

CONSOLIDATION OF ZEMSTVO MEDICINE AND MODERNIZATION OF SANITARY INFRASTRUCTURE IN Bessarabia (1870-1875)

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Summary

The article analyzes the process of reorganization and modernization of the Gubernatorial Hospital in Chisinau and the provincial pharmacy during the first five years of Zemstvo medicine in Bessarabia (1870–1875). The study highlights the institutional transfer of the facility from the Order of Public Charity to the Zemstvo administration and the impact of this reform on sanitary infrastructure, administrative organization, clinical practice, and pharmaceutical services. The architectural and hygienic-sanitary transformations of the hospital, the development of the technical-surgical base, the modernization of medical instrumentation, and the introduction of therapeutic technologies advanced for that era are examined. Special attention is devoted to the provincial pharmacy, organized within the Gubernatorial Hospital and transformed into a regional logistics hub for supplying the medical institutions of the district (uezd) zemstvos. The article provides a detailed analysis of the therapeutic protocols employed in treating the primary pathologies encountered in hospital practice, including dysentery, respiratory disorders, pneumopathies, pleurisy, diphtheria, acute gastritis, neurological conditions, and gynecological pathologies. The use of modern pharmacological preparations, the introduction of antiseptic techniques, and the role of Zemstvo medicine in expanding public access to free treatment are emphasized. The study's conclusions demonstrate that the Gubernatorial Hospital and its pharmacy constituted the core of the medical modernization process in Bessarabia, contributing decisively to the professionalization of the therapeutic act, the centralization of the pharmaceutical service, and the integration of regional medicine into the 19th-century European scientific circuit.

Keywords: Bessarabia, Zemstvo medicine, Gubernatorial Hospital, pharmaceutical service, medical modernization, 19th-century healthcare, therapeutic protocols, medical infrastructure

Резюме

Консолидация земской медицины и модернизация санитарной инфраструктуры в Бессарабии (1870-1875)

В статье анализируется процесс реорганизации и модернизации Кишиневской губернской больницы и губернской аптеки в первые пять лет существования земской медицины в Бессарабии (1870–1875 гг.). Исследование освещает переход учреждения из ведения Приказа общественного призрения под управление земства, а также влияние этой реформы на санитарную инфраструктуру, административную организацию, клиническую практику и аптечную службу. Рассматриваются архитектурные и гигиенико-санитарные преобразования больницы, развитие технико-хирургической базы, модернизация медицинского инструментария и

внедрение передовых для той эпохи терапевтических технологий. Особое внимание уделяется губернской аптеке, организованной при больнице и преобразованной в региональный логистический центр по снабжению медикаментами лечебных учреждений уездных земств. В статье подробно анализируются терапевтические протоколы, применявшиеся при лечении основных патологий, встречавшихся в больничной практике, включая кровавый понос (дизентерию), респираторные заболевания, пневмонию, плеврит, дифтерию, острый гастрит, неврологические и гинекологические заболевания. Освещаются использование современных фармакологических препаратов, внедрение методов антисептики и роль земской медицины в расширении доступа населения к бесплатному лечению. Выводы исследования подтверждают, что Губернская больница и её аптека стали ядром процесса медицинской модернизации в Бессарабии, внося решающий вклад в профессионализацию лечебного дела, централизацию аптечной службы и интеграцию региональной медицины в европейский научный контекст XIX века.

Ключевые слова: Бессарабия, земская медицина, губернская больница, аптечное дело, медицинская модернизация, здравоохранение XIX века, терапевтические протоколы, санитарная инфраструктура

Rezumat

Managementul farmaceutic în Basarabia la debutul reformei zemstvei (1871-1872): Studiu evolutiv (Partea I)

Articolul analizează procesul de reorganizare și modernizare a Spitalului Gubernial din Chișinău și a farmaciei guberniale în primii cinci ani ai medicinei de zemstvă din Basarabia (1870–1875). Studiul evidențiază transferul instituției din subordinea Ordinului de Binefacere Publică către administrația zemstvei și impactul acestei reforme asupra infrastructurii sanitare, organizării administrative, practicii clinice și serviciului farmaceutic. Sunt examinate transformările arhitecturale și igienico-sanitare ale spitalului, dezvoltarea bazei tehnico-chirurgicale, modernizarea instrumentarului medical și introducerea unor tehnologii terapeutice avansate pentru epocă. O atenție specială este acordată farmaciei guberniale, organizată în cadrul Spitalului Gubernial și transformată într-un centru logistic regional pentru aprovizionarea instituțiilor medicale ale zemstvelor județene. Articolul analizează în detaliu protocoalele terapeutice utilizate în tratamentul principalelor patologii întâlnite în practica spitalicească, inclusiv dizenteria, afecțiunile respiratorii, pneumopatiile, pleureziile, difteria, gastritele acute, afecțiunile neurologice și patologiiile ginecologice. Sunt evidențiate utilizarea preparatelor farmaceutice moderne, introducerea tehnicilor de antisepsie și

