

UDC 359.5:61(477.7)“185/192”  
DOI 10.24919/2519-058X.25.269543

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**Bibliographic Description of the Article:** Yermilov, V. & Orlyk, S. (2022). Formation and Development of Naval Medicine in Southern Ukraine (the end of the XVIIIth – beginning of the XXth century). *Skhidnoevropeyskyi istorychnyi visnyk [East European Historical Bulletin]*, 25, 56–69. doi: 10.24919/2519-058X.25.269543

**FORMATION AND DEVELOPMENT OF NAVAL MEDICINE IN SOUTHERN UKRAINE (THE END OF THE XVIIIth – BEGINNING OF THE XXth CENTURY)**

**Abstract.** *The purpose of the article is to study the peculiarities of the formation and development of naval medicine in the South of Ukraine using the example of the city of Mykolayiv, as a centre of shipbuilding and command of the Black Sea Fleet at the end of the XVIIIth – the beginning of the XXth century. To find out its compliance with the state of development of medicine and the health care requirements of the military personnel of the naval department and the residents of the city at that time. The research methodology is based on the principles of historical knowledge (scientific, historicism, objectivity, systematic and comparative analysis), as well as on the application of general scientific, special and historical, special source studies methods. The scientific novelty of the research consists*

in the fact that for the first time the formation conditions and features of the initial functioning of naval medicine in Southern Ukraine, which laid the foundations for the development of this important branch of domestic medicine, have been highlighted and analyzed. **The Conclusion.** The birth of naval medicine in the South of Ukraine had its beginnings precisely in Mykolayiv, where a centre of practical and scientific medical professional elite of naval doctors was formed. The establishment of naval hospital in Mykolayiv played a significant role in the recovery of patients with infectious diseases and wounded servicemen during the Crimean War and the Russo-Turkish Wars, as well as weakening the spread of epidemics among the urban civilian population. Mykolayiv naval doctors made a significant contribution to the development of the city's public medicine, the science of domestic naval medicine and the development of sanitary and anti-epidemic measures during epidemics both in the troops (including on warships) and among the civilian urban population.

**Key words:** naval medicine, naval department, the Black Sea Fleet, Southern Ukraine, city of Mykolayiv, naval hospital, Society of Naval Doctors, city (Duma) medicine.

## СТАНОВЛЕННЯ І РОЗВИТОК ВІЙСЬКОВО-МОРСЬКОЇ МЕДИЦИНИ НА ПІВДНІ УКРАЇНИ (кінець XVIII – початок XX ст.)

**Анотація.** Метою статті є дослідження особливостей становлення і розвитку військово-морської медицини Півдня України на прикладі міста Миколаїв, як центру суднобудування і командування Чорноморським флотом в кінці XVIII – на початку XX ст. З'ясувати її відповідність стану розвитку медицини та вимогам охорони здоров'я військовослужбовців морського відомства і жителів міста того часу. **Методологія дослідження** ґрунтується на принципах історичного пізнання (науковість, історизм, об'єктивність, системний та порівняльний аналіз), а також на застосуванні загальнонаукових, спеціально-історичних і спеціальних джерелознавчих методів. **Наукова новизна** дослідження полягає у тому, що вперше висвітлюються й аналізуються умови створення і особливості початкового функціонування військово-морської медицини Півдня України, яка заклала основи розвитку цієї важливої галузі вітчизняної медицини. **Висновки.** Зародження військово-морської медицини на Півдні України мало свій початок саме у Миколаєві, де утворився осередок практичної і наукової медичної професійної еліти морських лікарів. Створення морського шпиталю у Миколаєві відіграло значну роль в одужанні хворих на інфекційні хвороби та поранених військовослужбовців у період Кримської війни і російсько-турецьких війн, а також послабленню поширення епідемії на міське цивільне населення. Миколаївські морські лікарі здійснили суттєвий внесок у розвиток міської громадської медицини, науки вітчизняної морської медицини та розробки санітарно-протиепідемічних заходів під час епідемії як у військах (в т. ч. на військових кораблях,) так і для цивільного міського населення.

