal alert within the healthcare facility for transition to the heightened readiness phase for MDI response.
- 7.1.3. Opens the RRT Incident Management Kit (Kit No. 1).
- 7.1.4. Wears the “RRT Lead” identification vest.
- 7.1.5. Assembles the RRT for an immediate briefing at a designated location in the shelter.
- 7.1.6. Holds overall responsibility for preparedness for a potential MDI.
- 7.1.7. Coordinates all actions and resources; is responsible for all operational areas until delegation to other RRT members.
- 7.1.8. Issues identification vests to all RRT members.
- 7.1.9. Receives information from the RRT Clinical Lead regarding the number of ongoing surgeries and critically ill patients in the ICU.
- 7.1.10. Summarizes information on the number of patients and staff relocated to the shelter.
- 7.1.11. Summarizes information on ongoing surgeries and ICU critical patients.

- 7.1.12. Completes the RRT checklist for the heightened readiness phase.
- 7.1.13. Distributes action algorithms, instructions, and functional duties of the RRT according to Rapid Response Kit No. 1.
- 7.1.14. In case of an MDI near or on the healthcare facility premises, and in agreement with the Head of the Emergency Commission, initiates transition to full activation of the Emergency Response Plan.
- 7.1.15. Upon cancellation of the air alert, returns the facility to normal operating mode.

7.2. Actions of Clinical Lead of the RRT

- 7.2.1. Arrives at the immediate RRT briefing in the designated shelter area.
- 7.2.2. Wears the “Clinical Lead of the RRT” identification vest.
- 7.2.3. Collects information from the ICU head physician (day) / ICU duty physician (night, weekends, holidays) on the number of critical patients.
- 7.2.4. Collects information from the operating theatre manager (day) / on-duty responsible person (night, weekends, holidays) on ongoing surgeries.
- 7.2.5. Collects information on patient and staff relocation to shelters.
- 7.2.6. Reports the number of relocated patients and staff to the RRT Lead.
- 7.2.7. Ensures continuity of medical care in the shelter.
- 7.2.8. Supervises preparation for deployment of triage zones (red, yellow, green) and coordinates medical staff.
- 7.2.9. Provides clinical guidance on care standards, priority interventions, and management of critical patients.
- 7.2.10. Upon cancellation of the air alert, resumes routine duties.

7.3. Actions of the RRT Resource Lead

- 7.3.1. Arrives at the immediate RRT briefing in the designated shelter area.
- 7.3.2. Ensures access to Kits No. 1–4.

- 7.3.3. Wears the “RRT Resource Lead” identification vest.
- 7.3.4. Ensures access to the shelter.
- 7.3.5. Ensures access to equipment, medical devices, instruments, medications, dressings, and other special equipment (stretchers, wheelchairs, etc.).
- 7.3.6. Checks availability and placement of stretchers and wheelchairs.
- 7.3.7. Assists in setting up yellow, red, and green triage zones.
- 7.3.8. Works with the Clinical Lead to ensure continuity of care.
- 7.3.9. In case of full activation of the Emergency Response Plan, assists in deploying Kits No. 2–4.
- 7.3.10. Coordinates with nursing staff and the head nurse for efficient patient movement.
- 7.3.11. Upon cancellation of the air alert, resumes routine duties.

7.4. Actions of the RRT Triage Lead

- 7.4.1. Arrives at the immediate RRT briefing in the designated shelter area.
- 7.4.2. Wears the “RRT Triage Lead” identification vest.
- 7.4.3. Takes command of triage operations, defines the triage area location, and marks category zones.
- 7.4.4. Prepares for deployment of triage zones and organization of patient flow.
- 7.4.5. Verifies readiness of Kits No. 2–4.
- 7.4.6. Identifies potential staff for support roles in MCIT (triage officers, patient transporters, and zone supervisors).
- 7.4.7. Executes orders of the RRT Lead during the heightened readiness phase.
- 7.4.8. Upon cancellation of the air alert, assists in patient transfer to departments and returns to routine duties.

7.5. Actions of the RRT Security Lead

- 7.5.1. Arrives at the immediate RRT briefing in the designated shelter area.
- 7.5.2. Wears the “RRT Security Lead” identification vest.
- 7.5.3. Verifies access to the healthcare facility (open barriers, gates, doors, etc.).
- 7.5.4. Disables elevators.
- 7.5.5. Ensures opening of emergency exits and stairwells within healthcare facility buildings.
- 7.5.6. Informs the RRT Lead about readiness of the generator, backup power supply, and emergency lighting.
- 7.5.7. Upon cancellation of the air alert, returns to routine duties.

7.6. Actions of on-duty healthcare facility staff

- 7.6.1. Report to and follow instructions of the RRT Lead.
- 7.6.2. Ensure patient escort and evacuation to healthcare facility shelters after receiving the “AIR ALERT” signal, in accordance with the Civil Protection Instruction on staff actions during an air alert (Appendix 6 of the manual).
- 7.6.3. Ensure transfer of patients from ICU and operating rooms to safe areas within departments (Appendix 6 of the manual).
- 7.6.4. Ensure continuity of medical care for patients in the healthcare facility shelter.
- 7.6.5. Execute orders of the RRT Lead during the heightened readiness phase of the MDI Response Plan.
- 7.6.6. Upon cancellation of the air alert, assist in patient return to departments.
- 7.6.7. Upon cancellation of the air alert, return to routine duties.

8. CONTROL AND MONITORING

Ensuring the healthcare facility’s readiness for operational response to an emergency situation caused by a missile-drone incident through continuous monitoring of resources, staff actions, and communication effectiveness.

Ongoing (operational) control during the heightened readiness phase.

Role	Control and monitoring functions
RRT Lead	1. Coordinates the entire RRT readiness control process. 2. Completes the readiness checklist during the heightened readiness phase. 3. Transfers the checklist to the Civil Protection specialist for storage.
RRT Clinical Lead	1. Reports to the RRT Lead on the number of patients and staff in shelters and safe areas. 2. Verifies continuity of medical care in the shelter.
RRT Resource Lead	1. Reports to the RRT Lead on the availability of Kits No. 2–4.
RRT Security Lead	1. Reports to the RRT Incident Commander / RRT Lead on elevator shutdown, readiness of backup power sources, opening of emergency exits, accessibility of stairwells, and opening of barriers and gates.
RRT Triage Lead	1. Reports on readiness for deployment of the triage area, organization of triage zones, and control of casualty flow.

Documentation

Completion of the healthcare facility readiness checklist during the heightened readiness phase

- The checklist is completed by the RRT Lead immediately after receiving the “AIR ALERT” signal.

- All RRT members are required to sign the checklist after completing their assigned actions.
- The relevant fields record actual actions taken, number of relocated persons, status of resources, communications, and shelter readiness.

Appendix 1 to SOP No. 2

RRT Readiness Checklist of the Healthcare Facility during the Heightened Readiness Phase

Date: _____

Activation time: _____

Responsible persons:

- RRT Lead: _____
- Clinical Lead of the RRT: _____
- RRT Resource Lead: _____
- RRT Security Lead: _____
- RRT Triage Lead: _____

No.	Control item	Completed / quantity*	Notes
1	Official notification of the “AIR ALERT” signal received		
2	RRT Lead arrived at the shelter and distributed responsibilities among RRT members		

3	All RRT members wore identification vests according to their roles		
4	Brief RRT coordination meeting conducted at the designated location		
5	Kit No. 1 opened and checked		
6	Operating theatre: number of ongoing surgeries*		
7	Operating theatre: number of staff remaining in the OR*		
8	ICU: number of critical patients transferred to shelter*		
9	ICU: number of patients not transferred*		
10	ICU: number of staff remaining*		
11	Departments: number of patients transferred to shelters*		
12	Total number of patients transferred to shelters*		
13	Accompanying persons transferred to shelter		
14	Continuity of medical care ensured in shelters		
15	Emergency exits and stairwells accessible; elevators disabled		
16	Access control at facility entrances, gates, and doors ensured		
17	RRT Lead informed the Head of the healthcare facility about readiness for emergency response (MDI)		

18	After cancellation of “AIR ALERT”, patients transferred from shelters back to departments		
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RRT Lead signature: _____

Date / time of completion: _____

APPENDIX 3

Standard Operating Procedure No. 3

ACTIVATION OF THE HEALTHCARE FACILITY RESPONSE PLAN TO AN EMERGENCY SITUATION (MDI)

1. GENERAL DETAILS

Title	SOP No. 3. Activation of the HCF Response Plan to an Emergency Situation (Missile-Drone Incident)
Document code / number	SOP-03 / ES-MDI
Version (revision)	1.0
Effective date	___ ___ 20__
Review date	___ ___ 20__
Developed by	Emergency Response Commission of the HCF
Agreed by	Medical Director
Approved by	Chief Executive Officer / Head/Director
Storage location	In the civil protection sector/department or another designated unit of the healthcare facility.

Document category	Internal regulatory document of the healthcare facility
Distribution	All structural units; if necessary, informing relevant local self-government bodies, the State Emergency Service of Ukraine, and the Regional Military Administration.
Review and update procedure	The SOP is regularly reviewed upon approval of new regulatory acts or amendments to existing ones (Section 9), but at least once a year. The SOP is obligatory reviewed if a missile-drone incident occurs on the territory of the healthcare facility. The SOP remains in force until cancelled or replaced by a new version.
Access	A paper copy of the documents shall be kept at the headquarters of the Emergency Response Commission. The electronic version shall be kept in the internal electronic SOP database of the healthcare facility. The previous version of the SOP, after it is replaced by a new version, shall be stored in the HCF archive (electronic or paper) for at least 5 years.

2. LIST OF ABBREVIATIONS

ICU - Department of Anaesthesiology and Intensive Care

ED – Emergency Medical Care Department

SESU – State Emergency Service of Ukraine

HCF – Healthcare Facility

RRT – Rapid Response Team

MCIT – Mass Casualty Incident Triage

RRK – Rapid Response Kit

AD – Admission Department

MDI – Missile-Drone Incident

SOP – Standard Operating Procedure

EMC – Emergency Medical Care Center

CP - Civil Protection

3. PURPOSE

The paper defines the procedure for actions by healthcare facility personnel in the event of an immediate missile-drone incident, aimed at preserving the life and health of patients and staff, conducting medical triage in shelter, ensuring the continuity of medical care, and determining indications for possible evacuation.

4. SCOPE

This SOP applies to all units and employees of the healthcare facility who are or may be involved in rapid response or support during emergencies. It defines the procedure to be followed in the event of direct damage to the territory or building of the healthcare facility caused by a missile or drone strike, as well as in cases of damage to premises, casualties, or complete destruction of infrastructure facilities.

5. RESOURCE SUPPORT

List of resources required for implementation of this SOP:

5.1. Human resources:

- HCF management (director, deputies according to the distribution of responsibilities);
- Emergency Response Commission;
- Rapid Response Team for missile-drone incidents;
- medical personnel;
- technical services staff (engineering service);
- civil protection specialists / security service staff;
- psychologists / social workers;
- other employees.

5.2. Material and technical resources:

- shelter / protected premises (protective shelters, bomb shelters);
- autonomous power supply (generators, batteries);
- communication means (radios, backup telephones, loudspeakers, centralized alert system);
- reserve of drinking and technical water, food products;
- medical devices and supplies (dressings, antiseptics, oxygen, stretchers, carts, etc.);
- medicines (pharmaceutical products);
- personal protective equipment (protective suits, face shields, masks, goggles, gloves);
- Kit No. 1 — RRT Incident Management Kit (Appendix 2 to SOP No. 1);
- Kit No. 2 — Mass Casualty Incident Triage Kit (Appendix 3 to SOP No. 1);

- Kit No. 3 — Indicative equipment list for the “green” triage zone (Appendix 4 to SOP No. 1);
- Kit No. 4 — Indicative equipment list for the “yellow” and “red” triage zones (Appendix 5 to SOP No. 1).

6. ROLES, RESPONSIBLE PERSONS, AND THEIR MAIN FUNCTIONS

1. List of Rapid Response Team tasks

Roles	Positions	Functions
RRT Lead	Head of Admission Department / Head of Emergency Department / designated duty physician of the HCF	1. Receives information about the missile-drone incident on the territory of the healthcare facility. 2. Urgently informs the head of the HCF and the head of the Emergency Response Commission about the occurrence of the emergency situation (missile-drone incident). 3. Informs the RRT about the head’s decision to approve activation of the Emergency Response Plan. 4. Communicates with SESU staff who arrive at the HCF and informs them about people (staff, patients) who

		remain on the territory and in the premises of the HCF outside the shelter, and subsequently follows their instructions. 5. Manages the RRT until the members of the Emergency Response Commission arrive. 6. After the arrival of the head of the HCF and the ERC members, performs the duties of a Commission member and continues to manage the RRT.
RRT Clinical Lead	Physician of the Admission Department / physician of the Emergency Department / surgeon / anesthesiologist	1. Ensures continuity of medical care in the shelter. 2. Appoints the person responsible for medical triage. 3. Supervises organization of the green, yellow, and red patient triage zones in the shelter and coordinates actions together with the triage lead if an emergency occurs.