rolul medicinei de zemstvă în extinderea accesului populației la tratament gratuit. Concluziile studiului demonstrează că Spitalul Gubernial și farmacia sa au constituit nucleul procesului de modernizare medicală din Basarabia, contribuind decisiv la profesionalizarea actului terapeutic, la centralizarea serviciului farmaceutic și la integrarea medicinei regionale în circuitul științific european al secolului al XIX-lea.

Cuvinte-cheie: Basarabia, medicina de zemstvă, Spitalul Gubernial, serviciu farmaceutic, modernizare medicală, sănătate publică sec. XIX, protocoale terapeutice, infrastructură sanitară

Introduction

The reform of zemstvo medicine in Bessarabia, initiated after the transfer of medical institutions under the jurisdiction of local self-government authorities in 1870, constituted one of the most significant processes of medical modernization in the south-western territories of the Russian Empire. At the center of this transformation stood the Governorate Hospital of Chișinău, which became the principal clinical, administrative, pharmaceutical, and educational nucleus of the regional healthcare system. [9, pp. 25-50]

During the first five years of zemstvo administration, the Governorate Hospital underwent an extensive process of structural reorganization, technical modernization, and professionalization of medical practice. The significance of the institution, however, extended far beyond its function as an inpatient clinical facility. The Governorate Central Pharmacy operated within the hospital structure and represented one of the most important pharmaceutical institutions in Bessarabia during the second half of the nineteenth century.

The pharmacy of the Governorate Hospital constituted the essential therapeutic link of the entire regional healthcare system. It ensured the continuous supply of medicines required for the treatment of hospital patients, preparing and distributing both magistral remedies and galenic preparations employed in daily medical practice. Simultaneously, the pharmacy functioned as a central pharmaceutical depot for the county zemstvo medical institutions, coordinating the circulation of medicinal substances and sanitary materials throughout the governorate.

One of the most important dimensions of zemstvo medical reform was the social accessibility of healthcare. The zemstvo administration implemented the principle of therapeutic accessibility, and the Governorate Hospital pharmacy dispensed medicines free of charge to indigent patients. This measure played a decisive role for impoverished urban and rural populations at a time when access to medical treatment was severely restricted by the high cost of pharmaceutical preparations. [9, pp. 25-50]

The transformation of the pharmacy into a regional logistical center, the modernization of its pharmaceutical laboratory, and the implementation of efficient supply mechanisms enabled the establishment of a relatively unified therapeutic system across Bessarabia. Concurrently, the Governorate Hospital became the principal center for the implementation of modern clinical, surgical, and antiseptic practices, integrating Bessarabian medicine into the broader framework of contemporary European scientific medicine.

The analysis of the activity of the Governorate Hospital and its central pharmacy during the years 1870–1875 offers an essential perspective on the institutionalization of modern medicine in Bessarabia. The study demonstrates that zemstvo reform did not merely represent an administrative reorganization, but rather a complex process of structural transformation of the entire healthcare system, characterized by professionalization, technological modernization, and the expansion of public access to medical and pharmaceutical care.

Aim of the Study

The aim of this study is to investigate the process of institutional, clinical, and pharmaceutical modernization of the Governorate Hospital of Chișinău and the Governorate Pharmacy during the first five years of zemstvo medicine in Bessarabia (1870–1875).

The research seeks to reconstruct the administrative reforms, therapeutic practices, pharmaceutical organization, and technological transformations introduced under zemstvo administration in order to evaluate their role in the development of modern healthcare and public medicine in nineteenth-century Bessarabia, as well as to identify historically validated medical and pharmaceutical practices whose organizational and therapeutic principles may be relevant for contemporary healthcare and pharmaceutical systems.

Materials and Methods

The present study is based on a complex interdisciplinary methodological framework combining approaches from the history of medicine, pharmaceutical history, social history, and the history of public health institutions. The research was conducted primarily on the basis of unpublished archival documentation, annual medical reports, administrative records, pharmaceutical inventories, statistical registers, and official zemstvo materials concerning the activity of the Governorate Hospital of Chișinău and the Governorate Pharmacy during the period 1870–1875.

