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Administrative-legal assurance of the reliability and ethics of medical decisions in wartime

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ABSTRACT

Aim: This study aims to provide a comprehensive analysis of the administrative-legal assurance of the reliability and ethics of medical decision-making in wartime conditions, combining normative analysis with empirical data from a frontline Ukrainian hospital.

Materials and Methods: The normative framework includes international standards of the World Health Organization, the International Committee of the Red Cross, professional medical associations, the European Charter of Patients' Rights (2002), European Union legislation, and the national healthcare and wartime legislation of Ukraine. The empirical component comprised a cross-sectional anonymous survey conducted between May and September 2025 among 40 healthcare workers at a rural hospital located near the active frontline in the Dnipropetrovsk region. The questionnaire assessed decision-making complexity, perceived probability of errors, stress impact, resource availability, preparedness, and willingness to report incidents.

Results: Wartime conditions significantly increase the perceived complexity of clinical decision-making, particularly in resource allocation, evacuation prioritization, and surgical interventions. Respondents reported elevated stress levels and increased risk of errors, primarily associated with limited resources, disrupted logistics, and administrative constraints. The reliability and ethical integrity of medical decisions were found to depend on the availability of updated clinical protocols, state monitoring mechanisms, organized evacuation systems, and guaranteed minimum healthcare services.

Conclusions: Effective administrative-legal support is a prerequisite for ensuring both the reliability and ethical soundness of medical decisions in wartime. Strengthening institutional safeguards, resource allocation mechanisms, and clear regulatory guidance is essential to maintain medical standards under extreme conditions.

KEYWORDS: public interest, ethical standards, public administration

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INTRODUCTION

In wartime conditions, medical decision-making acquires a somewhat different meaning than in peacetime, as decisions are made under altered circumstances, including resource shortages, risks to healthcare workers, and restrictions on movement (mobility). These factors may affect not only the adoption of such decisions, but also their reliability, validity, and compliance with ethical standards.

The Ukrainian experience is one of the few contemporary examples of a healthcare system functioning during a large-scale war in Europe. According to the Ministry of Health of Ukraine, as of 1 August 2025, 2419 healthcare infrastructure facilities have been damaged or destroyed as a result of hostilities, including hospitals, outpatient clinics, primary care centers, and emergency medical stations. Numerous attacks on medical facilities, ambulance teams, and medical transport have been recorded, posing a direct threat to the lives of both patients and healthcare personnel [1].

In a joint statement, United Nations International Children's Emergency Fund (UNICEF), United Nations Population Fund (UNFPA), and World Health Organization (WHO) called for an immediate end to attacks on healthcare facilities, emphasising

that such attacks "kill and cause severe injuries to patients and health workers, destroy vital health infrastructure, and undermine the population's ability to access essential care" [2]. These circumstances create an unprecedented context for medical decision-making, which often simultaneously has clinical, ethical, and administrative-legal dimensions [3, 4]. Under such conditions, the study of administrative-legal mechanisms ensuring the reliability and ethical soundness of medical decision-making during wartime becomes particularly important.

AIM

The aim of the article is to provide a comprehensive analysis of administrative-legal assurance for the reliability and ethics of medical decisions in wartime, combining regulatory analysis with an empirical survey of healthcare workers in a frontline Ukrainian hospital.

MATERIALS AND METHODS

The normative basis of the study consists of international standards of WHO, UNICEF, UNFPA, The International Committee of the Red Cross (ICRC), professional medical associations, the European Charter of Patients' Rights (2002),

European Union (EU) legislation, as well as the national legislation of Ukraine in the healthcare and legislation governing wartime conditions.

EMPIRICAL STUDY DESIGN

The empirical part of the study included a cross-sectional survey of healthcare workers at a small rural hospital located near the active front line in the Dnipropetrovsk region of Ukraine. The survey was conducted during May - September 2025 and aimed to assess how wartime conditions affect the reliability and ethical soundness of medical decision-making. The study didn't require ethics committee approval as it was an anonymous survey of healthcare workers regarding their professional experience.