		4. Uses primary and backup communication tools to assess the status of patients, staff, and casualties throughout the HCF. 5. Reports the status of medical care to the RRT Lead.
RRT Resource Lead	Nurse of the Admission Department / nurse of the Emergency Department / nurse / midwife	1. Deploys Kits Nos. 2–4 in the shelter. 2. Controls the use of medical supplies and medicines. 3. Ensures, where possible, replenishment of medical supplies and medicines according to pre-defined logistics. 4. Ensures continuity of communication through backup channels. 5. Report resource status to the RRT Lead.
RRT Safety and Security Lead	Security guard / medical registrar of the Admission Department	1. Ensures, if necessary, autonomous functioning of electricity and water supply systems in the HCF. 2. Where possible, shuts off the supply of medical gases and

		electrical power in damaged areas. 3. Meets SESU / emergency medical teams and escorts them around the territory of the HCF. 4. Manages the logistics of transport flow on the territory of the HCF. 5. Supervises the territory after the strike: where necessary, organizes movement logistics on the HCF territory for visitors, volunteers, etc., and restricts access of unauthorized persons to the affected area.
RRT Triage Lead	Physician of the Admission Department / physician of the Emergency Department / surgeon / anesthesiologist	1. Deploys the triage area. 2. Organizes triage zones and appoints persons responsible for each zone. 3. Assigns additional roles to employees not involved in other tasks (registrar, triage officer, patient movement staff, and other roles); if necessary, engages visitors

		or slightly injured persons in unskilled tasks. 4. Coordinates medical care. Direct casualty flow. 5. Supervises decontamination and the casualty flow from the contaminated to the clean zone.
2. List of tasks of the Emergency Response Commission		
Head of the Emergency Response Commission	Chief Executive Officer / chief Head/ Director	1. After receiving information from the RRT Lead about the missile-drone incident on the territory of the HCF, approves activation of the Response Plan. 2. Urgently informs the duty officer of the Health Department/Directorate and the Regional Military Administration, the dispatch service of the Emergency Medical Care Center and disaster medicine, the National Police, and SESU about the missile-drone incident on the territory of the HCF.

		3. Informs Commission members about the incident and announces urgent assembly at the designated location. 4. Organizes an operational review of the HCF's capacity for further medical care provision. 5. Using the information received from Commission members, informs the regional coordination entity of the disaster medicine service about the HCF's capacity to continue medical care service provision.
Deputy Head of the Emergency Response Commission	Medical Director	1. Collects information on the number of patients, with separately indicated number of patients by severity, number of patients who may be urgently discharged from the HCF, and number of patients whom the HCF can evacuate on its own.

		2. Collects information on bed capacity: the number of free beds by specialty, the possibility of providing intensive care to patients (total number of relevant beds and beds equipped with oxygen support systems), and the number of beds that may be used for isolation measures. 3. Collects information on duty staff: the total number of medical and non-medical duty staff, and the total number of medical and non-medical staff not on duty but available to reinforce the HCF's capacity (staff reserve in case of emergency). 4. Completes relevant sections of the checklist for operational review of HCF capacity and certifies them with their signature.
Commission member	Deputy Director for	1. Controls the functioning of electricity supply, water

responsible for infrastructure (non-medical resources)	Administrative and Maintenance Affairs	supply, wastewater disposal (sewerage), heating, ventilation, oxygen supply, fire alarm, and fire extinguishing systems. 2. Assesses the condition of buildings and equipment, including the damage. 3. Assesses engineering networks and electricity supply: availability of alternative power sources (generators and their operability), availability of fuel and lubricants, stock of technical and drinking water (in days), and stock of food for staff and patients (in days). 4. Assesses the condition of shelters and other protected premises for patients and staff, as well as their accessibility. 5. Assesses available HCF vehicles that can be used for patient evacuation
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		(ambulance and specialized transport) and available stocks of fuel and lubricants. 6. Completes relevant sections of the checklist for operational review of HCF capacity and certifies them with their signature.
Commission member responsible for medical resources	Chief Nurse	1. Assesses the availability of medical equipment (ventilators, defibrillators, diagnostic equipment, oxygen concentrators) and determines the availability of medicines and expendable materials calculated for how many days under full facility load. 2. Manages continuity of resource supply of medical devices and medicines. 3. Completes relevant sections of the checklist for operational review of HCF capacity and certifies them with their signature.

7. ACTION ALGORITHM

7.1. Action algorithm for the RRT Lead.

7.1.1. Arrives at the designated location. Puts on the “RRT Lead” signal vest and enters their data in the RRT log.

7.1.2. Assess the missile-drone incident (MDI) on the territory of the HCF.

7.1.3. Informs the RRT of the decision of the Head of the HCF to activate the Emergency Response Plan.

7.1.4. Determines priority actions: focusing RRT efforts on saving lives, ensuring staff safety, moving/evacuating patients, visitors, and employees, as well as maintaining the operation of critical HCF departments.

7.1.5. Establishes primary and backup communications (mobile phones, wireless radios, loudspeakers, centralized alert system).

7.1.6. Suspends current diagnostic, instrumental, and laboratory examinations until further instructions from SESU staff and rescue services that have arrived at the HCF.

7.1.7. Coordinates with SESU staff who have arrived at the HCF regarding people (employees, patients) remaining on the territory and in the premises of the HCF outside shelters and subsequently follows their instructions.

7.1.8. Initiates the reverse medical triage algorithm and discharge of patients with mild conditions in order to free up additional beds.

7.1.9. Manages the RRT until the arrival of the Head of the HCF and members of the Emergency Response Commission.

7.1.10. After the Commission arrives, performs the duties of a Commission member and continues management of the RRT.

7.1.11. Participates in coordinating mass casualty triage in the shelter in the event of an emergency (missile-drone incident).

7.2. Action algorithm for the Clinical Lead of the RRT. The Clinical Lead:

7.2.1. Ensures continuity of medical care in the shelter.

7.2.2. Supervises the organization of green, yellow, and red triage zones for patients/casualties in the shelter.

7.2.3. Using communication means (including backup means), gathers information about the condition of patients and staff in the shelter and in other HCF premises, including the presence of wounded and injured persons.

7.2.4. Informs the RRT Lead about the process of providing continuous medical care.

7.2.5. Provides the RRT Lead with operational information on the clinical situation, the number of severe and critical patients, and the need for additional resources, relocation, or evacuation.

7.2.6. Coordinates compliance with ethical standards regarding informing relatives and legal representatives of patients through designated employees.

7.3. Action algorithm for the RRT Resource Lead. The RRT Resource Lead:

7.3.1. Assists in deployment of Kits Nos. 2–4 in the shelter.

7.3.2. Controls the use of medical devices/supplies and medicines.

7.3.3. Ensures, where possible, replenishment of stocks of medical supplies and medicines according to pre-defined logistics.

7.3.4. Ensures continuity of communications using backup channels.

7.3.5. Informs the RRT Lead about resource support for the process of providing continuous medical care.

7.3.6. If necessary, participates in organizing the red, yellow, and green zones.

7.3.7. Monitors the RRT with additional necessary resources. Responsible for the availability of medical supplies, instruments, materials, etc. in Kit No. 2 (MC triage), Kits Nos. 3 and 4 (including backup kits).

7.3.8. Appoints duties related to resource management among HCF employees, including persons responsible for supplies and technical support, medical personnel, and involved volunteers (by decision of the RRT).

7.4. Action algorithm for the RRT Safety and Security Lead. The RRT Safety and Security Lead:

7.4.1. Ensures, where necessary, autonomous functioning of electricity and water supply systems in the HCF.

7.4.2. Where possible, shuts off the supply of medical gases and electrical power in damaged areas.

7.4.3. Meets SESU staff and escorts them around the territory of the HCF.

7.4.4. Manages transport flow on the territory of the HCF.

7.4.5. Controls the territory after the strike: where necessary, organizes movement logistics on the HCF territory for visitors, volunteers, etc., and restricts access of unauthorized persons to the affected area.

7.4.6. Advises the RRT Leader on safety issues and has the authority to immediately stop dangerous actions on the territory of the HCF.

7.4.7. Determines and organizes marking of safe zones (together with the RRT determines the placement of red, yellow, green, and other zones) and sets access boundaries for staff and special transport.

7.4.8. Controls access to hazardous areas: ensures restrictions on entry into zones at risk of collapse, fire, smoke, explosive objects, and other hazards during a missile-drone incident.

7.4.9. Informs the RRT Lead about new safety risks, in particular those related to the missile-drone incident.

7.4.10. Interacts with response services (SESU, National Police, HCF security, engineering and technical services) to eliminate threats and stabilize the situation.

7.4.11. Ensures documentation of identified risks, decisions, and security measures, as well as coordination with involved services for further analysis and improvement of the response system.

7.5. Action algorithm for HCF employees who are on duty

7.5.1. Report to the RRT Lead and keep to the instructions during the activation phase of the Emergency Response Plan.

7.5.2. Ensure escort of patients to the HCF shelter.

7.5.3. Ensure continuity of medical care to patients/casualties.

7.5.4. After the air raid alert is cancelled, ensure the return of patients to departments.

7.5.5. After the air raid alert is cancelled, switch to routine performance of their daily functional duties.

7.6. Action algorithm for the ERC members

7.6.1. Assess the possibility of further operation of the building after the emergency (missile-drone incident):

7.6.2. Condition of premises and equipment: damage to premises and equipment.

7.6.3. Basic infrastructure: state of water supply, wastewater disposal, electricity supply, access to the Internet and communication means, availability of heating (during the autumn-winter period), state of oxygen supply.

7.6.4. Functional status: determine whether the HCF is functioning fully or partially due to a dangerous situation for the health of patients and staff, physical access to the facility, injuries or shortage of medical equipment or personnel.

7.6.5. Available staff on duty: total number of medical and non-medical staff on duty, as well as staff reserve that may be engaged in case of emergency.

7.6.6. Number of patients: the number of patients by severity who are being treated in the HCF, who may be urgently discharged from the HCF, and whom the HCF can evacuate by its own means.

7.6.7. Bed capacity: number of free beds by specialty, possibility of intensive care (including oxygen support), and beds for isolation measures.

7.6.8. Availability of medical equipment (ventilators, defibrillators, diagnostic equipment, oxygen concentrators) and stocks of medicines and expendable materials (in days of supply under full load).

7.6.9. Available HCF vehicles that can be used for evacuation of patients (ambulance, specialized transport, etc.) and stock of fuel and lubricants.

7.6.10. Communications and electricity supply: availability of alternative power sources (generators and their operability), stocks of technical and drinking water (in days), and stocks of food for staff and patients (in days).

7.6.11. Available shelter or protected places for patients and staff and accessibility.

Note: The assessment is according to the Checklist for Operational Review of HCF Capacity for Further Provision of Medical Care (Appendix 1 to this SOP).

7.6.12. Based on analysis of the information, the director/head of the HCF informs the national or regional coordination entity of the disaster medicine service about the facility's capacity as follows:

- The HCF is capable of fully providing medical care to the population at the place where it operates;
- The HCF can provide medical care subject to appropriate reinforcement (personnel, equipment, autonomous power sources, water supplies, fuel, etc.);
- The HCF can provide certain types of medical services, and patients require transfer to other HCFs providing relevant services;
- The HCF is not capable of providing medical care to the population and is subject to evacuation.

8. CONTROL AND MONITORING

Implementation of the SOP is monitored through the checklist for operational review of HCF capacity for further provision of medical care, which is submitted to the Head / Director of the HCF after being signed by all Commission members in their respective areas of responsibility.

The SOP is reviewed when new regulatory acts are approved or amendments are made to current regulatory documents (Section 9), at least once a year.

The SOP is obligatory reviewed after a missile-drone incident.

10. APPENDICES

Checklist for operational review of HCF capacity for further provision of medical care — list of key control points (Appendix 1).

Appendix 1 to SOP No. 3

Activation of the HCF Response Plan to an Emergency Situation (MDI)

Checklist for Operational Review of HCF Capacity
for Further Medical Care Provision

Note. The person responsible for the operational assessment of the HCF’s capacity for further functioning in an emergency (missile-drone incident) is the Head of the Emergency Response Commission, or a person delegated by them.