The principal source base includes clinical documentation, hospital statistical reports, inventories of

surgical and pharmaceutical equipment, financial records, therapeutic registers, and administrative correspondence related to the organization of zemstvo medicine in Bessarabia. Particular attention was devoted to the analysis of therapeutic protocols, pharmacological prescriptions, and institutional management mechanisms preserved within the archival materials.

The study employed the historical-comparative method in order to evaluate the transformation of the medical system after the transfer of the hospital from the authority of the Order of Public Welfare to the zemstvo administration. This approach enabled the identification of structural differences between the pre-zemstvo and zemstvo periods, particularly regarding medical infrastructure, pharmaceutical logistics, and clinical organization.

The historical-descriptive method was used for the reconstruction of the institutional structure of the Governorate Hospital, the organization of the pharmacy, and the evolution of medical services. Through systematic description of clinical practice, sanitary reforms, and hospital administration, the study reconstructs the operational mechanisms of the Bessarabian healthcare system during the early zemstvo period.

A historical-analytical approach was applied to interpret the significance of medical reforms, therapeutic innovations, and pharmaceutical modernization within the broader context of nineteenth-century European medicine. This method allowed the integration of regional medical developments into the general process of modernization of imperial healthcare systems.

The medico-statistical method was utilized for the examination of hospital morbidity, mortality, therapeutic outcomes, and patient distribution according to social categories and disease typology. Statistical data concerning hospitalization, recovery rates, and mortality were analyzed quantitatively in order to evaluate the effectiveness of therapeutic interventions and institutional medical practice.

The pharmaco-historical method was employed for the analysis of medicinal preparations, pharmaceutical substances, galenic remedies, dosage systems, and therapeutic combinations used in clinical practice. Special attention was devoted to the identification of pharmacological terminology, therapeutic rationality, and the circulation of European pharmaceutical knowledge within the Bessarabian medical environment.

The prosopographical method contributed to the reconstruction of the professional structure of the medical personnel, including physicians, pharmacists, feldshers, and Sisters of Charity involved in the functioning of the Governorate Hospital.

Elements of institutional analysis were also employed in order to examine the administrative mechanisms of zemstvo healthcare management, the financing of medical institutions, and the logistical role of the Governorate Pharmacy within the regional sanitary network.

The interdisciplinary character of the research made it possible to investigate the Governorate Hospital not merely as a clinical institution, but as a complex medical, pharmaceutical, administrative, and social organism that played a central role in the modernization of healthcare in Bessarabia during the second half of the nineteenth century.

Results

Institutional Transfer and Administrative Reorganization of the Governorate Hospital

Between 1870 and 1871, the newly established Zemstvo began a systematic process of bringing the entire Bessarabian medical system under its aegis, aiming to unify rural and urban healthcare structures. A fundamental pillar of this transition was the transfer of the medical service for state-owned villages from the jurisdiction of the Bessarabian Chamber of State Properties to the Bessarabian Regional Government, to be subsequently integrated into the Zemstvo's administrative network. [6, f.2] This measure targeted an extensive number of rural localities where medical assistance had previously been limited and fragmented under the bureaucratic tutelage of the Ministry of State Properties. [6, ff.2-8] Simultaneously with this rural-level takeover, major medical institutions followed the same restructuring path; thus, the Gubernatorial Hospital was likewise transferred to the authority of the Zemstvo. Through this total absorption of sanitary units—ranging from rural medical stations and district clinics to major hospital units—the previous disparate administration was abolished, laying the foundations for a unified and decentralized medical system capable of serving the entire population of the province under a single administrative body. The initial phase of the Zemstvo system's operation in Bessarabia, spanning the years 1870–1875, was characterized by an intensive administrative effort to regulate the material and financial foundations of medical assistance. [9, pp. 25-50] A central aspect of this process consisted of close coordination with the Governor of Bessarabia to rigorously establish the maintenance costs for patients within the newly founded Zemstvo hospitals. This transition period necessitated an analytical monitoring of resources, reflected in the systematic drafting of expenditure statements (vedomosti)—documents that provided a clear overview of fund allocation for food, medicine, and personnel. Through this cost standardization, the

Zemstvo administration aimed not only to increase the efficiency of public spending but also to ensure a uniform quality of medical care throughout the entire province. Thus, the rigorous monitoring of maintenance expenses during the first five years of activity served as the pillar of stability that subsequently enabled the expansion of the sanitary network and the consolidation of the financial autonomy of Zemstvo medicine. [7, f.4] Amidst these financial restructurings between 1870 and 1875, the Zemstvo administration also brought the status of medical personnel into discussion, regulating professional hierarchies and salaries to ensure the coherent operation of the newly established hospital network. [5, f.4]

