

Hospital-based emergency care in the Russian Federation: a historical analysis of statutory regulations

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Abstract

The ongoing changes the system of emergency care (EC) in the Russian Federation (RF), especially its in-hospital component, require modifications of applicable laws. This paper analyzes past development and evaluates the current state of regulations pertinent to hospital-based EC in RF. We have reviewed and analyzed the regulatory statutes that governed hospital-based emergency care in Russia between 1735 and 2013. The study traces the development of past regulations (legal and normative acts) applicable to EC in RF. Main regulations currently in effect are characterized. At present, there already exists a body of laws supporting further modernization of hospital-based EC in Russia. Most recently, the legal foundation has been laid for previously novel concepts such as short-term observation, and for the creation of hospital-based centers of EC. Work in progress involves active steps towards clinical recommendations and protocols for the envisioned new structure of EC in the RF. The paper will be of interest to professionals studying global emergency medicine development. It will help researchers and clinical practitioners in the fields of emergency medical care and healthcare management by understanding the link between regulatory deficiencies and barriers to improving emergency department operations.

Introduction

Emergency care (EC) is a distinct branch of medicine that encompasses immediate and urgent medical services rendered in both pre-hospital and in-hospital settings. The *Concept of Healthcare Development in Russian Federation - 2020* specifies the development of

the EC system as essential for modernization of national healthcare. The bed reserve at designated EC hospitals in Russian Federation (RF) is expected to continue to decrease in the face of an increasing number of annual hospitalizations. Improving the efficiency of in-hospital emergency services is an integral part of improving EC for Russia's population. Because healthcare in RF is controlled at the federal level, it would be impossible to implement the necessary changes without first optimizing governmental regulations applicable to hospital-based EC. This paper aims to review both past and present regulatory basis for in-hospital EC in Russia and to highlight unresolved issues.

Study objective

To analyze the historical development of regulatory provisions governing hospital-based emergency care in the Russian Federation.

Materials and Methods

Using historical analysis and review of statutory law, we have examined normative legal acts and archived publications pertinent to the regulation of in-hospital emergency medical care in Russia between the years of 1735 and 2013.

Results and Discussion

Historical overview

Until recently, legal regulation of an admission ward's (AW) function within designated hospitals of emergency medical care (HEMC) occurred via a fairly limited number of regulations. The first rules on how to admit patients to Russian hospitals date to the beginning of the 18th century. The *Main directive on hospitals*¹ describes the basic functions of AWs such as patient registration, tallying and storage of valuables and belongings. The works of Nechaev² and Georgi³ describe the physical space of AWs: ... (an AW) typically was situated in 1-2 rooms and contained 1-3 beds. There was no sanitary check station. ...

In his 1820 paper, Attenhofer portrays the initial screening process at the Obuhov Hospital in St. Petersburg.⁴ He states: *Patients are seen by the on-duty medic in a special room. It is forbidden to place patients into hospital clinics beds without this examination – bypassing the admission ward ... Patients in fairly poor health are not turned away, but are temporarily placed and treated in the admission room itself.*

The *Advisory for Building Charitable Establishments* (1820-1823) for the first time mandated creating special hospital admission

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rooms with baths for washing patients. In this way the function of initial sanitary processing of patients was permanently attached to AWs. In 1844, the Public Assistance Authority in St. Petersburg enacted *Rules on hospital patient admission, discharge and bedding*, which specified the equipment required for the AW physical plant and the overall admitting process. The Rules became the basis for similar policies at the majority of Russia's city hospitals.⁵ Other contributions by some of the outstanding practitioners of the time included Mudrov's requirement for the history of present illness on admission,^{6,7} the principle of medical triage introduced by Pirogov,⁸ and Botkin's innovations such as triage wards, disinfection chambers and a patient card tracking system.⁹

By the end of the 19th century, the largest of Russia's hospitals had AWs. At the Obuhov Hospital in St. Petersburg a reception and triage department contained an isolation ward for contagious patients. In Moscow, the AW at the Soldatenko Hospital included a *diagnostic uncertainty unit* for observation of illness dynamics.⁷