No.	Section	Information	Capacity assessment	Note / date	Comment / signature
1	CONDITION OF PREMISES	Presence of damage to buildings and equipment	Further operation possible	☒ / ☐	
			Further operation impossible	☒ / ☐	
2	BASIC INFRASTRUCTURE	Centralized water supply /	Capable	☒ / ☐	
			Incapable	☒ / ☐	

		wastewater disposal;			
		Centralized electricity supply	Capable	✓ / ✗	
			Incapable	✓ / ✗	
		Centralized heating (in autumn and winter)	Available	✓ / ✗	
			Absent	✓ / ✗	
		Access to Internet and communication	Stable	✓ / ✗	
			Absent	✓ / ✗	
		Centralized oxygen supply	Further operation possible	✓ / ✗	
			Further operation impossible	✓ / ✗	
3	DUTY STAFF AVAILABILITY	Number of medical and non-medical staff on duty	Number of persons to delegate tasks is sufficient	✓ / ✗	— medical persons

					__ non-medical persons
			Partial deficiency, with possible function	✓ / ✗	__ medical persons __ non-medical persons
			Critical deficiency, impossible complete function	✓ / ✗	__ medical persons __ non-medical persons
		Number of reserve medical and non-medical staff which is not on duty	Staff reserve ready to arrive within 60 min.	✓ / ✗	__ medical persons __ non-medical persons
			Unavailable staff reserve	✓ / ✗	

4	NUMBER OF PATIENTS	Number of patients by specialty, possibility of their evacuation	Patients who may be urgently discharged;	☒ / ☒	__ persons
			Patients whom the HCF can evacuate on its own;	☒ / ☒	__ persons
			severe patients undergoing treatment, including in ICU		__ persons, ICU __ persons
5	BED CAPACITY	Availability of beds by department/profile (each HCF makes according to specialty)	Available beds	☒ / ☒	number _____
			ICU available beds	☒ / ☒	number _____
			Beds with oxygen support	☒ / ☒	number____ _____
			Isolation beds	☒ / ☒	number _____

6	MEDICAL EQUIPMENT	Medical equipment availability, possibility of maximum use. If necessary, make a list by specialties	Ventilators	☒ / ☒	number____ —
			Defibrillators	☒ / ☒	number____ —
			Diagnostic equipment	☒ / ☒	number____ —
			Oxygen concentrators	☒ / ☒	number____ —
			Medicines	☒ / ☒	number____ —
			Expendable materials	☒ / ☒	number____ —
7	VEHICLES AND FUEL/LUBRICANTS	Availability and condition of transport for patient evacuation	available	☒ / ☒	number____ —
			Unavailable	☒ / ☒	
		availability of fuel and lubricants for	Available/available supply	☒ / ☒	amount____ litres

		autonomous operation for 72 hours	Absent / insufficient	✓ / ✗	_____ hours of work
8	COMMUNICATIONS AND POWER SUPPLIES	Availability and supplies	Generators and their operability	✓ / ✗	number _____
			technical water	✓ / ✗	_____ litres
			Drinking water	✓ / ✗	_____ litres
			Food products	✓ / ✗	_____ work hours
		Alternative communication means (landline/mobile telephones, PCs, radios, Starlink terminals)	Available	✓ / ✗	number _____
			unavailable/ insufficient number	✓ / ✗	number _____
9	SHELTER OR PROTECTED PLACES	Availability for patients and staff and accessibility;	Available	✓ / ✗	
			Available reserve location	✓ / ✗	
			Unavailable all variants	✓ / ✗	

HCF Capacity to Provide Ongoing Medical Care as follows:	
The HCF is fully capable of providing medical care at its current location.	✓ / ✗
The HCF can continue providing medical care with appropriate reinforcement (personnel, medical equipment, autonomous power sources, water supplies, fuel, etc.).	✓ / ✗
The HCF can provide only limited medical services. Patients requiring services that are unavailable must be transferred to other HCFs.	✓ / ✗
The HCF is no longer capable of providing medical care. Patients and staff must be evacuated.	✓ / ✗

APPENDIX 4

Standard Operating Procedure No. 4

ORGANIZATION OF THE TRIAGE AREA AND INTERNAL TRIAGE ZONES IN HCF DURING MDI

1. GENERAL DETAILS

Title	SOP No. 4. Organization of the Triage Area and Internal Triage Zones in Healthcare Facilities during a Missile and Drone Incident
Code / document number	SOP 4 / NS-RDI
Version (revision)	1.0
Effective date	_____ 20__
Developed by	Emergency Response Commission of the Healthcare Facility
Agreed by	Medical Director
Approved by	General Executive Officer / Head/ Director
Storage	The hard copy of the document is stored at the headquarters of the Emergency Response Commission. The e- version is placed in the internal database of standard operating procedures (SOPs) of the Healthcare Facility.

Document category	Local regulatory act of the Healthcare Facility
Distribution	All structural subdivisions of the facility; where necessary, the relevant local self-government bodies, the State Emergency Service of Ukraine, and the Regional Military Administration.
Review and update procedure	The SOP is regularly reviewed upon approval of new regulatory acts or amendments (Section 10), at least once a year. The SOP is obligatory reviewed if a missile and drone incident occurs on the territory of the Healthcare Facility. The SOP remains in force until cancelled or replaced by a new version.
Access	A paper copy shall be kept at the headquarters of the Emergency Response Commission; electronic copy - in the internal SOP database of the Healthcare Facility. The previous version of the SOP, after being replaced by a new version, must be stored in the archive of the healthcare facility (electronic or paper) for at least 5 years.

2. LIST OF ABBREVIATIONS

ICU - Department of Anaesthesiology and Intensive Care

ED – Emergency Medical Care Department

SESU – State Emergency Service of Ukraine

HCF – Healthcare Facility

RRT – Rapid Response Team

MCIT – Mass Casualty Incident Triage

RRK – Rapid Response Kit

AD – Admission Department

MDI – Missile-Drone Incident

SOP – Standard Operating Procedure

EMC – Emergency Medical Care Center

CP - Civil Protection

3. PURPOSE

To ensure that the RRT of the healthcare facility is ready to deploy the triage area and organize triage zones in the event of an emergency caused by missile and drone incidents.

4. SCOPE OF APPLICATION

4.1. This SOP regulates the organization of medical triage and the related managerial and logistical processes in HCF. The SOP does not replace clinical protocols for the medical care provision, evacuation protocols, fire safety instructions, or other specialized documents, but is applied combined with them.

4.2. This SOP is applied in HCF during the activation, implementation, and completion phases of mass casualty triage measures in the event of a MDI.

4.3. This SOP applies to the following scenarios:

4.3.1. Damage to premises or the territory of the HCF as a result of a MDI, with casualties among patients, visitors, or staff.

4.3.2. Mass arrival of casualties to the HCF after MDI that occurred outside the facility.

4.3.3. A combined scenario involving simultaneous damage to the HCF infrastructure and arrival of casualties from outside.

4.3.4. Recurrent mass arrival of casualties or a second wave of presentations after the initial incident or as a result of repeated impact.

4.3.5. The need to deploy a reserve triage area due to the danger of a repeated strike, structural collapse, smoke contamination, or inaccessibility of the main triage zone.

5. RESOURCE SUPPORT

5.1. Resource support shall ensure deployment of triage zones within 10–15 minutes from SOP activation. The HCF shall ensure two ready locations: a primary and a reserve one, in case of damage, smoke contamination, fire, destruction, or blocked access routes and entrances.

5.2. Resources are stored as rapid response kits:

5.2.1. Kit No. 2 – Kit for MCI Triage (Appendix 3 to SOP No.1).

5.2.2. Kit No. 3 – Indicative list of equipment for the green triage zone (Appendix 4 to SOP No. 1).

5.2.3. Kit No. 4 – Indicative list of equipment for the yellow and red triage zones (Appendix 5 to SOP No. 1).

5.2.4. Storage locations of the above kits must be accessible 24/7.

5.3. Human resources:

5.3.1. The RRT in its core and additional roles.

5.3.2. Healthcare workers of the facility.

5.3.3. Other HC staff, volunteers, or other services.

5.4. Space, infrastructure, and equipment of the locations. For each location, the place for deployment of the triage area shall be defined:

5.4.1. Primary triage zone.

5.4.2. Secondary triage zone.

5.4.3. Red zone.

5.4.4. Yellow zone.

5.4.5. Green zone.

5.4.6. Black (gray) zone / temporary area for placement of the deceased.

5.4.7. Waiting area for relatives of patients and representatives of patients/casualties.

5.4.8. Rapid response kits:

Kit No. 2 – Kit for Mass Casualty Triage (MCT) (Appendix 3 to SOP No. 1).

Kit No. 3 – Indicative list of equipment for the green triage zone (Appendix 4 to SOP No. 1).

Kit No. 4 – Indicative list of equipment for the yellow and red triage zones (Appendix 5 to SOP No. 1).

6. GENERAL PRINCIPLES OF MASS CASUALTY TRIAGE (MCT)

6.1. MCT is necessitated by the need to provide medical care to the greatest possible number of casualties within the shortest possible time.

6.2. In MCT there is a disproportion between the number of casualties, the severity of their injuries, and the available medical forces and means.

6.3. MCT provides the fastest possible identification of injuries and emergency conditions in casualties, as well as survival prognosis.

- 6.4. MCT is a clear, continuous, and repeatable process.
- 6.5. Triage categories may change rapidly and are not static.
- 6.6. A distinction should be made between a mass casualty incident and a multiple casualty incident in an emergency.
- 6.7. A mass casualty incident is the presence of such a number of casualties that it is impossible to provide each casualty with the necessary full medical care using the available medical capacity and resources of the HCF.
- 6.8. A multiple casualty incident is the presence of such a number of casualties that it is possible to provide them with appropriate medical care simultaneously, taking into account the available medical forces and resources of the HCF.
- 6.9. When organizing MCT in a MDI, it is recommended to apply a four-level approach that ensures distribution of casualties according to the severity of their condition, based on such indicators as consciousness, presence of breathing, breathing characteristics, and perfusion status.
- 6.10. To determine the priority and scope of medical care, severity levels are used and, as a rule, a quantitative assessment scale is applied by assigning casualties to a certain triage category, from triage category 1 (the most critical condition) to triage category 4 (the least critical condition). In addition, each triage group is assigned a color marking (see Table 1).

Table 1. Distribution of casualties into separate triage groups during MCT

Category / color	General description of the severity of condition / scope of treatment
Category I Black (gray)	All deceased persons and casualties whose prognosis for successful treatment is doubtful because of the severity or nature of injury or emergency condition, those in situations of unavailable medical staff and medical means to provide full medical care. Analgesia may be provided.
Category II Red	Casualties in critical condition who require immediate life-saving procedures and interventions. The possible scope of medical care includes control of external massive bleeding, restoration and maintenance of upper airway patency, support of respiration, and support of circulation.
Category III Yellow	Casualties whose treatment may be postponed for several hours without threat to life.
Category IV Green	Casualties whose condition is stable and whose treatment may be postponed for a prolonged period without threat to life.

6.11. Resources of the triage area shall be distributed as follows:

Casualties in Category I receive necessary medical care after patients/casualties in Categories II and III.

Casualties in Category II have the highest priority; the available resources of the HCF shall be directed to this group first.

Casualties in Category III receive the necessary medical care after care has been provided to patients/casualties in Category II.

Casualties in Category IV are the last ones to receive medical care.

7. ORGANIZATION OF THE TRIAGE AREA

7.1. The triage area (hereinafter, TA) is a pre-designated space for MCT divided into zones according to the clinical condition of casualties.

7.2. The TA includes the following zones:

7.2.1.Primary triage zone.

7.2.2.Secondary triage zone.

7.2.3.Red triage zone.

7.2.4.Yellow triage zone.

7.2.5.Green triage zone.

7.2.6.Black (gray) triage zone / area for placement of bodies of the deceased.

7.2.7.Waiting area for relatives of patients and legal representatives of patients/casualties.

7.2.8. Decontamination zone (deployed in the event of exposure to weapons of mass destruction in accordance with regulatory legal acts).

Note. The boundaries of the zones must be determined in advance. Routes of movement between the zones shall be clearly marked to ensure understandable navigation.

7.3. PRIMARY TRIAGE ZONE

7.3.1. Usually located near the entrance to the HCF, near the AD/EMD, or in another safe location. Initial gathering and triage of patients/casualties, as well as their primary registration, are conducted here. In cases of mass arrival of casualties, it is recommended during primary triage to separate the flow into those who can walk and those who cannot.

7.4. SECONDARY TRIAGE ZONE

7.4.1. Used to separate patients/casualties who cannot walk into the red or yellow triage zones according to category (Table 1). It is usually located in a shelter or other safe area near the primary triage zone. The space must be protected for safe and unobstructed medical care. In smaller healthcare facilities or in places with fewer resources, the primary and secondary zones may be combined into one common zone.

7.5. ORGANIZATION OF THE RED TRIAGE ZONE

7.5.1. The red zone is located within the TA and is intended for red-category patients. It is a zone for emergency interventions, primary stabilization, and preparation for further routing to the operating room, intensive care unit, or evacuation.

7.5.2. In the red zone, the main focus is on immediate interventions according to the CABCADE algorithm, as well as on rapid decisions regarding deployment and use of temporary inpatient zones (intensive care, operating rooms, etc.) functioning outside the regular departments of the HCF.

7.5.3. The triage lead shall appoint a person responsible for the red zone, who in turn engages the required number of medical staff to provide care.

7.5.4. General organizational requirements:

The red zone shall be provided with the maximum concentration of medical resources (equipment, medicines) and qualified staff.

Movement within the zone shall be one-way; the entrance and exit must be marked with signs reading “Entrance” and “Exit”.

Admission to the zone is permitted only to personnel designated by the responsible person. Access shall be controlled to prevent crowding and dis-coordination of actions.

The zone must contain specially designated places for medical equipment and oxygen sources, storage of consumables, and collection and temporary storage of medical waste.

Evacuation transfer points for handing patients over to the next stages shall be designated.

7.5.5. Recommended space planning guideline for the red zone:

The minimum dimensions of the red zone are determined as the area per stretcher place plus area for passageways and logistics.

On average, 8 m² (7–9 m²) per stretcher place in the red zone, including working access for staff. The target area per casualty is 12–16 m².

Additionally, 20–30% of the area should be allocated for logistics, oxygen transport, manoeuvring of stretchers and trolleys, placement of waste containers, and organization of transfer points.

Example: 4 places in the red triage zone: $4 \times 8 \text{ m}^2 = 32 \text{ m}^2 + 20\% = 39 \text{ m}^2$. Area for “comfortable” placement of 4 critical patients.