PARTICIPANTS

A total of 40 healthcare workers participated in the survey, representing all categories of hospital personnel: doctors (n=8; 20%), nurses (n=20; 50%), paramedics (n=6; 15%), and administrative/other personnel (n=6; 15%). The average age of participants was (mean [M] ± standard deviation [SD]) 38.5±9.2 years (range: 24-58 years). The sample included 28 women (70%) and 12 men (30%), reflecting the gender distribution typical of healthcare institutions in Ukraine. The median length of professional experience was 7.5 years (interquartile range [IQR]: 4.0-12.0 years), with mean experience of 8.2±5.3 years.

DATA COLLECTION INSTRUMENT

Data were collected using an anonymous paper-based questionnaire developed specifically for this study. The questionnaire consisted of the following blocks:

1. Demographic information: age, gender, professional category, years of work experience.
2. Subjective complexity of decision-making: assessed on a scale from 0 to 10 for six types of medical decisions (resource allocation, evacuation prioritization, surgical decisions, documentation, ethical decisions, and diagnostics)
3. Self-assessed probability of errors: estimated as a percentage (0-100%) for each decision type
4. Impact of stress on performance: categorized as "high impact" or "low/moderate impact" for each decision type
5. Assessment of resource availability and level of preparedness for high-risk conditions: rated on a 5-point Likert scale (1=very low, 5=very high)
6. Willingness to report incidents: rated on a 5-point Likert scale (1=very unwilling, 5=very willing)
7. Open-ended question: "What are the major challenges you face in medical decision-making under wartime conditions?"

The questionnaire was pilot-tested with 5 healthcare workers from another facility and revised based on their feedback before final administration.

THE NORMATIVE FRAMEWORK AND EMPIRICAL DATA ANALYSIS

Descriptive statistics were used to analyze the data. Continuous variables with normal distribution were presented

as $M \pm SD$, while non-normally distributed variables were presented as Me (IQR). Categorical variables were presented as frequencies and percentages. Dialectical, hermeneutic, comparative, analytical, synthetic and systemic analysis methods were also used for the theoretical and legal analysis of the normative framework.

ETHICS

Study was conducted in accordance with provisions of Helsinki Declaration of World Medical Association, Council of Europe Convention on Human Rights and Biomedicine, and Ukrainian legislation. Aggregated statistical data without disclosure of personal information were used.

FRAMEWORK

The study was performed within framework of initiative research work «Expert-diagnostic system for objectification of forensic medical examination of traumatic brain injury» (state registration number 0123U101528; term 2023-2026).

RESULTS

A medical decision is the result of professional medical judgment formed within state-defined administrative and legal procedures. It is subject to verification for accuracy, must be based on evidence and compliance with ethical standards, and, especially in wartime, is made in accordance with the principle of the maximum possible medical care under the specific circumstances.

The term "medical decision" is not explicitly defined in the legislation of most countries. A comparative legal analysis of the regulatory acts of the EU and Ukraine shows that its meaning depends on the legal constructs used by the legislator. Such constructs include informed consent, clinical protocols, standard of care, medical intervention, methods of treatment, patient rights, quality of care, etc. [5, 6].

It is appropriate to view a medical decision not as an abstract category but as a set of different types of decisions that a medical personal makes within the clinical process and that have distinct legal significance. The content of each type of decision is expressed through its form and consequences, namely:

1. Medical conclusion as the formal result of the decision. This is a legally significant document that officially records the outcome of the doctor's professional judgment (diagnosis, assessment of condition, need for treatment, prognosis, etc.). A medical conclusion is created according to a defined administrative procedure and is subject to control, verification, or expert review (which may include military medical, forensic medical, and other expert evaluations). in treatment tactics, granting disability status, etc.).
2. Medical intervention, which logically constitutes the legal consequence of the decision. These are actions or a set of actions implementing the medical decision (treatment, surgical intervention, administration of medicinal products or medical devices, resuscitation measures, etc.).
3. Patient management tactics. This represents the clinical content of the medical decision, reflecting the

prioritization or sequencing of actions, resource needs, and compliance with treatment standards. This category is linked to clinical protocols that determine the minimum requirements for diagnosis and therapy and should generally comply with evidence-based medicine. In wartime, however, a “clinical exception” regime may arise. triage, which prioritizes patients with the highest chance of survival given the available resources.