In 1870, the Governorate Hospital of Bessarabia was transferred from the authority of the Order of Public Welfare (Prikaz Obshchestvennago Prizreniya) to the jurisdiction of the Governorate Zemstvo. [2, f.4] This administrative transformation constituted the starting point of a broad sanitary reform program directed toward the modernization of hospital infrastructure, improvement of hygienic conditions, and enhancement of clinical efficiency. [10, p.218] At the moment of transfer, the institution functioned within a complex situated on the outskirts of Chişinău, on elevated sandy terrain covering approximately 5,400 square sazhen, including the courtyard and hospital garden. The infrastructure consisted of stone buildings covered with tiles, while patients were distributed among three separate pavilions. The historical nucleus of the complex was represented by the building constructed in 1815, organized on one and a half levels, with its principal façade oriented toward Moscow Street. [9, pp. 25-50] The upper floor housed the female wards, reception area, and hospital administration, while the lower level served logistical functions and accommodation for auxiliary personnel. Pharmacy assistants, Sisters of Charity, and technical staff resided in this section. The female ward contained 55 beds distributed among six wards. During periods of overcrowding, the capacity could be expanded by the addition of three supplementary beds. Nevertheless, overcrowding remained a chronic problem during the early zemstvo administration. Although the total air volume corresponded normatively to approximately twenty persons, in practice as many as thirty-four patients were frequently hospitalized within the same space. [10, p. 3-6]

In order to partially remedy this situation, in 1874 the hospital administration lowered the flooring level by approximately 80 centimeters in four wards and the corridor, thereby increasing the available air volume. In the same year, a bathing chamber was installed in the principal building, reflecting the administration's growing concern for hygienic improvement. [10, p. 3-6] The modernization of the

surgical infrastructure under the Zemstvo's aegis transformed the operating theater into a space with dual functionality: clinical and pedagogical. The generous dimensions of the room allowed for the attendance of students from the **school of feldschers**, facilitating the transfer of practical knowledge, while the advanced technical equipment—exemplified by the acquisition from Berlin of a **50-element battery for constant currents**—demonstrates the hospital's alignment with pioneering European trends in electrotherapy and instrumental surgery. [10, p. 5]

Modernization of Hygienic and Technical Infrastructure

One of the central priorities of zemstvo medical reform was the modernization of sanitary and ventilation systems. In 1873, the surgical wards were equipped with an advanced ventilation system utilizing a specialized furnace that preheated and humidified incoming air through water evaporation from a dedicated reservoir. Contaminated air was evacuated through wall columns connected to the principal smoke channel. [10, p. 4-6]

The implementation of this system represented a major sanitary innovation for the period and demonstrated the zemstvo administration's concern with reducing nosocomial infection risks and improving the hospital microclimate. The effectiveness of the installation prompted plans for its extension to additional clinical pavilions.

Sanitary conditions were further improved through the introduction of the "water-closet" system equipped with cemented and waterproofed reservoirs, which were disinfected monthly according to the Taubwurz method.

Despite these improvements, significant structural deficiencies persisted. The hospital lacked sufficient accommodation for nursing personnel, and during periods of full occupancy attendants were compelled to rest in transit areas or directly on ward floors. [10, p. 4-6]

Administrative Structure and Human Resources

The efficient operation of the Governorate Hospital depended upon a diversified personnel structure reflecting the broader professionalization of zemstvo medicine. The administrative and medical staff included the senior physician, junior physician, supernumerary physicians, administrator, assistant administrator, secretary-accountant, and chancery clerk.

The pharmaceutical service was supervised by the chief pharmacist and pharmacy assistant, while clinical activities were supported by the senior feldsher, subordinate feldshers, and Sisters of Charity. The institution also maintained a priest, sacristans, and auxiliary service personnel.

This organizational structure reflected the

transition from the charitable model of the Order of Public Welfare toward a modern medical institution characterized by a clear division of clinical, pharmaceutical, and administrative responsibilities. [5, f.4]

Technological and Surgical Equipment of the Governorate Hospital

One of the most important consequences of the transfer of the Governorate Hospital under zemstvo administration was the radical modernization of its technical and surgical infrastructure. Compared with the previous administration under the Order of Public Welfare, the first years of zemstvo medicine witnessed an unprecedented expansion of medical instrumentation, transforming the Chişinău hospital into one of the best-equipped medical institutions in the region. [10, p. 99-105]

The acquisition of such a diversified body of surgical instruments demonstrates not only the considerable financial investments made by the zemstvo administration but also its orientation toward the implementation of contemporary European medical standards. The equipment reflected broader nineteenth-century trends of increasing surgical specialization and technological sophistication.