7.5.6. Placement of medical stretchers:

Stretchers are positioned so as to ensure staff access from all critical sides and the possibility to manoeuvre transport stretchers or beds.

7.5.7. Approximate spacing requirements between stretchers:

Permissible distance between the side edges of adjacent stretchers: at least 1.0 m. Target distance: 1.5 m.

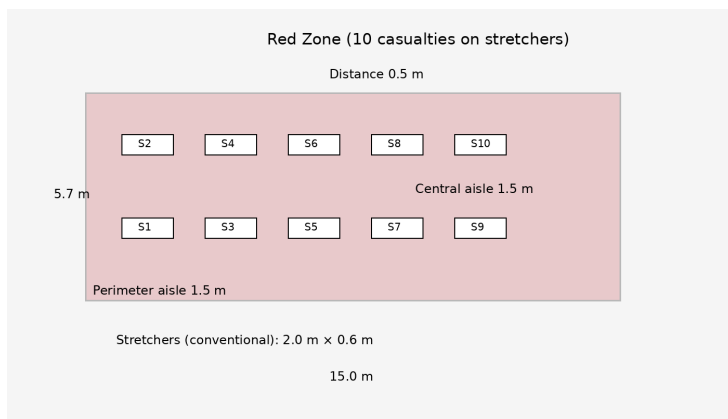
Permissible distance between the head end of a stretcher and the next stretcher or obstacle: at least 0.5 m.

Working passage along the perimeter of the zone: at least 1.2 m. Target distance: 1.5 m.

Central passage between rows of stretchers: at least 1.5 m; where possible, 2.0 m if simultaneous resuscitation procedures, use of equipment and trolleys, and transportation are planned.

Under limited-resource conditions, the recommended area per casualty may be reduced according to the operational situation.

Figure 1. Indicative scheme for placement of patients/casualties during MCT in the red zone of the triage area.



7.5.8. Recommended zoning inside the red zone:

Places for critical patients requiring immediate interventions.

Airway and ventilation point.

Infusion and haemostatic support point.

Point for temporary storage of kits according to the “one hand, one step” principle.

Point for collection and disposal of medical waste, including sharps.

Other required subzones depending on the situation.

7.5.9. Engineering requirements:

Primary and backup lighting must be provided. Backup light sources shall have autonomous power supply elements to ensure uninterrupted operation.

Oxygen: stationary points, or concentrators with power supply, or portable cylinders calculated for the first hour of work (calculation based on the needs of one adult).

Example: Approximate O₂ calculation for 1 adult patient for 1 hour: maximum flow 15 L/min = 900 L/hour of O₂.

A 2L oxygen cylinder filled to 150 atmospheres contains 300L of oxygen ($2 \times 150 = 300$).

Therefore, for 1 adult patient for 1 hour, approximately 3 oxygen cylinders of 2 L capacity filled to 150 atm are needed.

Backup power supply for critical equipment.

Access to running water.

7.5.10. Marking and control:

The boundaries of the zone are marked in red, with tape or mobile partitions.

Each place (stretcher or bed) has a number, which simplifies patient tracking and handover.

Note. The place number may not serve as a triage identifier of the casualty.

A movement log of casualties shall be maintained: entry into the red zone and exit from the zone, and handover to the responsible person (function of the RRT registrar if the flow is small; otherwise, a separate registrar is appointed for each zone).

7.5.11. Operating mode in the event of a repeated strike, smoke contamination, or collapse threat:

If there is a risk of repeated impact or another danger affecting the main location, the red zone is moved to the reserve location by decision of the RRT Lead.

The SOP shall define a reserve location that provides the minimum necessary number of bed spaces and the corresponding list of equipment.

7.6. ORGANIZATION OF THE YELLOW TRIAGE ZONE

7.6.1. The yellow zone shall be located within the TA or in another clinical area and is intended only for patients assigned to the yellow category.

7.6.2. The yellow zone shall be sufficiently close to the red zone for patients who may decompensate and require transfer to the red zone.

7.6.3. Patients who do not meet the criteria for red or green are triaged as yellow.

7.6.4. In the yellow zone, patients are assessed and receive appropriate ABCDE interventions, and decisions on treatment are made. Patients in this zone are subject to dynamic observation for timely detection of deterioration and possible transfer to the red category.

7.6.5. General organizational requirements:

The yellow zone shall have a high concentration of medical resources and staff, but less than in the red zone.

The flow in the zone shall be one-way. Entrance and exit shall be marked.

Only personnel designated by the person responsible for the zone are admitted; access must be controlled to avoid dis-coordination of actions.

Places must be provided for medical equipment and monitoring devices, oxygen, consumables, PPE, and medical waste.

Evacuation transfer points shall be designated.

7.6.6. Recommended planning guideline:

The minimum size of the yellow zone is determined as the area per stretcher place plus the area for passageways and logistics.

On average, 5 m² (4–6 m²) per stretcher place in the yellow zone, including working access for staff. The target area per casualty is 8–12 m².

Additionally, 20–30% of the area shall be allocated for logistics, oxygen transport, manoeuvring of stretchers and trolleys, placement of waste containers, and organization of transfer points.

Under limited-resource conditions, the recommended area per casualty may be reduced according to the operational situation.

Example:

4 places in the yellow triage zone: $4 \times 5 \text{ m}^2 = 20 \text{ m}^2 + 20\% = 24 \text{ m}^2$.

Area for “comfortable” placement of 4 patients.

7.6.7. Placement of medical stretchers:

Stretchers are positioned so as to ensure staff access from all critical sides and the possibility to manoeuvre transport stretchers or beds.

7.6.8. Approximate spacing requirements between stretchers:

Permissible distance between the side edges of adjacent stretchers: at least 1.0 m. Target distance: 1.2 m.

Permissible distance between the head end of a stretcher and the next stretcher or obstacle: at least 0.4 m.

Working passage along the perimeter of the zone: at least 1.0 m. Target distance: 1.2 m.

Central passage between rows of stretchers: at least 1.0 m.

Target distance: 1.5 m.

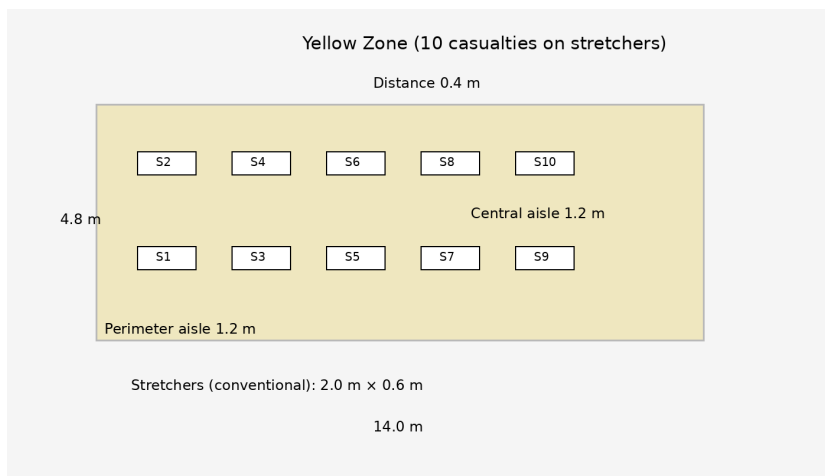


Figure 2. Indicative scheme for placement of casualties during MCT in the yellow zone of the triage area.

7.6.9. Recommended zoning inside the yellow zone:

Places for casualties requiring intensive treatment.

Airway and ventilation point.

Infusion and haemostatic support point.

Point for temporary storage of kits according to the “one hand, one step” principle.

Point for collection and disposal of medical waste, including sharps.

Other required subzones depending on the situation.

7.6.10. Engineering requirements:

Lighting of workplaces: primary and backup, with autonomous power supply elements.

Oxygen: stationary points, or concentrators with power supply, or portable cylinders calculated for the first hour of work (calculation based on the needs of one adult).

Example: Approximate O₂ calculation for 1 adult patient for 1 hour:

maximum flow 15 L/min = 900 L/hour of O₂. A 2 L oxygen cylinder filled to 150 atmospheres contains 300 L of oxygen ($2 \times 150 = 300$).

Therefore, for 1 adult patient for 1 hour, approximately 3 oxygen cylinders of 2 L capacity filled to 150 atm are needed.

Access to running water.

7.6.11. Marking and control:

The boundaries of the zone are marked in yellow, with tape or mobile partitions.

Each place (stretcher or bed) has a number, which simplifies patient tracking and handover.

Note. The place number may not serve as a triage identifier of the casualty.

A movement log of casualties shall be maintained indicating entry into and exit from the yellow zone and handover to the responsible person.

7.6.12. Operating mode in the event of a repeated strike, smoke contamination, or building collapse threat:

If there is a risk of repeated impact or another danger affecting the main location, the yellow zone is moved to the reserve location by decision of the RRT Lead.

The SOP shall define a reserve location with the minimally required number of places and equipment.

7.7. ORGANIZATION OF THE GREEN TRIAGE ZONE

7.7.1. The green zone shall be separated from the TA in order to unload the red and yellow zones.

7.7.2. It is intended to provide space, treatment, and monitoring for patients with minimal risk of deterioration. The green zone is located in a shelter or another safe place with controlled entry.

7.7.3. All patients in the green zone must be promptly triaged and the priority of care determined according to clinical indications. If the number of patients in the green zone is excessive and prevents rapid completion of a full clinical assessment, MCT shall be repeated to allow early identification of signs of decompensation. Patients with identified life-threatening conditions shall be immediately transferred to the appropriate clinical zone (red or yellow).

7.7.4. The green zone shall be staffed by medical personnel able to quickly assess patients' condition.

7.7.5. Patients may require continuous monitoring and reassessment at regular intervals for timely detection of deterioration of clinical condition.

7.7.6. Flow and access control in the green zone:

All ambulatory patients from the primary triage point are directed to the green zone.

Movement shall be one-way: entrance, assessment area, waiting area, procedures area, discharge or transfer exit.

7.7.7. Minimum functional subzones within the green zone:

Registration and casualty movement post.

Rapid clinical assessment post.

Seated waiting area under observation or area for placement of medical stretchers.

Place for dressings and minor procedures.

7.7.8. Observation and safety:

Seats shall be in the direct line of sight of staff for timely detection of deterioration in casualties.

For paediatric patients, a separate paediatric green zone or separate area with visual isolation shall be provided, as well as space for strollers and for the presence of parents or legal representatives.

7.7.9. Size of the green zone:

There are two options for placement of patients in the zone:

Seated green zone.

Green zone with part of the places intended for medical stretchers or wheelchairs.

7.7.10. Seating places:

For calculation of the seating area: 1.5 m² per seat as a planning guideline (or 1.2 or 1.3, but not less than 1 m² by decision of the emergency commission).

In addition, provide a reserve of 20–30% of space for passageways, wheelchairs, children's strollers, and logistics.

Seated area, m² = Number of seats × 1.5 × 1.2 or 1.3.

Example: 40 seats → $40 \times 1.5 = 60 \text{ m}^2 + 30\%$, which results in about 78 m².

Calculation of the required area for placement of medical stretchers: the average size of a stretcher is 2.0 m × 0.6 m, approximately 2 m² per stretcher + 30% for space = 2.6 m² per patient on a stretcher.

7.8. ORGANIZATION OF THE BLACK (GRAY) TRIAGE ZONE

7.8.1. The black zone in the triage area is a separately designated zone for placement of casualties whom the triage officer, as a result of primary triage, assigned to the black category, that is, persons without signs of life who, after basic airway-opening manoeuvres, do not breathe and have no signs of circulation, or persons with injuries incompatible with life according to the approved triage algorithm.

7.8.2. Casualties with injuries incompatible with life shall receive palliative support until death is confirmed.

7.8.3. After the main stage of MCT and depending on available resources, deceased persons and body parts are moved to the facility morgue or to another pre-designated special area.

7.8.4. The death is confirmed at the stage of primary medical triage, in the red zone, or in other clinical zones depending on the situation. After documentary confirmation of death, bodies of deceased persons shall be transferred to the pre-designated black zone.

7.8.5. This process must be organized in accordance with the principles of ethics, dignity, and confidentiality, with minimal impact on provision of medical care to other patients.

7.8.6. Where possible, near the temporary body placement zone or morgue, the psychosocial, administrative, and security staff should function in order to support relatives, maintain order, and provide proper communication.

7.8.7. For family members and close people of deceased persons, a separate isolated waiting area shall be provided, located outside the visibility of the main flows of medical triage and clinical zones, in order to ensure privacy and conditions for psychological support.

7.8.8. The temporary storage area for the deceased shall be located separately from the general triage area in a place with restricted access for patients and unauthorized persons.

7.8.9. The zone shall be demarcated with black tape, a mobile partition, or other appropriate markings.

7.9. WAITING AREA FOR RELATIVES OF PATIENTS AND/OR LEGAL REPRESENTATIVES OF CASUALTIES

7.9.1. The purpose of deploying an additional area for relatives, legal representatives, and family members is to reduce the burden on the AD/EMD and the triage area, and to ensure controlled and coordinated informing of relatives.

7.9.2. Location and flow:

Separate from the EMD, the triage area, and patient routes.

Clearly defined entrances and exits.

The path from the waiting area to the information room should be short but under security control.

It shall not be mixed with green-zone patients or with staff and patients moved to shelters.

7.9.3. Minimum infrastructure:

Seating, places for persons with disabilities, and space for children's strollers.