4. Professional medical judgment, which carries ethical and deontological content and represents the internal intellectual-ethical process through which medical personnel evaluate data, consider risks, interpret treatment protocols, and combine them with clinical experience and professional ethical standards. Professional judgment includes determining the reliability of clinical information under conditions of incompleteness while maintaining maximum adherence to ethical standards [7].

Administrative and legal mechanisms for ensuring the reliability and ethical soundness of medical decisions in wartime include: a) establishing unified rules of evidence-based medicine; b) regulating the use of clinical protocols; c) implementing standardized triage procedures; d) ensuring safe working conditions for healthcare personnel; e) maintaining independent ethics committees; f) guaranteeing the professional independence of healthcare workers and protecting them from liability for decisions made within the principle of the maximum possible medical care, among others [8].

The empirical survey revealed significant challenges in medical decision-making under wartime conditions. Table 1 presents the indicators of complexity, risk, and stress associated with different types of medical decisions.

As shown in Table 1, documentation (7.8 ± 1.5), resource allocation (7.6 ± 1.4), and ethical decisions (7.4 ± 1.6) were perceived as the most complex types of decisions. These decision types also showed high self-reported error probabilities ($21.8 \pm 8.2\%$, $21.3 \pm 7.9\%$, and $20.7 \pm 8.5\%$, respectively) and high percentages of respondents reporting significant stress impact (74%, 71%, and 59%, respectively).

The survey respondents reported low levels of resource availability (2.6 ± 0.8 out of 5.0) and specialized training for work under high-risk conditions (2.9 ± 0.9 out of 5.0). Willingness to report incidents was rated at 3.0 ± 1.1 out of 5.0, indicating partial openness and the presence of barriers in internal quality control.

The empirical findings made it possible to identify the most vulnerable segments of medical decision-making in frontline healthcare facilities. These include documentation management, allocation of limited resources, and surgical and ethical decisions. These areas demonstrate the highest levels of complexity, combined with workload intensity, time deficits, and substantial stress.

The empirical basis of the study forms the foundation for further legal analysis of ways to mitigate the risks that arise in the work of frontline healthcare facilities. These measures include improving internal regulations, clinical protocols, control procedures, disciplinary mechanisms, accountability systems, and rules governing documentation and the circulation of personal data. The actual effectiveness of such elements in healthcare facilities located near active combat zones remains insufficiently explored [9].

DISCUSSION

Clinical decision-making combines a doctors’ professional experience, the best available clinical evidence, and the individual needs and values of the patient [5]. Ensuring the reliability and ethical soundness of medical decisions in wartime conditions is based on a complex framework of international humanitarian law [6], acts of international organizations, and national administrative and legal mechanisms. At the international level, the Geneva Conventions (I-IV) of 1949 and the Additional Protocols of 1977 establish the obligation of states to guarantee non-discriminatory access to medical care, triage based solely on medical need, legal protection of medical personnel making decisions in good faith under extreme conditions, and the application of the standard of best possible care under the circumstances, that is, the best possible assistance given available resources.