In 1924, USSR began a forward-planned hospital reconstruction and major repair campaign. Admission wards of many hospitals were remodeled. Existing triage departments within large hospitals were turned into diagnostic wards. In 1938, the People's Healthcare Commission approved the *Rules on admission and discharge of patients for urban hospitals*, which specified indications for

hospitalization.¹⁰ The Hospital Council created in 1939 within People's Healthcare Commission of the Russian Soviet Federated Socialist Republic – the largest of republics comprising the former USSR – recommended: *a) providing an AW with a radiology room and other necessary equipment...*, *b) ensuring an immediate exam by a physician...and an organized admission to a hospital department after diagnosis;* *c) selection of AW physicians from qualified specialists.* From this moment on, urgent diagnosis and immediate medical intervention were added to the more traditional roles of AWs. Indicators reflecting time and appropriate extent of care were introduced as well. By 1955, hospitalization patterns underwent a significant change due to an increase in the proportion of urgent patients [90% for surgical departments, 40% for medical departments, and up to 47% overall for Leningrad (*i.e.* St. Petersburg from 1924 to 1991) hospitals]. Modifications of regulatory statutes applicable to AWs again became necessary.

In 1963, the Ministry of Health via Order #395¹¹ introduced the concept of HEMCs. This concept formed the regulatory foundation for AWs and affirmed previous policies regarding their function. Komarov's 1981 methodological work¹² dedicated to applied EC describes new functions of AWs (more detailed diagnostics, early syndrome-based treatment), equipment check-lists and position-specific duties. In part due to that work, and in part due to regional-level regulations^{13,14} the AW became to be considered the in-hospital step of EC. Since the late 1980s and continuing until present there has been a significant increase in the public's demand for EC. This increase has required changes in the ways EC is provided, and consequently, changes in its legal provisions.¹⁵⁻¹⁷ A study of AW performance in large multi-specialty hospitals during 1980s was conducted by Komarov and colleagues.¹² It revealed several unresolved organizational issues for HEMCs: i) long wait times for initial medical exams caused by heterogeneity of presenting complaints, the lack of a feasible way to avoid surges and drops in influx of patients and victims (consequently, no feasible way to even out the daily load on physician specialists – minimizing both idle time and wait-line formation), and by the preoccupation of specialists with providing care to patients not requiring highly specialized skills; ii) high level of unjustified hospitalizations to specialized beds; iii) lack of adequate staffing of HEMC AWs (1 physician per 300-400 hospital beds, 50 AW visits in 24 hours, lack of physician interchangeability due to differences in knowledge-base and in other specialty-specific skills).

At the same time, major policies affecting issues raised by the study were enacted in the 1960s and 70s,¹⁸⁻²⁰ and were still in effect until very recently. In summary, the legal basis reg-

ulating the function of AWs has not been changed for over thirty years until now.

Recent changes

One way to optimize conditions for emergency care has been to expand the role of the EC physician from the pre-hospital to the in-hospital domain of EC: from an ambulance to an AW, now termed an admission department (AD), given its expanded scope such as dynamic patient observation during a short-term stay. In parallel, there has been incorporation of EC physicians into hospital staff as treating physicians with hospital privileges. Experience with this change at the Dzhanlidze Research Institute of Emergency Medical Care (St. Petersburg, Russia) has shown that the new AD physician role requires knowledge and skills from several general and specialized areas: adult medicine, surgery, neurosurgery, urology, trauma care, gynecology, neurology, toxicology, vascular surgery, and burn care. A search for a specialist capable of meeting this requirement has uncovered the need to analyze regulations defining physician competencies.

The wording of 2009 and 2010 Ministry of Health of RF regulations^{21,22} did not specify which medical conditions a physician in a given specialty could treat, but mentioned very generally providing specialized care in accordance with standards. The accepted norms of medical treatment, for example Order #316n of 13.04.2011 *Approval of the order of medical treatment for adult population...for the specialty neurology*, utilized language referring to general classifications of medical conditions without listing the conditions themselves.