Accessible toilet.

Available drinking water.

Lighting and the possibility of backup power for basic needs.

The premises must be protected from environmental risks and safe for prolonged stay.

7.9.4. Communication with relatives/legal representatives of patients:

One responsible update channel (usually the RRT Lead), which reduces discoordination of actions and duplication of requests.

A separate room/area for private conversations and communication of bad news.

A fixed interval for updates, even if there is little new information.

A ban on photos and videos in the waiting area if this threatens patient privacy.

7.9.5. Personnel and roles:

Possible additional roles	Responsible person / tasks
Family liaison	The RRT Lead is responsible and may appoint a designated person if necessary.
Security at the entrance and in the zone	The RRT Security and Safety Lead is responsible. If necessary, a designated person may be appointed from available unassigned staff.
Registrar of requests and contacts	Appointed, if necessary, by the RRT Lead from available unassigned staff or volunteers.
Psychosocial support	The RRT Lead appoints the psychosocial support specialist if necessary
Family Assistance Centre	It is advisable to create this in mass incidents with the support of the SESU.
Media coordinator	A designated person is appointed separately, usually the RRT Lead or the head of the healthcare facility.

7.9.6. Organization of a general information area (with participation of the RRT Lead and members of the Emergency Response Commission) provides for the creation of a single official source of reliable information for the public, staff, and the media. All public messages must be approved by the RRT Lead or the

head of the HCF or of Emergency Response Commission; previously prepared standardized messages are used for patients, staff, and the public.

8. ROLES, POSITIONS AND THEIR FUNCTIONS

Roles	Positions	Functions
RRT Lead	Head of the Admission Department / Head of the Emergency Medical Department / responsible duty physician of the healthcare facility	1. Coordinates the actions of all services and supervises implementation of MCT measures. 2. Interacts with the head of the HCF, members of the Emergency Response Commission, rescuers, and teams that arrived at the incident site. 3. Supervises organization of evacuation to other healthcare facilities. 4. Organizes communication with the media and control of public information updates. 5. When a decontamination protocol is applied, supervises stages of organization and coordination.
Clinical RRT Lead	AD physician / EMD physician / surgeon / anaesthesiologist	1. Supervises movement of patients and staff to shelters. 2. Coordinates the work of medical staff in the shelter (safe

		premises) to ensure continuity of care. - Supervises the work of the triage lead and the process of providing care in the triage area. - Appoints a psychological and humanitarian support specialist. - If necessary, helps organize the decontamination zone.
RRT Resource Lead	AD nurse / EMD nurse / nurse / midwife	- Ensures access to reserves of medicines and dressings. - Ensures access to Kits No. 1–4. - Ensures access to humanitarian supplies (according to Appendix 6 to SOP No. 1).
RRT Security and Safety Lead	Security officer / AD registrar	- Ensures access to backup power sources and to the healthcare facility (barriers, gates, doors, etc.). - Turns off elevators and opens doors of emergency exits and stairwells. - Appoints additional persons for security/order control in separate zones (relatives' area and other zones).

RRT Triage Lead	Admission department physician / EMD physician / surgeon / anaesthesiologist	1. Deploys the triage area. 2. Organizes triage zones and appoints persons responsible for each zone. 3. Assigns additional roles to unassigned workers (registrar, triage officer, casualty movement staff, and other roles according to the situation). 4. Organizes the provision of medical care and controls flows. 5. Supervises decontamination procedures and the flow of casualties from the contaminated to the clean zone.
Healthcare facility staff	All staff present on duty	1. Follow the instructions of the RRT Lead and the Clinical Lead of the RRT. 2. Escort (move) patients to the shelter (according to Appendix 6 to the manual). 3. Ensure continuity of medical care in the shelter / triage zones. 4. Comply with safety rules and internal regulations.

		5. May be assigned to additional RRT roles.
Triage Registrar	Physician / nurse / medical registrar / midwife	1. Launches the registration system. 2. Registers each casualty and assigns a number upon first contact. 3. Ensures safekeeping of documents, logs, and forms as part of the medical documentation of the incident, and controls access to personal data. 4. Maintains the register of all casualties and their movement. 5. If necessary, appoints additional registrars for separate zones.
Person responsible for the green triage zone	Healthcare worker, usually a physician	1. Supervises stages of care for green-zone patients. 2. Performs repeat triage and reassessment. 3. Monitors patient flow. 4. Reports the need to involve a psychological and humanitarian support specialist (appendix to this SOP).

Person responsible for the yellow triage zone	Admission department physician / EMD physician / surgeon / anaesthesiologist	1. Supervises stages of care for yellow-zone patients. 2. Performs repeat triage and reassessment. 3. Monitors patient flow. 4. Engages the necessary number of additional medical staff for care and allocates duties. 5. Monitors availability of resources for care. 6. Reports the need to involve a psychological and humanitarian support specialist.
Person responsible for the red triage zone	Admission department physician / EMD physician / surgeon / anaesthesiologist	1. Supervises stages of care for red-zone patients. 2. Performs repeat triage and reassessment. 3. Monitors patient flow. 4. Engages the necessary number of additional medical staff for care and allocates duties. 5. Monitors availability of resources for care. 6. Reports the need to involve a psychological and humanitarian support specialist.

Psychological Support Specialist	Healthcare facility employee, medical or non-medical staff member who is willing to take on this role and has the required communication skills	1. Is appointed by and reports to the Clinical Lead of the RRT or the RRT Lead. 2. Provides initial psychological support to casualties, patients, and staff. 3. Provides clear and understandable information about further actions. 4. Identifies persons with marked distress and informs the RRT Lead. 5. Provides psychological first aid in the form of emotional support and grounding.
Humanitarian Support Coordinator	Healthcare facility employee	1. Organizes deployment of humanitarian support points in safe areas of the hospital. 2. Coordinates distribution of humanitarian resources and prevents shortages. 3. Interacts with the RRT Lead and members of the RRT. 4. Keeps records of needs, available resources, and expenditures.

		5. Informs the Resource Lead about critical shortages of food products and hygiene items. 6. Collects information on vulnerable groups and priority needs. 7. Transfers up-to-date information to the RRT Lead for decision-making.
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9. CONTROL AND MONITORING

9.1. Ensuring readiness of the healthcare facility for prompt response to an emergency caused by a missile and drone incident through regular monitoring of resources, staff actions, and communication effectiveness.

9.2. Current (operational) control of MCT in the phase of activation of the response **plan**:

Role	Control and monitoring functions
RRT Lead	1. Reports to the head of the healthcare facility and the Emergency Response Commission. 2. Supervises organization of MCT. 3. Supervises public communication.
RRT Clinical Lead	1. Reports to the RRT Lead. 2. Supervises the MCT process. 3. Supervises the decontamination process. 4. Supervises movement and evacuation of casualties.

RRT Resource Lead	1. Reports to the RRT Lead on the use of kits. 2. Reports shortages and needs to the RRT Lead. 3. Supervises stocks of humanitarian resources. 4. Supervises replenishment of kits.
RRT Security and Safety Lead	1. Reports to the RRT Lead on switching off elevators, readiness of backup power sources, opening of emergency exits, accessibility of stairwells, and opening of barriers and gates. 2. Reports on the state of the building, possibility of its further use, safe zones, and other issues. 3. Reports on the need for / appointment of additional staff to security roles in separate zones. 4. Reports incidents related to crowds, their control, and similar matters.
Triage Lead	1. Reports to the Clinical Lead of the RRT on the stage of deployment of the triage area. 2. Reports on the number of casualties in each zone and the progress of triage. 3. Reports on resource needs in the triage area. 4. Reports on the number of patients transferred for evacuation.
Triage Registrar	1. Reports to the Triage Lead on the number of patients/casualties. 2. Reports to the Triage Lead on the total number of casualties, the number transferred for evacuation, the number in each separate zone, and the number of deceased.

11. ACTION ALGORITHMS

11.1. Action algorithm of the RRT Triage Lead

- 11.1.1. Determines the location of the triage area and marks the zones according to triage categories.
- 11.1.2. Deploys the triage zones and organizes casualty flows.
- 11.1.3. Ensures deployment of Kits No. 2–4.
- 11.1.4. Appoints a “Triage Registrar” from among the staff present.
- 11.1.5. Assigns staff to additional roles: triage officers (if necessary), persons who will move casualties between zones, and other roles according to the situation.
- 11.1.6. Appoints, from among the staff present, persons responsible for the red zone, yellow zone, and green zone.
- 11.1.7. Fulfills the orders of the RRT Lead.
- 11.1.8. Reports to the RRT Lead on the numbers of adults and children in the following categories: “assessed”, “directed”, “hospitalized”, “discharged”, “transferred”, “deceased”, “awaiting reassessment” (Appendix 1 to this SOP).
- 11.1.9. Controls use of rapid life-saving actions in the triage area and allows only short interventions that save life and do not block the flow.
- 11.1.10. Controls the availability of the minimum set of critical means.
- 11.1.11. Monitor primary triage time for each casualty to avoid unnecessary delays in flow movement.
- 11.1.12. Initiate repeat triage. Monitor reassessment intervals. Direct casualty movement between zones as patient conditions change.
- 11.1.13. Supervise care for unstable casualties.

11.1.14. Coordinate with the Resource Lead to ensure timely replenishment of supplies.

11.1.15. Reports to the Clinical Lead of the RRT on deployment of the triage area.

11.1.16. Reports on the number of casualties in each zone and on the progress of triage.

11.1.17. Reports on needs in the triage area.

11.1.18. Reports on the number of patients transferred for evacuation.

11.2. Action algorithm of the RRT Triage Registrar

11.2.1. Is appointed by the lead of the triage area when the HCF response plan is activated.

11.2.2. Activate the registration system. Prepare forms, bracelets, markers, and logs.

11.2.3. Assign one unique identifier to each casualty. Prevent duplicate identifiers.

11.2.4. Registers each casualty and assign a unique identifier upon first contact.

11.2.5. Record the minimum required data: adult or child, sex, approximate age, time of arrival, initial triage category, current zone, and further disposition.

11.2.6. Track casualty status and movement: “assessed”, “awaiting reassessment”, “directed to department/zone”, “deceased”, etc. Record the time and destination of each transfer.

11.2.7. Maintains a register of unidentified casualties, marking them separately as “Unknown”; records distinguishing features, sex, approximate age, clothing,

belongings, and, where possible, takes a photograph (according to the facility's rules).

11.2.8. Submit operational updates every 15–30 minutes; prepare a brief summary for the lead of the triage area/RRT on the number of adults and children in each category/triage zone, those awaiting repeat triage, referrals to specialized departments (ICU, operating room), and those transferred for evacuation.

11.2.9. Verify casualty records using a tag or bracelet.

11.2.10. Confirm casualty handover at each transfer point.

11.2.11. Protect documentation and control access to personal data.

11.2.12. Submit the final report to the RRT Lead.

11.3. Action algorithm of the RRT Humanitarian Support Coordinator

11.3.1. Ensures humanitarian support with a focus on people who remain in the hospital during the incident.

11.3.2. Works as part of the RRT and acts according to RRT algorithms.

11.3.3. Tasks:

Deploy humanitarian support areas in safe locations of the healthcare facility.

Coordinate humanitarian resource distribution and prevent shortages.

Coordinate with the RRT Lead and other members of the RRT.

Keep records of needs, available resources, and expenditures.

Inform the RRT Lead about critical shortages of food and hygiene items.

Provide access to water, food, hygiene supplies, blankets, heating, and rest areas for patients and staff.

Assist patients and relatives throughout the incident.

Coordinate evacuation and temporary accommodation, taking humanitarian needs into account.

Identify vulnerable groups and priority needs.

Report priority humanitarian needs to the RRT Lead.

11.4. Action algorithm of the RRT Psychological Support Specialist

11.4.1. Provide initial psychological support to casualties and staff during the incident, without carrying out specialized mental-health interventions.

11.4.2. Report to the RRT Lead.

11.4.3. Tasks:

- Provide initial psychological support to casualties, patients, and staff.
- Identify persons with severe distress and inform the RRT Lead.
- Refer patients to mental health specialists when indicated.
- Coordinate with medical staff and the Humanitarian Support Coordinator.

11.4.4. Limits of responsibility:

- Do not make psychiatric diagnoses.
- Do not provide psychotherapy.
- Do not use medication-based interventions.
- Do not replace psychiatric or psychological care.

CHECKLIST REPORT ON THE NUMBER OF CASUALTIES

“Green zone” / “Yellow zone” / “Red zone” (underline as appropriate)

Person responsible for the zone _____

(Full name)

(Signature)

No.	Patient Category	Adults	Children	Note
1	“Assessed Patient”			
2	“Directed Patient”			
3	“Hospitalized Patient”			
4	“Discharged Patient”			
5	“Transferred Patient”			
6	“Awaiting re-assessment”			
7	“Deceased”			

APPENDIX 5

Standard Operating Procedure No. 5

RECOVERY OF THE RAPID RESPONSE TEAM AND RESOURCES AFTER AN EMERGENCY SITUATION (MDI)

1. GENERAL DETAILS

Title	SOP No. 5. Recovery of the Rapid Response Team and Resources after an Emergency Situation (Missile-Drone Incident)
Document code / number	SOP-05 / ES-MDI
Version (revision)	1.0
Effective date	_____ 20__
Developed by	Emergency Response Commission
Agreed by	Medical Director
Approved by	General Executive Officer / Head/ Director
Storage	A paper copy of the document is stored at the headquarters of the Emergency Response Commission. The electronic version is placed in the internal database of standard operating procedures (SOPs) of the healthcare facility.
Document category	Internal regulatory document of the healthcare facility
Distribution	All structural units of the facility; where necessary, to the relevant local self-government

	bodies, the State Emergency Service of Ukraine (SESU), and the Regional Military Administration
Review and update procedure	The SOP is regularly reviewed upon approval of new legal and regulatory documents or amendments to existing ones (Section 9), at least once a year. The SOP is obligatory reviewed if in the event of a missile-drone incident on the territory of the healthcare facility. The SOP remains valid until it is cancelled or replaced by a new revision.
Access	Printed copy at the headquarters of the Emergency Response Commission; e- copy in the internal SOP database of the healthcare facility. The previous version of the SOP, after replaced with a new version, must be stored in the archive of the healthcare facility (electronic or paper) for at least 5 years.