The surgical inventory included instruments for general surgery, amputation surgery, osteo-articular procedures, neurosurgery, ophthalmology, otorhinolaryngology, urology, gynecology, and visceral surgery. For amputations, the hospital possessed large and medium amputation knives, amputation saws with reserve accessories, and tourniquet systems designed for hemorrhage control.

Sets of twelve scalpels of varying sizes and double-bladed tenotomes permitted refined soft-tissue and orthopedic procedures. Osteo-articular surgery was further supported by osteotomes and Bromfield hooks.

For cranial surgery and neurosurgical interventions, the hospital possessed a perforating trephine with two crowns, a double elevator, lenticular knives, miniature surgical saws, and double-hook forceps. The existence of such instrumentation is especially significant given the complexity and risks associated with cranial surgery during the nineteenth century. [10, p. 99-105]

The therapeutic arsenal further included aneurysm needles, blunt retractors of the Buyalski type, and specialized trocars of the Flerand and Pott models, including silver-cannula trocars used for drainage and exploration of internal cavities.

In the field of urology and internal exploration, the institution was equipped with polyp forceps, projectile extraction forceps, silver probes with loops, flexible metallic probes, silver catheters of various calibers, and whalebone devices.

Dental practice was supported through dental keys with multiple accessories, curved dental forceps, and extraction instruments of the “deer-foot” type.

The diagnostic and gynecological inventory included stethoscopes, silver vaginal specula, and complex scarificators. Of particular significance was the presence of a microscope capable of 300-fold magnification, enabling elementary histological and microbiological examinations.

The hospital also possessed ophthalmological surgical kits, autopsy sets, and portable physician’s kits, maintained through sharpening stones and leather polishing straps.

The sophistication of the technical equipment is further evidenced by the presence of Brunton otoscopes, Liebreich ophthalmoscopes, laryngoscopes, auricular catheters made of silver and hard rubber, auricular forceps, and Graefe cataract knives. [10, p. 99-105]

Clinical monitoring was facilitated through Celsius thermometers, reflecting the adoption of modern patient observation practices. Gastrointestinal and respiratory procedures utilized Weiss gastric pumps, Langenbeck tracheotomes, ivory esophageal probes, and Heister oral dilators.

In visceral surgery and urology, the hospital possessed Dieulafoy apparatuses, ovariectomy trocars, uroscopy sets, and lithotomy instruments, including the Langenbeck spoon.

Technological modernization also included the introduction of modern anesthesia and electrotherapy. The institution possessed the Esmarch chloroform apparatus and the Esmarch system for bloodless surgery. [10, p. 99-105]

An exceptional innovation for Bessarabian medical infrastructure was the acquisition of a direct-current electrical apparatus with fifty elements manufactured by Krüger of Berlin, employed in electrotherapeutic procedures. [10, p. 50]

The hospital also maintained acupuncture needles and instruments for staphylography, reflecting the diversification of therapeutic methods and reconstructive surgical practices. [10, pp. 3-6]

Hygienic and prophylactic standards were reinforced through gutta-percha pulverizers, vaccination instruments for smallpox immunization, and elastic protective accessories.

The institution further maintained extensive reserves of auxiliary materials and consumables, including irrigators, syringes, needles of varying calibers, safety pins, and dressing materials.

Collectively, this instrumentation demonstrates that during the years 1870–1875 the Governorate Hospital of Chişinău underwent a rapid process of technical and medical modernization, becoming the principal surgical and diagnostic center of Bessarabia.