Thus, the only prior regulation which detailed physician qualifications and measures of professional competency and knowledge-base, specified practical skill sets for various physician specialties, and itemized corresponding medical conditions was 1988 Minzdrav of USSR Order #579.²³ It delineated qualifying standards for 86 various physician-level positions. Each description contained requirements regarding general and specialized competencies and specified mandated study literature. Importantly, at that time, the Order had passed review by all of State Institutes for Physician Advanced Training and Faculties for Physician Advanced Training in RF, three republic-level ministries of health, ten regional-level ministries of health, and a number of science research institutes.

Studies by various authors of population needs in regards to hospital-based EC suggest that the most needed specialties are adult medicine, surgery and gynecology. Our analysis of Order #579, which detailed qualifications for these three specialties (historically the three most common types of physicians assigned to ADs), revealed that it did not antic-

ipate a medicine specialist treating neurological, toxicological, surgical or gynecological conditions; nor for a surgeon to treat gynecological, toxicological or medical conditions; nor that a gynecologist would manage surgical, toxicological, medical, and many other non-gynecologic conditions. Our review has shown that only the qualifications listed for an EC (ambulance) physician closely matched the competencies required from a multi-specialty hospital emergency department physician of today. Such qualifications imply treatment of a full spectrum of conditions demanding quick medical attention at the in-hospital phase of EC, and it should now be understood that the skill set of an EC physician is not limited to the pre-hospital setting.

In the absence of multi-skilled EC physicians, the preliminary screening of patients at ADs has to be carried out by other specialists, which leads to delays due to those physicians' overall workloads. A new regulation issued in 2009²¹ defined qualification requirements for the physician specialty *emergency medical care*. It listed a number of positions EC physicians could assume including being an *AD physician* at a specialized medical facility or any medical facility with a department specializing in emergency care. Thus, a new legal basis was created allowing EC physicians to conduct their duties within designated hospital ADs, representing the in-hospital portion of EC.

An important step toward further implementation of the above regulation came in 2010. On March 5th the Ministry of Health Collegiate decided to trial in real time the new model of HEMC AD, relying on the experience at the Dzhanlidze Institute and on that of few other regions of RF such as Tatarstan, city of Rostov-on-Don and the Chuvash Republic.

The end result was an amendment²⁴ to a prior 2004 Ministry of Health regulation, which for the first time permanently defined novel terms and concepts such as *the in-hospital step of emergency care*, *emergency care department (ED) of a medical treatment-and-prophylaxis facility*, *emergency medical care physician of the EC department*, *dynamic observation* and *short term treatment on EC-designated gurneys*. The new ED diagnostic equipment standards also introduced by the regulation, together with the added functions of observation and short term therapy mentioned, all aimed to increase the accuracy of diagnoses made in the ED and to raise the justification threshold for full admissions to specialized hospital units.

The addition of the ED physician to the hospital staff would create conditions for accelerated yet adequate diagnostics and treatment, while freeing up narrow-field specialists from performing functions which are atypical for them. This would allow them to increase the

quantity and quality of the highly specialized care they provide. A second potential benefit would be a decrease in the overall percent of hospitalizations, and consequently, a more effective use of bed capacity by multi-specialty hospitals.

At the same time, a major unresolved issue that was left on the table was the ED physician's scope of practice and necessary competencies. Our research has shown that the qualifications of EC physicians, as stated in both the 1988 Minzdrav of USSR order #579²³ and in the 2010 Ministry of Health order #541,²² did not take into account the changes in the workforce required for staffing the EDs. There were no physician competencies cited which could translate into the ability of providers to operate within the basic functions of the ED, as was outlined in the regulations defining the organizational set-up of such departments: *The Department performs the following functions...discovery of medical indications for transferring patients (victims) to specialized departments of the medical facility in which the Department is created, or to other medical facilities; ...rendering of emergency medical care to patients (victims) under hospital conditions, ...including: - conduction of diagnostic and treatment activities necessitated by the patient's (victim's) condition, not exempting the use of resuscitation and intensive care units and operating rooms for treatment of shock prior to transfer to a specialized department of the medical facility in which the Department is created, or to other medical facilities; - narrowing the diagnosis, dynamic observation of a patient's (victim's) condition up to 1 day [24 hrs], short-term treatment up to 3 days.* (item #10, addendum 1 to order #586).²⁴