**Ключові слова:** військово-морська медицина, морське відомство, Чорноморський флот, Південь України, місто Миколаїв, морський шпиталь, Товариство морських лікарів, міська (думська) медицина.

**The Problem Statement.** In the second half of the 18th century the entire territory of the South of Ukraine, including the Black Sea coast lands, came under the power of the imperial government as a result of the military expansionist policy of the Russian Empire. The Russian government's policy of "development" of the Ukrainian steppe and the Black Sea lands implied the creation of a system of imperial strongholds, into which the Cossack or Tatar settlements or the Turkish fortresses were transformed, by giving the "new" cities and fortresses names that should glorify the Russian Empire and its monarchs. Thus, in 1778, in particular the city of Kherson was "founded" on the site of the town of Bilkhovychi and Oleksandrivsky Shanets (the centre of the Inhul palanka during the period of the New Sich), in 1787 the Cossack settlement of Polovytsia became Katerynoslav, the Tatar village of Akhtiar became the "Russian" city of Sevastopol, and Khadzhybey became Odesa in 1794. It was possible to keep the southern

Black Sea lands under the power of the imperial government only if it had its own Black Sea fleet. In the beginning, the Russian authorities built a shipyard in Kherson, however, this place for building large ships turned out to be unsuccessful, that is why, a new shipyard began to be built at the mouth of the Inhul, around which the city of Mykolayiv began to grow. The constant increase in the number of workers, who were involved in the construction of naval ships, barracks, administrative (military and civilian) buildings and residential buildings of the city, as well as the accumulation of the naval contingent – all this was accompanied by a high incidence of infectious and cold diseases, injuries, which required the establishment of medical aid. The move of the admiralty board and the Black Sea Fleet command from Kherson to Mykolayiv was the reason for the establishment of the main naval hospital and management of the fleet medical service in Mykolayiv. As for Sevastopol Naval Service, it was subordinated to Mykolayiv Headquarters for a long time. Gradually, from 1855 till 1898, Sevastopol Naval Hospital, which operated as a small infirmary, also ceased to exist.

The historical experience of the Ukrainian medicine in all its components is quite topical both in connection with modern reforms in the health care system, as well as with the development of military medicine, which became especially important under the conditions of the current Russian-Ukrainian war. In this aspect, the naval medicine service experience of not only military personnel, but also the civilian population, the practice of which was widespread in Mykolayiv, is interesting.

**The Analysis of Recent Research Papers.** The history of the Black Sea naval medicine was studied by some modern researchers superficially. Thus, in the works of H. Turchenko and F. Turchenko (Turchenko & Turchenko, 2021), B. Zubov (Zubov, 1990), Yu. Kryuchkov (Kryuchkov, 1996), A. Sikvarov (Sikvarov, 2009), L. Levchenko (Levchenko, 2006) on the development of shipbuilding centres of the cities of Southern Ukraine, naval medicine is mentioned fragmentarily in the aspect of ascertaining the problem of the infectious diseases spread among the military and at shipyards, and naval medicine is also mentioned in the aspect of placement of numerous wounded and sick people at hospitals during the Crimean War.

In the monograph by O. Reyent and V. Volkovyns'kyi "Ukraine in the Crimean War" attention was focused on the role of M. Pyrohov in the formation of the military medical service during the defense of Sevastopol during the Crimean War, and initiation of the movement for the care of sick and wounded soldiers by the Sisters of Mercy. The authors noted a high death toll, human losses caused not only by gunfire and mine-explosive effects, but also by the spread of epidemics of infectious diseases and "the Russians' lack of any medical care for the wounded at the initial stage of the war" (Volkovyns'kyi & Reyent, 2006, p. 90).