2. LIST OF ABBREVIATIONS

ED	Emergency Medical Care Department of the HCF
SESU	State Emergency Service of Ukraine
HCF	Healthcare facility
RRT	Rapid Response Team

MDI	Missile-Drone Incident
SOP	Standard Operating Procedure
EMC	Emergency Medical Care Centre

3. PURPOSE

To ensure the recovery of the Rapid Response Team and resources after an emergency situation (a missile-drone incident (MDI)).

4. SCOPE OF APPLICATION

This SOP is applied in the HCF after the completion of a MDI for the recovery of the Rapid Response Team and resources. The SOP regulates coordination of actions among units in restoring the RRT after elimination of the consequences of an emergency situation.

5. RESOURCE SUPPORT Recovery of the RRT after an emergency situation (MDI) is by engaging the resources of the HCF and providing psychosocial support to personnel in order to restore their working capacity and working readiness.

6. ROLES, RESPONSIBLE PERSONS, AND THEIR MAIN FUNCTIONS

Role	Position	Functions
RRT Lead	Head of the Admissions Department / Head of the Emergency Medical Care Department / physician on duty	Makes a decision, in coordination with the Head of the Emergency Response Commission (hereinafter — the Commission), on the transition to the recovery phase; conducts a

	responsible for the healthcare facility	“hot” debriefing with RRT members and organizes psychosocial support for the RRT; ensures interaction with the Head of the Commission regarding restoration of the RRT resource support; informs about the need to replenish supplies and reports to the Head of the Commission on the need for RRT rotation and resource renewal.
RRT Clinical Lead	Admissions Department physician / Emergency Medical Care Department physician / surgical physician / anesthesiologist	Determines priorities for RRT recovery and engages a psychologist to provide support to personnel; informs the RRT Lead about the current condition of RRT members.
RRT Resource Lead	Admissions Department nurse / Emergency Medical Care Department nurse / nurse / midwife	Conducts an inventory and organizes replenishment of Kits No. 2–4; provides the RRT Lead with information on the need to replenish Kits No. 2–4.
RRT Triage Lead	Admissions Department physician / Emergency Medical Care Department physician /	Analyzes the effectiveness of patient triage; provides the RRT Lead with a report on the work of the triage area; participates in

	surgical physician / anesthesiologist	the review of actions (debriefing) and identification of shortcomings; submits proposals for improving triage organization.
RRT Security and Safety Lead	Security guard / Admission Department registrar	Reports on compliance with order in the healthcare facility during the emergency; submits proposals for improving the organization of order maintenance during an emergency situation (MDI).

7. ACTION ALGORITHM

The RRT starts actions in the recovery phase after being informed about the end of the emergency situation (MDI).

7.1. Action algorithm of the RRT Lead

7.1.1. Makes a decision, in coordination with the Head of the Commission, on the transition of the RRT to the recovery phase after the end of the emergency situation;

7.1.2. Conducts a “hot” debriefing with RRT members;

7.1.3. Determines priority measures for the recovery and resource support of the RRT;

7.1.4. Ensures interaction and coordination of actions between RRT members and the management of the HCF;

7.1.5. Informs the Head of the Commission about the need to replenish RRT supplies and resources;

7.1.6. Provides the Head of the Commission with final information on the condition of the RRT, the results of team recovery, and resource renewal.

7.2. Action algorithm of the Clinical Lead of the RRT

7.2.1. Determines priority directions and the sequence for restoring the work of the RRT;

7.2.2. Engages a psychologist to provide support to RRT personnel, if needed;

7.2.3. Informs the RRT Lead about the current level of RRT readiness for further emergency response.

7.3. Action algorithm of the RRT Resource Lead

7.3.1. Determines the need to replenish the resources of Kits No. 2–4;

7.3.2. Manages and controls the process of replenishing these kits;

7.3.3. Provides the RRT Lead with up-to-date information on the status of resources, availability or shortage of necessary medicines and materials, as well as on the implementation of the replenishment process.

7.4. Action algorithm of the RRT Triage Lead

7.4.1. Analyses the effectiveness of organization of triage of casualties during the emergency situation (MDI);

7.4.2. Participates in the “hot” debriefing and provides proposals for improving the triage process;

7.4.3. Identifies shortcomings in the organization of the triage area and patient routes;

7.4.4. Develops proposals for improving triage and interaction between units;

7.4.5. Manages the triage area and triage zones restoring;

7.4.6. Informs the RRT Lead about the results of the analysis and the readiness of the triage system for repeated response.

7.5. Action algorithm of the RRT Security and Safety Lead

7.5.1. Analyzes incidents related to order maintenance during the emergency situation (MDI);

7.5.2. Participates in the “hot” debriefing and proposes for improving control during the emergency situation (MDI);

7.5.3. Identifies shortcomings in work organization and interaction;

7.5.4. Informs the RRT Lead about the analysis results and the level of readiness for repeated response.

8. CONTROL AND MONITORING

Ensuring the recovery of the RRT’s activities after an emergency situation (MDI) through constant monitoring of the condition of personnel, resources, equipment, and assessment of the RRT’s readiness for further work.

Appendix 1 to SOP No.5

Checklist of RRT Readiness after Recovery

No.	Information	Completion mark (yes / no)	Responsible person
1	A “hot” debriefing with RRT members has been conducted after completion of the emergency situation	✓ / ✗	RRT Lead

2	The physical and psychological condition of the RRT has been assessed	✓ / ✗	RRT Clinical Lead
3	Kit No. 1 has been restored	✓ / ✗	RRT Security Lead
4	Kits No. 2–4 have been restored	✓ / ✗	RRT Resource Lead / RRT Triage Lead
5	The Head of the Commission has been informed about the results of the “hot” debriefing and the work of the RRT	✓ / ✗	RRT Lead
6	The final assessment of the RRT’s readiness for further work has been summarized	✓ / ✗	RRT Lead

APPENDIX 6

TO THE MANUAL

This appendix contains sample documents that may be used by healthcare institutions to organize and regulate staff actions during an air raid alert and emergency situations. In particular, it provides a Model Civil Protection Instruction on the actions of healthcare institution staff when the “AIR RAID ALERT” signal is announced, which may be used to organize and standardize the process of moving patients to shelter.

1. MODEL CIVIL PROTECTION INSTRUCTION ON THE ACTIONS OF HEALTHCARE INSTITUTION STAFF IN THE EVENT OF THE “AIR RAID ALERT” SIGNAL

1. General Provisions

1.1. This Civil Protection Instruction on the actions of employees of healthcare facilities (HCF) in the event of an air raid alert (the Instruction) has been developed in accordance with the Civil Protection Code of Ukraine, the Law of Ukraine “On the Legal Regime of Martial Law,” legislation in the field of occupational safety and healthcare, and the recommendations of the State Emergency Service of Ukraine.

1.2. All HCF employees, regardless of their position, must know and strictly comply with the requirements of this Instruction. All HCF employees bear personal responsibility for compliance with the requirements of this Instruction. Immediate supervisors must take measures aimed at ensuring strict compliance with the requirements of this Instruction by HCF employees under their authority.

1.3. HCF employees should take into account that during martial law in Ukraine, an air raid alert is never accidental. Every time it is announced, there is a real threat to human life. Each announcement of an air raid alert means a high probability of shelling.

1.4. In moments of danger, HCF employees must remain composed and act as quickly as possible, providing assistance to others in need whenever possible.

2. Notification of the “AIR RAID ALERT” signal

2.1. Each employee is advised to install the “Air Raid Alert” application, the “Kyiv Digital” notification system, or another application depending on the region. The notification sound for an air raid alert should be kept switched on.

2.2. In a HCF with an alert system, the “AIR RAID ALERT” signal is announced by a responsible person (appointed by a local order of the HCF head) through the public announcement system: “Attention! Attention! AIR RAID ALERT! Please proceed to the shelter!”

2.3. In a HCF without a loudspeaker alert system, upon receiving the “AIR RAID ALERT” notification on the phone (Air Raid Alert application), all employees, in accordance with their functions, inform patients, visitors, and accompanying persons.

3. Actions of physicians, midwives, nurses, male nurses, and other staff of inpatient departments and the admissions / emergency department

3.1. If the “AIR RAID ALERT” signal is announced during work, physicians and nurses / male nurses of inpatient departments and of the

admissions / emergency department inform patients for whom transportation is not contraindicated of the need to proceed to the shelter.

3.2. If an inpatient expresses a wish to stay in the shelter during an air raid alert, their escort shall be organised by the duty nurse of the inpatient department / the duty nurse of the admission department / the Emergency Medical Care Department. This person:

- offers the patient a blanket, water, and personal valuables to take along, if desired;
- escorts the patient or patients to the shelter;
- settles the patient or patients in the shelter;
- provides a telephone number for communication if needed;
- instructs them that they may seek assistance from the junior nurse on duty in the shelter.

3.3. The responsible duty physician of the HCF visits patients in the appropriate shelters once per hour, or appoints one of the available duty physicians to do so, and determines the duration of their responsibility until the air raid alert is cancelled.

3.4. The nurse / male nurse on duty in the shelter, if patients request assistance, immediately relays the patient's request to the medical staff of the emergency / admissions department (duty nurse, duty physician, or medical registrar).

3.5. The responsible nurse / male nurse / medical registrar of the admissions / emergency department ensures that the duty physician is called

to the patient in the shelter and, if necessary, personally provides medical care until the physician arrives.

3.6. The medical staff should thus provide:

- assistance to patients during relocation to the shelter, especially for persons with limited mobility;
- informing patients about the location of drinking water sources, toilets, and evacuation exits;
- control of the presence of all patients after relocation;
- preservation of medical records and essential items, where possible.

3.7. In the event of an emergency condition to a patient staying in the shelter, the responsible nurse / male nurse immediately informs the attending or duty physician by telephone or another available means and personally participates in providing assistance.

3.8. After the air raid alert is cancelled, medical personnel escort patients from the shelter back to the department and inform the attending and/or duty physician that the patients have returned.

4. Conditions under which patients are not subject to mandatory relocation to the shelter during each “AIR RAID ALERT” signal

- Medical contraindications to transportation: a critical condition of the patient contrary to transportation because of the risk of sudden deterioration, or the need for continuous life support (ICU patients);

- Impossibility of interrupting the current medical intervention: ongoing manipulations or surgery, the interruption of which threatens the patient's life or may lead to irreversible consequences;

- Need for urgent intervention: the patient's condition requires immediate surgery or resuscitation measures that cannot be postponed until the air raid alert ends;

- Technical impossibility of ensuring proper care in the shelter: absence in the protective structure of specific conditions critically necessary to maintain the life of a particular patient, such as access to medical gases or uninterrupted 220 V power supply for medical equipment.

4.1. If it is not possible to transport patients to a shelter because of their health condition or the need to provide urgent care, the duty physician and nurse / male nurse remain with the patients to ensure continuous supervision and medical support. Professional duties in such conditions are performed by medical personnel until a direct threat to their own life or health arises.

4.2. In the event of a direct missile or drone incident that creates an immediate threat to the life and health of the medical worker, the physician and/or nurse / male nurse must take urgent measures to preserve their own life. Employees must move to a safe place (an interior room or corridor without windows according to the “two-wall rule,” or descend to the shelter) and, if possible, move the patient or patients there as well.

4.3. If the “AIR RAID ALERT” signal is announced before the start of a planned surgical intervention, that intervention is postponed.

4.4. If the “AIR RAID ALERT” signal is announced during surgery, the intervention continues. Employees determine the level of danger and act

according to the circumstances, while preserving the employee's own life remains the priority.

4.5. If the "AIR RAID ALERT" signal is announced before the start of a work shift and the medical employee is unable to arrive at the workplace on time, they must immediately inform their direct supervisor. Under such circumstances, the employees of the current shift continue to perform their duties until the next shift arrives, thus ensuring continuity of the treatment process.

5. Actions of employees when it is impossible to descend to the shelter

5.1. If circumstances arise in which an employee cannot go down to the shelter, for example because a patient requires urgent assistance, they should, whenever possible, choose a safer place, an interior room or corridor without windows in accordance with the "two-wall rule."

5.2. During the "AIR RAID ALERT" signal and/or during a missile strike or drone attack, the use of elevators is prohibited.

6. Actions of personnel after the "Air Raid Alert Cancelled" signal

6.1. After the announcement of the "Air Raid Alert Cancelled" signal, provided there is no direct threat to life and health, all employees must immediately return to their workplaces to resume the provision of medical care.