Clinical Management and Therapeutic Protocols

One of the most valuable documentary aspects of the Governorate Hospital concerns the highly systematized nature of its therapeutic protocols. Clinical records demonstrate that the institution functioned not merely as a site of empirical treatment, but as a medical center in which therapies were applied according to differentiated clinical schemes adapted to pathology and patient constitution. [9, pp. 25-50]

This approach reflects the influence of contemporary European clinical medicine and confirms the zemstvo administration's encouragement of observation-based and pharmacologically grounded medical practice. [9, pp. 25-50] In the clinical practice of the Gubernial Hospital of Chişinău in 1874, therapeutic methods characteristic of European medicine in the second half of the nineteenth century were employed, combining pharmacological treatment with local procedures and surgical interventions. Intermittent fever, highly prevalent in Bessarabia, was treated with quinine administered in doses of 10–20 grains per day, while cases complicated by hydremia received *chininum ferro-citricum*. Severe anemia was managed with ferruginous preparations prescribed in doses of 8–10 grains daily. Acute rheumatic conditions were treated with high doses of quinine in combination with tincture of iodine, warming compresses, morphine, and chloral hydrate, whereas chronic rheumatism was managed with *Kali jodatum*, accompanied externally by frictions with veratrine in a concentration of 10 grains per 1 ounce of fat. Epilepsy therapy included potassium bromide administered at a dose of 1 drachm to 3 ounces daily, while acute gastritis was treated with subnitrate of bismuth (*magisterium bismuthi*) in doses of 5 grains per administration. The treatment of chronic gastrointestinal catarrh included silver nitrate in doses of ¼–½ grain, lead acetate in quantities of ½–1 grain, and bismuth preparations in doses ranging from 2 to 5 grains. [10, pp. 7-44]

Particular attention was devoted to the treatment of surgical, dermatological, and ophthalmological diseases. Chronic ulcers were managed with warming compresses and dressings containing carbolic acid, followed by alum powder applications or silver nitrate lotions prepared in concentrations of 10 grains per 2–3 ounces. Superficial eczematous ulcers were treated with tannin lotions in a proportion of 1 drachm to 12 ounces, whereas extensive deep ulcers were subjected to skin grafting procedures performed simultaneously in 3–4 sites. Osteitis and bone necrosis were treated through extensive surgical incisions with sequestrum removal, followed by the local injection of hydrochloric acid in a concentration of 1 drachm to 12 ounces, accompanied by the internal administration of cod liver oil and

cinchona decoction. In ophthalmological practice, catarrhal conjunctivitis was treated with silver nitrate solutions containing 5–10 grains, keratitis with atropine in a proportion of 1 grain to 2 drachms, and iritis with atropine administered 4–6 times daily together with potassium iodide at a dose of 1 drachm per day. Trachoma was managed with applications of copper sulfate (*cuprum sulphuricum in substantia*), considered more effective than silver nitrate-based preparations. Scabies treatment relied on compound sulfur ointments and daily baths, whereas eczema was treated with calomel ointment prepared in a ratio of 1 drachm to 1 ounce of fat. [10, pp. 7-44]

Treatment of Dysentery and Hemorrhagic Intestinal Diseases

The treatment of dysentery (hemorrhagic colitis) represents a particularly notable example of therapeutic rigor. All three documented cases ended in complete recovery.

The therapeutic protocol was structured in stages and pursued three principal clinical objectives: evacuation of intestinal irritants, protection of the intestinal mucosa, and restoration of systemic strength during convalescence.

The initial phase consisted of the administration of Oleum Ricini (castor oil), employed as a purgative for intestinal evacuation.

The subsequent phase involved Emulsio Oleosa for mucosal protection, combined with Acidum Tannicum (tannic acid), utilized for its astringent, anti-inflammatory, and hemostatic properties.

The final phase included Extractum Cinchonae Acidulatum, prescribed as a restorative tonic following severe hemorrhagic episodes.

In one case, physicians identified an underlying scorbutic condition associated with dysentery, demonstrating an awareness of the role of nutritional deficiencies in digestive pathology. [10, pp. 10-11]

Treatment of Acute Respiratory Disorders

Respiratory diseases represented one of the most frequent causes of hospitalization, particularly among lower military ranks.

In acute respiratory catarrh, treatment protocols varied according to disease stage. In the initial phase, narcotic agents were administered for cough suppression and symptomatic relief.

Subsequently, emetics and expectorants were introduced, particularly Infusum Ipecacuanhae, employed to liquefy bronchial secretions and stimulate expectoration.

Clinical statistics demonstrate remarkable therapeutic efficacy. In 1874, all eleven patients treated for acute respiratory catarrh were discharged cured. In 1873, all ten documented cases likewise recovered fully. [10, pp. 11-12]

Management of Pulmonary Diseases and Pleurisy

The treatment of pulmonary and pleural inflammatory processes reflects the advanced level of clinical medicine practiced within the hospital.

Acute pulmonary conditions were treated with Digitalis in order to support cardiac function and improve pulmonary circulation. Therapy was complemented by vesicatory agents ("flies") intended to stimulate peripheral circulation and reduce pulmonary congestion. [10, pp. 11-12]

Expectoration was facilitated through Infusum Ipecacuanhae and Ammonium Muriaticum.