A general development of naval medicine in the South of Ukraine was analyzed by M. Antonyady (Antonyady, 2010), S. Dobrzhansky (Dobrzhansky, 2020), and short essays on the history of Mykolayiv Naval Hospital were written by Ye. Razyнкyn and K. N. Ryzhanov (Razyнкyn & Ryzhanov, 2008), S. Chornyy and O. Vassel (Chornyy & Vassel, 2011). A. Kysel'ov, Yu. Huzenko and A. Rudenko did research on the histories of doctors' societies, in particular naval societies, which were established in the 19th – 20th centuries (Kysel'ov, Huzenko, & Rudenko, 2015). N. Lepisevich did analysis on the naval doctor N. Zakrevsky's literary heritage on the pages of the "The Naval Collection" (Lepisevich, 2012). It is the memoirs of an eyewitness to those events, Nykyfor Zakrevsky, who from May of 1829 till 1838 served as a naval doctor on various ships, at naval hospital, and then until the end of his life he worked as Sevastopol city doctor, that provided the opportunity to observe the formation process of naval medicine from the inside with all its shortcomings during

the terrible period of infectious diseases outbreaks, both in the army (including during the Crimean War) and among the civilian population.

**The purpose** of the article to do the research on the peculiarities of the naval medicine formation and development in the South of Ukraine on the example of the city of Mykolayiv, as a centre of shipbuilding and command of the Black Sea Fleet at the end of the 18th – the beginning of the 20th century.

**The Results of the Research.** In addition to numerous local population, the imperial government recruited people from the northern gubernias of the Russian Empire to construct a shipyard at the mouth of the Inhul River, around which a military settlement was established, which grew into the city of Mykolayiv. However, the recruited people had to pass hundreds of versts to the South, which was foreign for them, and roads that were bad in all seasons. Recruits did not have any adequate material support and a large number of them (30% – 50%) got sick and died on their way to the South (Malyarchuk, 1889, pp. 19–20). Working conditions, service and living conditions of soldiers and workers were also terrible in the town of Mykolayiv. These conditions caused increased morbidity and the need to organize the treatment of such a necessary and chronically insufficient workforce.

Initially, in 1789, medical assistance to the injured and sick at the shipyard was provided by a medical assistant and a doctor, who were sent from the nearest Bohoyavlensky (Epiphany) military hospital, which was located 12 versts from Mykolayiv (nowadays – the Korabelny district of Mykolayiv). The Bohoyavlensky (Epiphany) rear hospital was founded in 1788, during the Russo-Turkish war (1788 – 1791), where the wounded were brought from Ochakov across the estuary, and then the seriously ill and injured were sent from Mykolayiv in specially equipped carriages. In the 1790s, this hospital became a naval hospital, and in the 1810s it became the part of Mykolayiv Naval Hospital. The Ukrainian scholar, the founder of the national epidemiology and quarantine service, Doctor of Medicine Danylo Samiylovych Samoiloivych, was appointed the first chief doctor of the Bohoyavlensky (Epiphany) Hospital (a real surname is Sushkovsky (Borodiy, 1887, pp. 9–10)). In 1780, he defended his doctoral thesis at Leiden University (the Netherlands). For his scientific works, in particular on the treatment and fight against the plague (Самойлович, 1952а; Самойлович, 1952b), he was the only scholar in the Russian Empire who was elected an honorary member of 12 European academies, scientific societies and institutions. On this issue, a famous historian of Ukrainian medicine V. Plyushch wrote the following: “We do not know any another case in the history of medicine, when the Ukrainian, Russian or any other scientist was elected academician of so many academies” (Plyushch, 1970, p. 190). It is D. Samoiloivych who is considered the founder of one of the first scientific medical societies in the Russian Empire, “The Medical Meeting” society, which was founded “for the purpose of scientific development of medicine and health care topical issues” in the city of Kherson, in 1784 (Kotsur, 2011, p. 353).

At the end of 1789, hospital care was organized in Mykolayiv, albeit in the form of an ill-equipped primitive infirmary. In the documents of 1790, it was referred to as “a hospital for naval servants”, and in 1791 – “a preventive hospital for the mildly ill” (SAMR, f. 243, c. 36, pp. 113–125). After the move of the Admiralty Board and the command of the Black Sea Fleet from Kherson to Mykolayiv, the problem of the need to establish an additional hospital arose – “temporary infirmary for weak patients”, as well as a summer infirmary and a house for doctors and assistant doctors attached to it (SAMR, f. 243, c. 126, pp. 15–17).