6.2. If, as a result of shelling or another threat, an employee has sustained a physical injury or is in a state of acute psychological stress that makes performance of professional duties impossible, they must immediately

inform their direct supervisor in order to agree on further actions such as replacement, assistance, leave, or sick leave.

7. Information about the location of the nearest shelter

7.1. At the entrance to the HCF building, as well as in patient waiting areas such as reception and halls, visual information (schemes and directions of movement) about the location of the nearest civil protection facilities included in the official list of the local administration must be posted. Information must also be provided about the institution's own simplest shelters, such as basement or semi-basement premises, including their capacity and equipment.

7.2. During hospitalization or admission, the responsible person of the admissions department (medical registrar) must tell the patient and/or their legal representative about the algorithm of actions during the "AIR RAID ALERT" signal against personal signature.

7.3. Each patient is provided with a written memo containing:

- clear rules for movement to and stay in the shelter;
- a scheme or route for movement to the nearest shelter;
- telephone numbers for emergency contact with duty personnel;
- a list of essential items that are recommended.

7.4. A note must be made in the medical chart, signed by the patient or legal representative, confirming that they have been informed of the safety rules under martial law.

7.5. Procedure in the event of a patient's refusal to move to a shelter.

If, during hospitalization or immediately after the “AIR RAID ALERT” signal, the patient or their legal representative states that they refuse to move to the shelter, the responsible person (attending or duty physician / nurse / male nurse) must:

- again explain to the patient the risks of remaining outside a protective structure during wartime threats;
- ensure completion and signing by the patient of the “Informed Voluntary Refusal to Move to Shelter” in accordance with the form adopted by the HCF;
- attach the signed refusal form to the inpatient's medical record (Form No. 003/o).

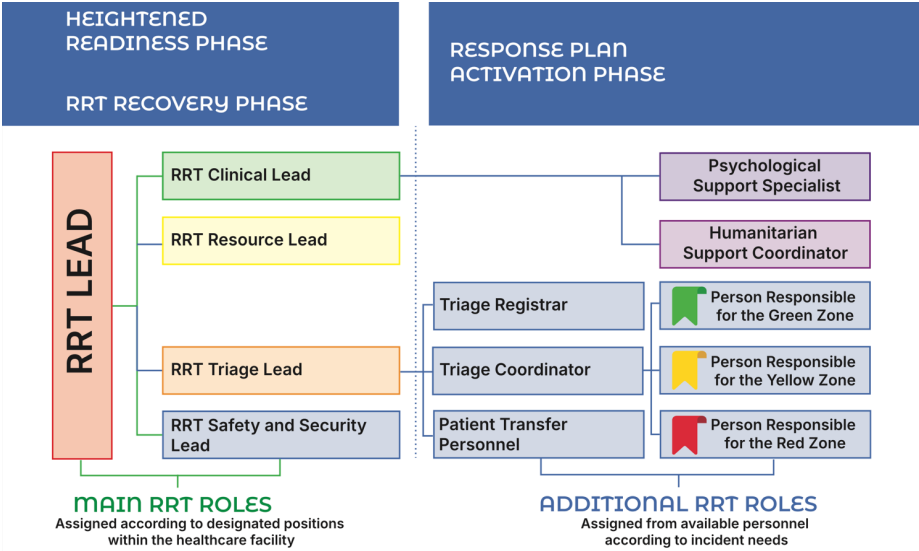
7.6. HCF employees must know the addresses and locations of shelters, inform patients and their legal representatives accordingly, and direct them there when the “AIR RAID ALERT” signal is announced.

Employees of reception desks, registries, and other information points, after carrying out measures to coordinate patients, have the right to move to shelter if a direct threat to their life or health arises. At the same time, they must ensure the presence of visual navigation aids with a clear indication of the direction of movement to protective structures for visitors remaining in the building.

7.7. LOCATION OF CIVIL PROTECTION SHELTERS AND SIMPLEST SHELTERS NEAR THE HEALTHCARE INSTITUTION
(insert the addresses of the nearest shelters here)

APPENDIX 7

RRT Role Distribution Flowchart for Emergency Response to MDI



APPENDIX 8

Action Cards:

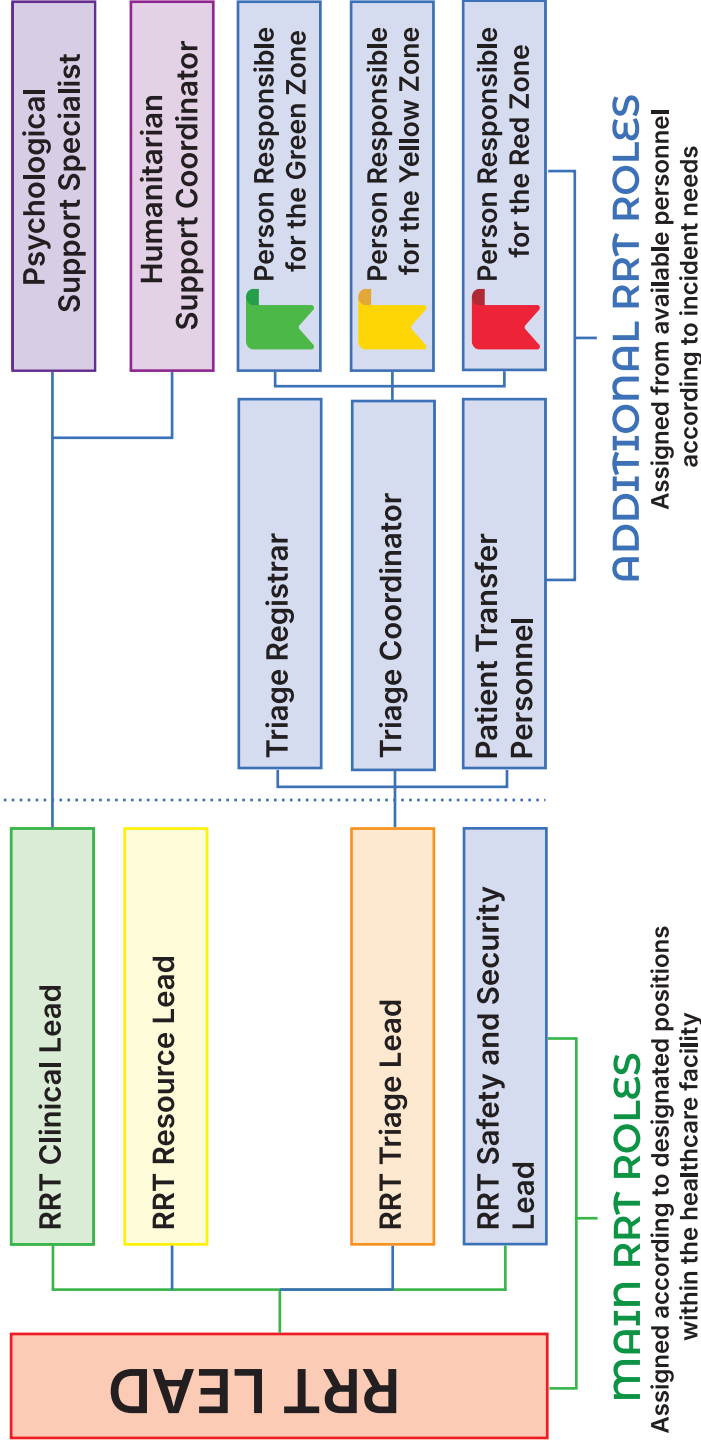
Algorithms for Rapid Response Team (RRT) Members

RRT Role Distribution and Assignment Flowchart – MDI Emergency Response

HEIGHTENED READINESS PHASE

RRT RECOVERY PHASE

RESPONSE PLAN ACTIVATION PHASE



ACTION CARD-ALGORITHM FOR THE RRT LEAD



IN THE “HEIGHTENED READINESS” PHASE



1. Receive information about the city air raid alert.
2. Notify the healthcare facility (HCF) about the alert readiness to an emergency situation (missile-drone incident, MDI).
3. Open Incident Management Kit for RRT No.1.
4. Put on the signal vest marked “RRT Lead”.
5. Assemble the RRT for an immediate briefing at the designated shelter location.
6. Distribute Action Cards, instructions, and functional assignments to RRT members in accordance with the Incident Management Kit for RRT No.1. Ensure all RRT members sign the RRT protocol.
7. Hand out signal vests to all RRT members.
8. Confirm available priority communication channels.
9. Receive information from the Clinical Lead of the RRT about the number of operations currently underway in the operating block and other operating rooms, and about the number of critical patients in the ICU.
10. Fill out the checklist (in accordance with Annex 1 to SOP No. 2, “Heightened readiness of the HCF to respond to an MDI”).
11. If an MDI affects the HCF or nearby area, coordinate with the Head of the Emergency Response Commission and activate the full response system.
12. If the air raid alert is cancelled, return RRT and HCF operations to routine functioning.

ACTION CARD-ALGORITHM FOR THE RRT LEAD



IN THE “MDI RESPONSE PLAN ACTIVATION” PHASE



1. Put on the signal vest marked “RRT Lead” and enter the data into the RRT protocol, if this has not been done earlier.
2. Immediately notify the Head of the HCF / Head of the Emergency Response Commission of the HCF.
3. Notify the RRT that the MDI Response Plan has been activated.
4. Determine priority actions: focus RRT efforts on saving lives, ensure staff safety, evacuate patients and visitors, and maintain continuous operation of critical units/departments of the HCF.
5. Confirm priority communication channels: mobile phones, radios, loudspeakers, and the centralized alert system.
6. Stop non-urgent diagnostic, instrumental, and laboratory procedures.
7. Initiate the reverse medical triage algorithm and discharge of patients with minor conditions from departments in order to free additional beds.
8. Communicate with SESU staff who arrive at the HCF, and inform them about the number of people (staff, patients, and visitors) located on the territory and in the premises of the HCF outside shelters.
9. Lead the RRT until the Emergency Response Commission arrives.
10. After the Commission arrives, perform Commission member duties and continue leading the RRT.

ACTION CARD-ALGORITHM FOR THE RRT LEAD



IN THE “RRT RECOVERY” PHASE



1. Coordinate with the Head of the Commission to initiate the recovery phase.
2. Conduct a hot debriefing with RRT members after the incident has ended.
3. Organise the provision of psychosocial support to RRT members.
4. Determine priority measures for the recovery and resource support of the RRT.
5. Coordinate with the Head of the HCF Commission on RRT personnel recovery and resource support..
6. Inform the Head of the Commission about the need to replenish materials, rotate RRT members, or update resources.

**ACTION
CARD-ALGORITHM
FOR RRT CLINICAL LEAD**



IN THE “HEIGHTENED READINESS” PHASE



1. Arrive for the immediate RRT briefing at the specially designated place in the shelter.
2. Put on the signal vest marked “Clinical Lead of the RRT” and enter the data into the RRT protocol.
3. Collect information about the number of critical patients and operations in the HCF.
4. Collect information from HCF departments about the number of patients and staff moved to the shelter.
5. Coordinate continuity of medical care in the shelter.
6. Supervise preparation for deployment of triage zones (“red,” “yellow,” and “green”), coordinate the work of physicians and nurses, and control correct distribution of casualties in accordance with current recommendations and medical triage algorithms.
7. Guide physicians and nurses regarding standards of care, priority interventions, and management of critical patients.
8. If the air raid alert is cancelled, switch to routine functional duties.

**ACTION
CARD-ALGORITHM
FOR RRT CLINICAL LEAD**



IN THE “MDI RESPONSE PLAN ACTIVATION” PHASE



1. Put on the signal vest marked “Clinical Lead of the RRT” and enter data into the RRT protocol.
2. Ensure continuity of medical care in the shelter.
3. Supervise organization of the “green,” “yellow,” and “red” casualty triage zones in the shelter.
4. Use primary and backup communication tools to assess the status of patients, staff, and casualties in the shelter and other HCF areas.
5. Inform the RRT Lead about the process of providing medical care.
6. Set clinical priorities and decide which patients require immediate life-saving care.
7. Report the clinical situation, number of severe casualties, and resource needs to the RRT Lead.
8. Coordinate informing patients’ relatives through designated staff and ensure compliance with ethical standards.

ACTION CARD-ALGORITHM FOR RRT CLINICAL LEAD



IN THE “RRT RECOVERY” PHASE



1. Assess the condition of RRT members after the incident.
2. Set priorities for RRT personnel recovery.
3. Involve a specialist to provide psychological support to team members.
4. Provide the RRT Lead with information on the current physical and psychological condition of team members.

ACTION CARD-ALGORITHM FOR THE TRIAGE LEAD



IN THE “HEIGHTENED READINESS” PHASE



1. Arrive for the immediate RRT briefing at the specially designated place in the shelter.
2. Put on the signal vest marked “Triage Lead” and enter the data into the RRT protocol.
3. Prepare the triage area and assign triage zones.
4. Prepare to deploy triage zones and organize casualty flow.
5. Check the availability and readiness of Kits No. 2–4.
6. Assign the triage team. Designate a Triage Registrar.
7. Report triage readiness to the RRT Lead.
8. Ensure readiness to provide continuous medical care in the shelter.
9. If the air raid alert is cancelled, assist, move patients back to departments.
10. If the air raid alert is cancelled, switch to routine functional duties.