In robust patients presenting with cyanosis and severe congestion, physicians practiced general bloodletting. Up to one pound of blood, approximately 400–500 grams, could be removed. Chronic inflammatory conditions were managed symptomatically through combinations of Digitalis, quinine, and low-dose opium. Cod-liver oil was prescribed as a nutritional tonic.

Narcotic substances were used for severe pain and intractable cough. In terminal cases, the medical council frequently recommended discharge, believing prolonged hospitalization accelerated physiological decline.

Pleurisy treatment achieved excellent results. All documented cases of pleuritis sicca and low-volume exudative pleurisy ended in complete recovery. [10, pp. 11-12]

Treatment of Diphtheria

The documented cases of diphtheria were limited to localized oropharyngeal forms without cervical lymphatic involvement.

Treatment consisted of topical applications of ferric sesquichloride in glycerin combined with lime-water gargles intended to remove pseudomembranous deposits and reduce inflammation.

All five documented cases evolved favorably. [10, pp. 10-11]

Management of Acute Gastritis and Digestive Disorders

The documented inflammatory digestive pathologies consisted exclusively of acute gastritis.

Four of the five patients were women, and the etiology was attributed to dietary errors.

Treatment focused upon reduction of inflammation and protection of the gastric mucosa.

Cryotherapy was applied through the administration of ice fragments. Mucosal protection was ensured through Emulsio Amygdalarum (almond emulsion).

The principal medicinal preparation employed was Magisterium Bismuthi (bismuth subnitrate), administered in doses of five grains per therapeutic intake.

The single fatality occurred in a sixty-five-year-old patient with pre-existing chronic hepatic disease. [10, pp. 7-15]

Therapy of Neurological Disorders and Pain Syndromes

Treatment of peripheral nervous system disorders and chronic pain syndromes demonstrates the introduction of advanced pharmacological methods.

Migraine (hemicrania) was treated through a combination of Cofeinum and Kalium bromatum, intended to produce cerebral vasoconstriction and central nervous system sedation.

Sciatica treatment was considerably more complex and incorporated invasive, topical, and systemic therapies.

Subcutaneous morphine injections were administered for severe pain control.

Locally, mixtures of chloroform and Oleum Hyoscyami (henbane oil) were applied for their anesthetic and antispasmodic properties.

Systemic therapy included Kalium jodatum (potassium iodide), probably prescribed for its anti-inflammatory and resorptive effects. [10, pp. 32]

Gynecology and Obstetrics within the Governorate Hospital

Gynecological and obstetrical activity within the hospital reflects the zemstvo administration's concern with puerperal complications and female mortality.

Postpartum metritis was treated through warm abdominal compresses and quinine administration. In cases complicated by abdominal meteorism, calomel was prescribed.

Cervical ulcerations were treated through cauterization with silver nitrate and the application of tampons impregnated with glycerin and carbolic acid.

In cases of uterine retroversion accompanied by hemorrhage, ergot in was administered in doses reaching one scruple daily, accompanied by glycerin vaginal tampons for hemostatic support. [10, pp. 33]

Statistical indicators and medical performance under the Zemstva administration

The analysis of clinical performance indicators within the 1874 Annual Report reveals a consolidation phase of the Bessarabian Governorate Zemstvo Hospital's medical activity, characterized by a significant therapeutic success rate, with 78.8% of patients cured out of a total of 1,342 cases treated. Statistical data highlight a marked prevalence of male patients (74.2%), reflecting the demographic structure of urban and transit hospital attendance of that period, while the mortality rate was maintained at a controlled threshold of 9.5%, despite the previ-

ously noted hygiene challenges and overcrowding. The total of 65,706 *hospitalization days* underscores the constant pressure on the institution's infrastructure and the imperative for logistical optimization, confirming that the hospital was operating at full capacity under the new Zemstvo administration, serving as the vital center of healthcare for the entire province. [10, p.700]

Organization and Development of the Governorate Pharmacy

A fundamental component of zemstvo medical reform was the organization of the central pharmacy within the Governorate Hospital of Chişinău.

The pharmacy was conceived as a regional supply center for all zemstvo medical institutions in Bessarabia. It operated under strict regulations and possessed no right to conduct free commercial sale of medicines to the general population.