In 1800, the Black Sea Medical Board was established in Mykolayiv as the part of the Black Sea Fleet command. The previously existing small naval infirmary in Sevastopol was

subordinated to the medical department in Mykolayiv. The first inspector of the Black Sea Medical Board and the chief doctor of Mykolaiv Naval Hospital (1798 – 1800) was Ostap Zveraka, a native of Poltava hubernia (Zmeyev, 1886, p. 116), who obtained the Degree of Doctor of Medicine at the University of Edinburgh in 1779. After his service in Mykolayiv, O. Zveraka served as a doctor at Yelysavethrad General Hospital and taught students at the first medical and surgical school in Ukraine, in Yelysavethrad.

In 1801 – 1805, the Black Sea Medical Board was headed by Danylo Samoiloivych. During this time, the scientist wrote several fundamental works on the epidemiology of the plague and the prevention of infectious diseases among the crews of sea vessels (Borodiy, 1987, 152).

The successor of D. Samoiloivych in the position in the Naval Department was Doctor of Medicine Ivan Matviyovych Dahl (a father of an outstanding lexicographer, a writer and doctor Volodymyr Dahl). As a result of the reform of the medical service in the Black Sea Fleet, which began in the second half of 1805, the positions of a chief physician of Mykolayiv port, a manager (chief doctor) of Mykolayiv naval hospital, and medical inspector of the Black Sea Fleet were combined and represented by one person. Thus, the chief medical officer of the fleet began to simultaneously manage the naval and civilian medical affairs of the fleet and the city of Mykolayiv. He organized and was responsible for the state of treatment and health care of naval officers and their family members, who together made up the majority of the population of Mykolayiv (SAMR, f. 230, c. 3, p. 19).

As a result of the reform of the medical service in the Black Sea Fleet, the Black Sea Medical Administration was replaced by a medical expedition and the “Regulations for Medical Administration in the Fleet” were approved, according to which medical staffs were established for the sailing and rowing fleets and Mykolayiv Naval Hospital. It was I. Dahl who had to implement the reforms of the military medical service. The Bohoyavlensky (Epiphany) Hospital was attached to Mykolayiv Naval Hospital (it was considered a branch of Mykolayiv Hospital). As a result of all these measures, a naval hospital was formed in Mykolaiv in 1817 – 1819 as the main medical institution of the Black Sea Fleet.

After the death of I. Dahl (October 5, 1821), he was succeeded by Matvii Ivanovych Vrachko, Doctor of Medicine. Owing to new quarantine measures initiated by him in the fleet under the conditions of hostilities during the Russo-Turkish War of 1828 – 1829, as well as the creation of special hospital ships, the incidence of infectious diseases was reduced in a way. At the same time, owing to the efforts of Mykolayiv naval doctors, under the leadership of M. Vrachko, the city managed to avoid the spread of the plague (brought from the Balkans) that raged in the South (including the city of Odesa) in 1829 – 1830 and to reduce cholera incidence in 1830 – 1832, the epidemic of which broke out in the European part of the empire (Krylov-Tolstikov, 2016). Such results were achieved owing to the medical examination of Mykolayiv residents by naval doctors.

Joint efforts of the fleet commander and the medical service led to certain improvements in naval medicine, in particular: hospital facilities and premises were rebuilt; on the prescription of naval doctors, free dispensing of medicines for treatment of family members of lower ranks from the pharmacy of naval hospitals was introduced; there continued a systematic medical check up of the city residents; there were regulated payment rules for treatment of patients from civil departments at naval hospitals; the requirement to monitor the health of crew members, there was introduced the demand on the duty of military ships commanders to reduce and ease corporal punishments of lower ranks that were common at that time; there became systematic not only the smallpox vaccination of recruits, but also children

of lower ranks, etc. After navigation the transfer of ship doctors to naval hospitals entered into practice.