The need for revising competencies of ED physicians was also tied to the implementation of order 555,²⁵ which amended the hospital nomenclature by designating a new type of a hospital bed – an *emergency medical care bed* – intended for 24-hour observational stays and short term treatment (up to 3 days). This was further reflected via changes in mandated statistical reporting for medical facilities. For example, Forms #30 and #17 of the Federal State Statistics Service (orders #520 and #13) listed newly included items *EC beds for short terms stay* and *EC beds for dynamic observation*, as well as a new entry among choices for physician specialties – *emergency medical care*.

Current developments

A new regulation defining emergency medical care in the Russian Federation was passed in June 2013,²⁶ introducing further changes to the organizational structure of the ED. Short stay treatment and hyperbaric therapy capabilities were added. Standards for ED diagnostic equipment were specified. In addition, a new

way of providing in-hospital EC at large multi-specialty hospitals (over 1000 beds, over 200 visits in 24 h) was created via the possibility of establishing *Centers for Emergency Care* within such facilities. Each center would contain not only the ED and the necessary imaging and diagnostics, but also a short stay treatment department, shockoperating room solution and dedicated intensive care units (also for short term therapy). Within such centers it would be possible to create more specialized diagnostic subdivisions as well.

Another important piece of legislation in the context of further improvements to the overall EC system was a portion of the 2011 order #323,²⁷ which specified ways in which non-profit professional organizations could take part in developing healthcare norms and regulations. Such involvement includes questions regarding accepted standards of care, as well as professional certification and skill maintenance for individual providers. Medical associations and similar organizations can now develop and approve clinical recommendations (treatment protocols) concerning EC and other aspects of healthcare. Although it is an accepted practice in many countries, this process represents an important new change for Russia's medical community.

In this context, following a discussion led by the Ministry of Healthcare on clinical guideline and policy development,²⁸ efforts have ensued to create and approve clinical recommendations (protocols) for rendering emergency care to patients. Currently, protocols are being actively designed for both the pre-hospital and the in-hospital domains of EC, and a National Guide on EC is being prepared for publication. In addition, information technology and equipment upgrades are being implemented on a wide scale. Such strategies represent a combined effort to ensure successful development of EC in the near future.

At present, the in-hospital portion of EC is anchored at the federal level by Article 35 of federal law 323 (rev. 25.06.12),²⁷ which specifies that as a necessary condition, *emergency care, including specialized emergency care, is conducted in immediate and urgent fashion... in...(the) hospital environment*.

It is thus important to align the competencies expected of future ED physicians and the actual needs of future EDs. Few examples of additional tasks that ED physicians need competency in include clinical interpretation of ultrasound and X-ray studies, utilization of injury severity scales in trauma, managing short term treatment units, and so on. Specifying at the highest level the needed competencies for ED physicians will promote the formation of the profession's standard. In turn, after such a standard is legally set, there will be grounds for future revisions of the educational standards for the specialty.

Several problems for EC in the RF remain. One of them is the paramount problem of ED underfinancing. To a great extent, the issue has to do with the payment rates historically used for specialized hospital services (approved at the level of Subjects of RF) being applied to EC. Reconciling actual revenues and expenses of EDs against standards of medical economics which apply to in-hospital EC (and subsequent determination of provider compensation that would take into account coefficients reflecting work hazards and work intensity) would allow for the formation of appropriate staffing reserves, increase personal motivation of individual providers, and improve the overall quality of care.

Conclusions

This study, reflecting a period of more than two hundred years in the history of Russian healthcare system, demonstrates the dynamic changes to the legal provisions which regulate in-hospital EC in Russia. Such changes have occurred following the evolution of the concept of EC accepted at any given time period, as well as due to external factors affecting the EC system as a whole. At present, a foundation has already been laid for further improving laws that regulate the in-hospital domain of EC in Russia. Such improvements represent a necessary integral part of the overall effort to modernize the EC system in the Russian Federation.

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