The EU has developed an advanced regulatory system that guarantees patient rights and sets standards for accessibility,

Table 1. Indicators of complexity, risk, and stress in decision-making (n=40)

Decision Type	Mean Difficulty (0-10 scale)	Mean Self-reported Error Probability (%)	% Reporting „High stress impact“
Documentation	7.8 ± 1.5	21.8 ± 8.2	74.0%
Resource allocation	7.6 ± 1.4	21.3 ± 7.9	71.0%
Ethical decisions	7.4 ± 1.6	20.7 ± 8.5	59.0%
Surgical decisions	7.0 ± 1.7	19.6 ± 7.3	68.0%
Diagnostics	6.6 ± 1.5	18.5 ± 6.8	48.0%
Evacuation prioritization	6.2 ± 1.6	17.4 ± 7.1	45.0%

Note: Difficulty scores range from 0 (not difficult at all) to 10 (extremely difficult). Error probability represents respondents’ subjective assessment of the likelihood of making an error in each type of decision

Source: compiled by the authors of this study

informed decision-making, voluntariness, and quality of medical care. The European Charter of Patients' Rights (2002) [10] enshrines rights essential for medical decision-making, including the right to accurate information, the right to free and informed consent or refusal of treatment, the right to confidentiality, and the right to access quality care consistent with standards and clinical protocols.

An important ethical and administrative guideline is the document Ethical Principles in Health Care in Times of Armed Conflict, adopted by the World Medical Association (WMA), the International Committee of Military Medicine (ICMM), the International Council of Nurses (ICN), and the International Pharmaceutical Federation (FIP) [11]. The document outlines a common denominator of ethical principles for health care applicable during armed conflict and other emergencies. These principles must be incorporated into administrative regulations and guidelines issued by national health authorities. In particular, a doctor acting within their discretionary authority should not be subject to administrative or criminal liability for failing to provide a "full" standard of care if decisions were made in good faith and with consideration of resource limitations. It remains essential to uphold the principles of humanity, non-discrimination, respect for patient dignity, the prohibition of torture, confidentiality, and equitable access to medical care [12].

WHO conducts regular monitoring of health systems in armed conflict zones. As of 2025, WHO's attention has been largely focused on Ukraine. According to Health Resources and Services Availability Monitoring System (HeRAMS), since 24 February 2022, 826 healthcare facilities in Ukraine have sustained infrastructure damage; in 88% of cases, the damage was conflict-related. Among undamaged or partially damaged facilities, 4% lost some degree of functionality. The main factors influencing facility functionality (and thus medical decision-making) include staffing shortages (51%), security issues (31%), and damage to facilities (26%). Sexual and reproductive health services, as well as maternal and newborn care, remain available

in 87% of facilities. The highest levels of inaccessibility or partial accessibility of maternal and newborn services were recorded in Donetsk (49% available) and Kherson (46% available) regions. Regarding noncommunicable diseases, 9% of facilities reported service unavailability, with staffing shortages being the main barrier (30%) [13]. The situation is worse in Kherson region, where 40% of facilities reported unavailability of services [14].

CONCLUSIONS

1. The study demonstrates that the reliability and ethical soundness of medical decisions in wartime depend on a dual system of safeguards. Normative analysis shows that international humanitarian standards, national administrative regulation, and institutional governance mechanisms create the legal framework for decision-making. At the practical level, reliability is determined by the functioning of monitoring systems, availability of resources, staffing stability, evacuation logistics, and clear wartime protocols, while ethical integrity is supported by guarantees of minimum services, nondiscrimination, and continuity of care. The analysis confirms that without adequate administrative and legal support, physicians cannot realistically ensure either reliable or ethically sound decision-making in conflict settings.
2. The empirical survey confirms the analytical findings and shows that wartime conditions substantially increase decision-making risks. Respondents reported the highest vulnerability in documentation, resource allocation, and time-critical clinical decisions, where stress, safety risks, and workload pressures directly affect performance. These results indicate that legal regulation must move beyond declarative guarantees toward operational administrative tools, including adaptive protocols, simplified documentation standards for emergency conditions, stronger internal monitoring systems, and protected reporting procedures.

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CONFLICT OF INTEREST

The Authors declare no conflict of interest

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