If there were certain changes in the rear naval hospitals, then on sea ships and at infirmaries, among the Russian troops, treatment of infectious diseases during the epidemic period was carried out in primitive ways due to the lack of necessary drugs. Patients, who suffered from typhoid fever, were given emetics and laxatives only, ordinary warm water was often used to wash abscesses, and lemon juice was used as vitamins (Zakrevskiy, 1861, p. 89). As for the organization of hospital ships, Nykyfor Zakrevsky (a naval doctor, after graduating from the medical faculty of Kharkiv University was sent to serve in the Black Sea Fleet, in Naval Crew 34) in one of his memoir articles, described the current state of affairs as of 1829: “the seriously ill were taken to the “Skoryy” frigate, specially designated as a temporary hospital; nothing was properly arranged on its board: ... there were no stoves at all; according to the number of patients, there were not enough mattresses, blankets, or warm robes. <...> necessary utensils, bandages and supplies were not provided”, there was no even hot water for bandaging (Zakrevskiy, 1861, p. 93). On this frigate, there was only one doctor, no medical assistant, and there were 80 patients infected with typhus. Such conditions of treatment caused the situation that “within one week –among 80 sick people on board of the “Skoryy” frigate – 60 people died, the rest were sent to the hospital” (Zakrevskiy, 1861, p. 94).

In 1838 – 1847, the naval medicine of Southern Ukraine was headed by an honorary member of the Medical Council, Doctor of Medicine Petro Aliman, who was the chief doctor of the Black Sea Fleet and the ports and the chief doctor<sup>1</sup> of Mykolayiv Naval Hospital. He was an experienced doctor and an organizer of the military medical service, because before that appointment he made a round-the-world trip as a ship doctor, and he was also the chief physician of Sveaborg, Arkhanhelsk and Kronstadt naval hospitals and a medical inspector of these ports. Owing to the naval administration a small city hospital was established in Mykolaiv in 1838.

In 1847 P. Aliman died in service, and instead of him August-Erich Kyber, Doctor of Medicine, was appointed, who had much practical experience, and participated in the polar expedition to the Arctic, and made a round-the-world trip with Baron F. P. Wrangel. August-Erich Kyber was a Member-Correspondent of the Academy of Sciences (Zakrevskiy, 1861, p. 89). At that time of his appointment, there was the period of a new outbreak of the cholera epidemic (1847 – 1848). Anti-cholera measures elaborated by P. Aliman and supplemented by A.-E. Kyber (*Ob'yavleniya shtaba*, 1847 – 1855) were taken at the Black Sea Fleet and the port. In the city, according to the order of the commander-in-chief of the the Black Sea Fleet and military governor, Admiral M. P. Lazarev, with the participation of naval officers and doctors, Precautionary committee was established to get rid of the epidemic.

In 1853, the Crimean (Eastern) War began. In June of 1854 the head of the Medical Service of the Black Sea Fleet A.-E. Kyber received the status of General-staff-doctor of the Fleet after another administrative reform of the naval medical service. He made a lot of efforts to develop the naval hospital and prepare it to treat wounded and sick naval servicemen evacuated from the Crimea (Naumova, 2010, p. 242). But on March 29, 1855, A.-E. Kyber died of typhus in Mykolayiv. Doctor of Medicine Mykyta Vasyliovych Maziukevych became the General-staff-doctor of the Fleet, the chief doctor of Mykolayiv hospital and the medical inspector of Mykolayiv port.

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<sup>1</sup> In the beginning, the chief doctor was in charge of all matters at the hospital, and his deputy was the head doctor (he was in charge of the medical part of the hospital). Later, the position of the chief doctor was abolished, and during the rest of the pre-Soviet period, the hospital was managed by the head doctor, for a long period he was also the chief doctor of the fleet.