The administration of the pharmacy was entrusted to a chief pharmacist, while oversight was exercised by the local medical administration in accordance with Governorate Administration Resolution No. 2825 of 14 July 1873. [10, p.7; p.48]

Modernization of the Pharmaceutical Laboratory

Between 1872 and 1875, the pharmacy underwent extensive modernization. The laboratory was equipped with a steam apparatus, an advanced drying installation, and mechanical presses for oil extraction and tincture preparation.

The entire inventory of containers was renewed in accordance with contemporary pharmacopoeia standards, and the pharmacy acquired instruments for chemical analysis and quality control.

In 1875, the zemstvo administration abandoned procurement through the Russian Pharmaceutical Society and initiated direct purchases from foreign manufacturers, thereby strengthening regional pharmaceutical autonomy. [10, p.48]

The Governorate Pharmacy as a Regional Logistical Hub

Financial records from 1874 demonstrate the role of the pharmacy as a regional distribution center for county zemstvo medical institutions.

The total value of acquisitions for internal consumption and operational reserves amounted to 2,545 rubles and 77 kopecks.

Of this sum, 314 rubles and 64 kopecks were allocated to the pharmaceutical point in Lapushna, 703 rubles and 94 kopecks to the four medical sectors of Soroca County, and 529 rubles and 85 kopecks to the medical institutions of Orhei County.

The total value of transactions intermediated by the central pharmacy for county zemstvos reached 1,548 rubles and 43 kopecks.

The principal share of pharmaceutical expenditures was directed toward inpatient hospital care, amounting to 1,349 rubles and 11 kopecks. Simultaneously, the pharmacy also served ambulatory patients, with prescriptions amounting to 246 rubles and 72 kopecks.

At the beginning of the 1875 fiscal year, the pharmacy maintained reserves totaling 928 rubles and 54 kopecks, reflecting prudent financial management and effective reserve policies. [10, pp.96-97]

Conclusions

The analysis of the Governorate Hospital of Chişinău and the Governorate Pharmacy during the first five years of zemstvo medicine demonstrates that the period 1870–1875 constituted a decisive stage in the modernization of the Bessarabian healthcare system.

Under zemstvo administration, the Governorate Hospital evolved from a predominantly charitable institution into a modern medical center capable of integrating contemporary European scientific standards.

The modernization of sanitary infrastructure, the introduction of advanced ventilation and hygiene systems, the expansion of surgical facilities, and the acquisition of specialized instrumentation transformed the hospital into the principal clinical and surgical center of Bessarabia.

The exceptional range of surgical and diagnostic instruments reflected the zemstvo administration's commitment to technological modernization and the adoption of European medical innovations.

The Governorate Pharmacy played a decisive role in the functioning of the regional healthcare system. It ensured continuous pharmaceutical supply for the hospital while simultaneously coordinating the distribution of medicinal products to county zemstvo medical institutions.

The modernization of the pharmaceutical laboratory, the introduction of steam-powered devices and chemical analytical techniques, and the transition toward direct procurement from foreign manufacturers demonstrate the professionalization and scientific orientation of the pharmaceutical service. Particular importance must be attributed to the social dimension of zemstvo medicine. The free distribution of medicines to indigent patients and the accessibility of treatment for socially vulnerable categories transformed the Governorate Hospital and its pharmacy into active instruments of social protection and disease control.

The therapeutic protocols employed within the institution reveal an advanced level of clinical professionalism characterized by differentiated pharmacological treatment, symptomatic management, and adaptation of therapies to specific clinical conditions.

Overall, the experience of the Governorate Hospital of Chişinău and its pharmacy demonstrates the decisive role of zemstvo medicine in the institutionalization of public healthcare in Bessarabia and in the integration of regional medical practice into the broader scientific framework of nineteenth-century European medicine.

Declarations

Abbreviations

Not applicable.

Ethics approval and consent to participate

Ethics approval was obtained from the relevant institutional review board, and informed consent was obtained from all participants involved in the study.

Consent for publication

This article represents the first publication in a series of scholarly works devoted to the history of medicine in the Republic of Moldova, conducted within the framework of the research project entitled “*Foundations of Modern Public Health: Institutional Reforms and Pharmaceutical Networks in Bessarabia Under the Zemstvo (1870–1875)*”. Informed consent for the publication of this article was obtained from the Author.

Availability of data and materials

The datasets generated and analyzed during the current study are available within the article. More information could be found at *Arhiva Națională a Moldovei* (National Archives of Moldova).

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

Diana Eţco/DE drafted and developed the manuscript, also revised, verified, coordinated, and supervised the work. After proofreading the text Author approved the final manuscript.

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