ACTION CARD-ALGORITHM FOR THE TRIAGE LEAD



IN THE “MDI RESPONSE PLAN ACTIVATION” PHASE



1. Put on the signal vest “Triage lead”
2. Receive the incident briefing.
3. Assign a Triage Registrar from available HCF personnel.
4. Assign staff responsible for the red, yellow, and green zones and for casualty movement.
5. Deploy the triage area and check the availability of MCI triage kits No. 2–4.
6. Assign staff to each triage zone.
7. Coordinate medical care and casualty flow.
8. Supervise all staff assigned to the triage area.
9. Report to the Clinical Lead of the RRT on readiness for deployment, or on the actual deployment of the triage area when an MDI occurs.
10. Report casualty numbers by triage zone and the progress of triage to the RRT Clinical Lead.
11. Report resource needs.
12. Report on the number of patients already evacuated.

ACTION CARD-ALGORITHM FOR THE TRIAGE LEAD



IN THE “RRT RECOVERY” PHASE



1. Analyse the effectiveness of the organisation and implementation of casualty triage during the emergency situation, namely the missile-drone incident.
2. Participate in the hot debriefing and provide recommendations to improve the triage process.
3. Identify gaps in triage area organisation and patient flow
4. Recommend improvements to triage operations.
5. Restore resources in the triage area and triage zones.
6. Report analysis results and triage readiness for repeated response to the RRT Lead.

**ACTION
CARD-ALGORITHM
FOR THE RRT SECURITY
AND SAFETY LEAD**



IN THE “HEIGHTENED READINESS” PHASE



1. Arrive for an immediate RRT briefing at the specially designated place in the shelter.
2. Put on the signal vest marked “RRT Security and Safety Lead” and enter the details in the protocol.
3. Check the evacuation routes in HCF buildings (barriers, gates, doors, and stairwells).
4. Switch off the elevators.
5. Inform the RRT Lead about the operational readiness of the backup power supply and emergency lighting.
6. If the air-raid alert is cancelled, return to routine functional duties.

**ACTION
CARD-ALGORITHM
FOR THE RRT SECURITY
AND SAFETY LEAD**



IN THE “MDI RESPONSE PLAN ACTIVATION” PHASE



1. Put on the signal vest marked “RRT Security and Safety Lead” and enter his or her data into the RRT protocol.
2. Ensure, if necessary, the autonomous functioning of electricity and water supply systems in the HCF.
3. Shut off, where possible, the supply of medical gases and electricity in affected areas.
4. Meet SESU personnel and escort them around the territory of the HCF.
5. Control vehicle access and traffic flow.
6. Secure the perimeter. Restrict unauthorized access. Control movement of staff, volunteers, and visitors.
7. Advise the RRT Lead on safety issues and stop unsafe actions immediately.
8. Identify and mark safe zones with the RRT. Mark red, yellow, green, and buffer zones, including access boundaries for staff and emergency vehicles.
9. Control access to hazardous areas: ensure restriction of entry to zones with risks of collapse, fire, smoke, explosives, and hazardous remnants of weapons or debris during an MDI.
10. Inform the RRT Lead about new risks, including those related to the MDI.
11. Interact with response services: coordinate actions with the SESU, National Police, HCF security, and the hospital’s engineering and technical services to eliminate threats and stabilize the situation.
12. Document identified risks, decisions, safety actions, and coordination with external services for after-action review and improvement of the response system.

**ACTION
CARD-ALGORITHM
FOR THE RRT SECURITY
AND SAFETY LEAD**

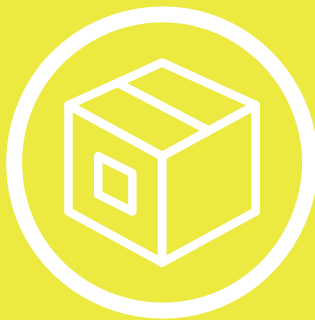


IN THE “RRT RECOVERY” PHASE

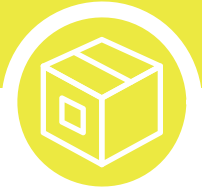


1. Review security incidents during the MDI.
2. Participate in the hot debriefing and recommend corrective actions.
3. Identify gaps in work organization and coordination.
4. Report analysis results and readiness for repeated response to the RRT Lead.

**ACTION
CARD-ALGORITHM
FOR THE RRT
RESOURCE LEAD**

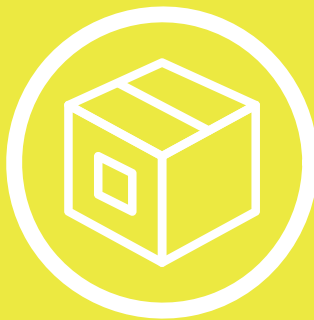


IN THE “HEIGHTENED READINESS” PHASE

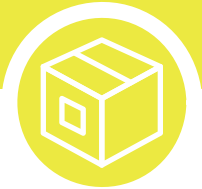


1. Arrive for the immediate RRT briefing at the specially designated place in the shelter.
2. Provide access to Kits No. 1–4.
3. Put on the signal vest marked “RRT Resource Lead” and enter the data into the RRT protocol.
4. Ensure access to medications, dressing supplies, stretchers, carts, and other required equipment.
5. Check the availability of stretchers and wheelchairs and their placement in the designated locations.
6. Help deploy the yellow, red, and green triage zones.
7. Coordinate with the Clinical Lead to ensure continuity of medical care.
8. Upon activation of the MDI Response Plan, deploy Kits No. 2–4.
9. Coordinate patient movement with the Chief Nurse and nursing staff.
10. If the air raid alert is cancelled, switch to routine functional duties.

**ACTION
CARD-ALGORITHM
FOR THE RRT
RESOURCE LEAD**

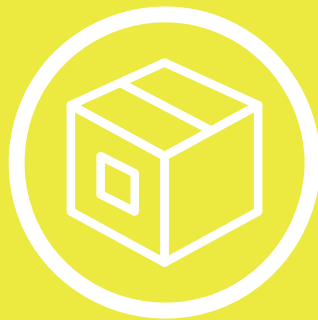


IN THE “MDI RESPONSE PLAN ACTIVATION” PHASE

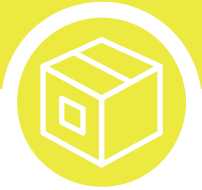


1. Put on the signal vest marked “RRT Resources Lead” and enter the details in the RRT protocol.
2. Deploy kits No. 2–4 in the shelter.
3. Monitor the use of medical devices, supplies, and medicines.
4. Replenish medical devices, supplies, and medicines according to the logistics procedure whenever possible.
5. Report available resources for continuity of medical care to the RRT Lead.
6. Support the deployment of triage zones (red, yellow, and green), manage patient flow, and ensure the proper movement and distribution of patients within the emergency department.
7. Continuously monitor additional resource needs. Maintain the availability of medical devices, instruments, materials, and reserve supplies in Kit No. 2, Kit No. 3, and Kit No. 4.

**ACTION
CARD-ALGORITHM
FOR THE RRT
RESOURCE LEAD**



IN THE “RRT RECOVERY” PHASE



- 1.** Conduct an inventory of available resources and the contents of kits No. 1–4 after the emergency situation has ended.
- 2.** Provide the RRT Lead with information on the need to replenish kits No. 1–4.
- 3.** Ensure proper labelling, storage, and readiness of the kits for further use.

**ACTION
CARD-ALGORITHM
FOR HCF STAFF ON DUTY**



IN THE “HEIGHTENED READINESS” PHASE



1. Report to the RRT Lead and fulfill all instructions of the Lead and the RRT during the alerted readiness phase of the Emergency Response Plan (MDI).
2. Move patients to HCF shelters after notification of the “AIR RAID ALERT” signal.
3. Move ICU patients and patients from operating rooms to designated safe rooms within the unit.
4. Ensure continuity of medical care for patients in the shelter.
5. When the air raid alert is cancelled, return patients to their HCF units or wards.
6. When the air raid alert is cancelled, switch to routine functional duties.

**ACTION
CARD-ALGORITHM
FOR HCF STAFF ON DUTY**



IN THE “MDI RESPONSE PLAN ACTIVATION” PHASE



1. Report to the RRT Lead and fulfill instructions of the Lead and the RRT during the phase of activation of the Emergency Response Plan (MDI).
2. Move patients to the HCF shelter.
3. Ensure continuity of medical care for patients / casualties.
4. If the air raid alert is cancelled, return patients to their departments.
5. If the air raid alert is cancelled, switch to routine functional duties.

**ACTION
ALGORITHM CARD
FOR THE RRT
HUMANITARIAN
SUPPORT COORDINATOR**



IN THE “MDI RESPONSE PLAN ACTIVATION” PHASE



1. Put on the vest “Humanitarian support coordinator”.
2. Manage humanitarian support areas.
3. Coordinate the distribution of humanitarian resources and prevent shortages.
4. Interact with the RRT Lead and RRT members.
5. Provide access to water, food, hygiene supplies, blankets, heating, and rest areas for patients and staff.
6. Ensure the humanitarian needs of patients, visitors, and accompanying persons are met in safe areas of stay.
7. Keep records of needs, available resources, and expenditures.
8. Inform the RRT Lead about critical shortages of food and hygiene supplies.

**ACTION
ALGORITHM CARD
FOR THE RRT
HUMANITARIAN
SUPPORT COORDINATOR**



List of approximate recommended humanitarian resources that may be needed during a missile-drone incident



Basic humanitarian resources:

1. Drinking water, bottled
2. Food, dry rations, special dietary food
3. Blankets, thermal blankets, heaters
4. Basic clothing and footwear
5. Hygiene supplies: soap, wipes, diapers, feminine hygiene products, toilet paper
6. Seating and rest places, folding chairs, etc.
7. Temporary sleeping places, mattresses, sleeping mats, folding beds
8. Flashlights, power banks, charging stations
9. Water containers, thermoses, disposable tableware

Support and coordination:

10. Information materials, directional signs, and public announcements.
11. Means of communication
12. Lists and contact details of responsible persons
13. Psychological First Aid (PFA) for patients, relatives, and staff.

Resources for vulnerable groups:

14. Baby food, bottles/teats, breast milk substitutes for children for whom breastfeeding cannot be continued and/or donor breast milk is unavailable
15. Care supplies for bedridden patients: wet wipes, diapers, disposable underpads, positioning rolls, blankets, etc.
16. Assistive devices for mobility and support: wheelchairs, walkers, crutches, canes, etc.
17. Items for keeping infants warm: thermal mattresses, hot-water bottles, blankets, mobile boxes

Note: The minimum quantity of medical devices, consumables, and other necessary equipment should be determined taking into account the estimated number of potential casualties: the number of beds + the number of healthcare facility staff + an additional percentage for potential visitors.

ACTION ALGORITHM FOR THE RRT PSYCHOLOGICAL SUPPORT SPECIALIST



IN THE “MDI RESPONSE PLAN ACTIVATION” PHASE



Psychological First Aid is support and practical assistance provided to children and adults who are experiencing acute stress as a result of a recently experienced or ongoing crisis event.

What Psychological First Aid includes:

1. Non-intrusive practical assistance and support.
2. Assessment of a person's needs and concerns.
3. The ability to listen to people without forcing them to speak.
4. The ability to comfort a person and help them calm down.
5. Protection from further harm.

Limits of responsibility:

1. Does not establish psychiatric or psychological diagnoses.
2. Does not provide psychotherapy.
3. Does not prescribe or administer medications.
4. Does not replace a physician, psychologist, or psychiatrist.

1. Put on the vest “Psychological support specialist”.
2. Provide Psychological First Aid (PFA) to casualties and staff.
3. Report to the RRT Lead as a member of the RRT.
4. Provide clear information about next steps.
5. Identify persons experiencing severe distress and report the need for referral to mental health specialists to the RRT Lead.
6. Coordinate with medical staff and the Humanitarian Support Coordinator.

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Simple techniques for emotional stabilisation of older children and adults



Box breathing (4-4-4-4)

Breathe in cycles:
inhale for 4 seconds,
hold for 4 seconds,
exhale for 4 seconds,
and hold for 4 seconds.

The person may
imagine a square and
trace the sides of the square
with each breath.

Grounding "5-4-3-2-1"

Name:

5 things you can see,
4 things you can feel,
3 things you can hear,
2 things you can
smell, and
1 thing you can taste.

Contact with the body

Perform a simple action:

clench and unclench
your fists,
feel your feet on the ground,
or lean against a firm
surface.

Simple techniques for emotional stabilisation of children

- Find several objects of the same colour and name them.
- Count the steps to a selected object.
- Alternately squeeze the adult's hand with the right and left hand.
- Count backwards from ten to one.
- Rub the tip of the nose.
- Moisten the lips with water or rinse the mouth.
- Stretch the tongue out as far as possible, as if trying to touch the chest.
- Look as far as possible to the right without turning the head, hold the gaze for 15–20 seconds, then look straight ahead; then look as far as possible to the left, and then straight ahead again.
- Rub the point between the ring finger and the little finger.
- Place the hands on the ribs to feel how they expand and rise during breathing.

What should not be done:

1. Do not say "calm down" or "everything will be fine".
2. Do not force the person to speak.
3. Do not judge the person, for example, "you are strong/weak".
4. Do not criticise.
5. Do not impose advice.
6. Do not leave the person alone in a severe emotional state.
7. Do not give sedatives without a physician's prescription.