In the Crimean War, the archaic Russian Black Sea Fleet proved unable to counter the Allied steamships. As a result, the Russian fleet was sunk in Sevastopol raid, and the crews with ship's weapons took up the land defense positions of the city. Naval doctors began to serve in field hospitals and bandaging stations. In the theatre of war, hospitals were quickly overflowed with the wounded and sick. They began to be evacuated from the peninsula to mainland hospitals in southern Ukrainian cities (Mykolayiv, Kherson, Melitopol, Mariupol, Berdiansk, Henichesk, etc.). Transportation was carried out by carts, in the amount of more than 100 units, which were assembled into evacuation "transport trains" (Volkovyns'kyy & Reynt, 2006, p. 90). During the autumn-winter period of 1854 – 1855, the sick and wounded were transported "in open carts, the wounded and sick had no winter coats on and were taken from Simferopol to Perekop for 7 days; they had no place to stay for a night, in a field or in unheated Tatar dwellings, sometimes staying without food or boiling water for 3 days... there were not enough bandaging materials. Bandages were barely washed and applied wet" (Tarle, 1959, pp. 256–257).

The city of Mykolayiv was the main rear base of the Fleet medical service. Land evacuation of naval servicemen from the Crimea to Mykolayiv began in January of 1855, but severe winter conditions suspended the transportation of the wounded and sick until spring. In the summer of 1855, on the initiative of the General-staff-doctor of the Fleet, M. Maziukevych, Mykolayiv Naval Hospital was expanded from 600 beds to 2,447 beds, there were used nearby naval barracks and suitable buildings. During the period from March till November of 1855, 32 evacuation transports delivered 6,000 people. Transporting of the wounded and sick was accompanied by a naval doctor, an officer, a pharmacy and a servant. At the naval hospital, three patients had to lie down on two beds. Thus, the hospital managed to accommodate about 3,000 people at the same time (Rasporyazheniya, 1855, pp. 181–197).

In December of 1854, under the leadership of an outstanding scientist-surgeon Mykola Ivanovych Pyrohov, the Sisters of Mercy and caring nurses began to work in the "theatre" of war and at front-line hospitals for the first time. In some period of time, M. Pyrohov sent the units of nurses to rear hospitals. Thus, in 1855 – 1856, in Mykolayiv, 2–3 dozen of Sisters of Mercy (some of them were local women) cared for the wounded and sick (who fell ill with smallpox, scurvy, infectious diarrhea, cholera, and the majority – typhus) at temporary military and naval hospitals. The selfless and heroic work of the Sisters of Mercy, as recalled by M. Pyrohov and many of his contemporaries, improved the results of treatment and eased the plight of military personnel at hospitals significantly (Pirogov, 1856, pp. 165–197).

After the cessation of hostilities in the Crimea, all residents of Sevastopol, naval servicemen and naval hospital (the autumn of 1855) were evacuated to Mykolayiv. There was a significant overpopulation in the city. Due to a significant number of wounded, the rope factory in Mykolayiv was reorganized and adapted to a military hospital for 4 thousand wounded (Levchenko, 2006, p. 125). A large concentration of troops was also observed at the coastal area from the city of Mykolayiv to Ochakiv (it was the very place that the enemy was expected to land), who were in unsatisfactory sanitary conditions, which caused another outbreak of the epidemic of various types of typhus. The situation became especially complicated in the autumn and winter of 1855 – 1856, when hospitals were overcrowded with patients critically. The conditions of their accommodation were terrible. The naval department, which was materially better prepared for the war, helped temporary military hospitals of troops department with hospital supplies, and later with medical personnel. At hospitals mortality was very high: during the period from November 1, 1855 till May 1, 1856, 22,774 patients were located in three temporary military

hospitals, of them, about a half (9,682 people – 42.5%) died, and in January – March of 1856 at the naval hospital, there were 8,941 patients, 1,292 or 14.6% died (Sokolov & Kiyakovskiy, 1857, pp. 27–33). The above mentioned figures of mortality at these hospitals testify to the best conditions of treatment and care for patients in the naval hospital. But one should not forget that the lack of medicines and poor treatment conditions had another “invincible evil” – stealing and financial abuse, when “the sums given to hospitals were shamelessly embezzled by quartermasters, managers of medical units, and generals, and humble supervisors of hospitals”, which the command of the land and naval forces knew about, but could not do anything about it (Tarle, 1959, pp. 256–257).

Almost all doctors, medical assistants and sisters of charity, as well as the majority of the naval doctors and medical assistants assigned to them, fell ill in military land hospitals. In total, 9 naval doctors died in Mykolaiv during the war. In 1857, despite the enormous workload, Mykolayiv doctors M. G. Sokolov and F. S. Kiyakovsky, for the first time in medicine, studied and described the clinical and epidemiological characteristics of typhoid fever (and typhus) (Sokolov & Kiyakovskiy, 1857). But this work remained unnoticed in science.

After losing the war, losing the Black Sea Fleet and the right to have it in the future, the Russian Empire began to reform the naval department. The decrease in the number of sailors in Mykolayiv and the experience of the recent war contributed to the improvement of medical care. In the naval hospital, the amount of beds was reduced, and the other part was taken away for the treatment of naval officers and officials, their wives and children, family members of lower ranks. A female servant appeared at the hospital (only 100 beds).

From October of 1858, the “Statute on Naval Military Hospitals” came into force (Ustav, 1860, pp. 217–239), which significantly improved the medical and economic activities of naval hospitals: 1) the hospital management was divided into medical, economic and administrative departments; 2) the duties of a chief doctor, his assistant, senior interns, interns (separately for an intern on duty), supervisor and his assistants, pharmacist, supervisors were determined; 3) special attention was paid to organizing economic issues related to nutrition of patients, material support, laundry, heating and lighting of the hospital. In 6 years, in January of 1865, a new version of the Statute of naval hospitals was adopted, which detailed all the positions of the previous Statute, expanded the duties of the chief doctor and other officials, who were part of the management office of naval hospital, in addition, the position of prosecutor and medical assistants was introduced (Ustav, 1867, pp. 75–106). Civil servants were gradually replaced by trained servants. The Naval Department approved the system of overseas advanced training of naval doctors and the procedure for awarding them the academic degree of Doctor of Medicine (Pravila, 1860, pp. 34–43). Among the first doctors sent to overseas advanced training were Mykolayiv naval doctors V. Olevinsky and K. Filippovych, who later received the degree of Doctor of Medicine.

In April of 1859, the “Society of Naval Doctors in Mykolayiv” was established for the purpose of a theoretical, practical improvement and exchange of experience (the doctors of Sevastopol, who in 1890 established a similar “Society of Naval Doctors in Sevastopol” also became its members). Dmytro Akymovych Holubkin, a nobleman of Kharkiv gubernia, was elected the first chairman of “Mykolaiv Society of Naval Doctors”. During the Crimean War, he served as an assistant to the doctor of Sevastopol Naval Hospital, and then assistant to the chief doctor of Mykolayiv hospital; in 1857, he was appointed the chief of the naval medical department in Mykolayiv, and in 1863 – a chief doctor of Mykolayiv Naval Hospital

D. Holubkin was a Ukrainian patriot all his life. On October 3, 1863, at the meeting of the Society of Naval Doctors, his friend doctor Y. Fiodorovych handed over his last will: “his last thoughts were addressed to the Motherland, the memory of which he always carried on his chest. It was a small furl with the Ukrainian soil, with which he asked to be buried in the grave, saying before his death: “do not separate me after my death from my dear Ukraine!” (Fiodorovich, 1864, p. 96).

In 1871, the Russian Empire withdrew from the restrictive Treaty of Paris and began to develop the Black Sea Fleet, and accordingly, the medical service. In 1875, the staff of Mykolayiv Naval Hospital was expanded to 500 beds. At the hospital, they began to train sisters of charity of the Red Cross Society, some of whom remained to serve in Mykolayiv. Gradually, ambulatory care began to develop at the hospital. In 1870, with implementation of “Urban Provision”, significant development took at Mykolayiv city hospital, which received its main personnel from the Naval Department. Since 1875, the paramedic school, the activity of which was suspended during the Crimean War, but was closed in 1866, resumed functioning as part of the naval hospital. After three years of study, graduates of this school undertook to serve in the naval department for 10 years in a position equivalent to an officer rank (Prikazy, 1874, pp. 10–14).

After the Crimean War, the old premises of Mykolayiv Naval Hospital, which dated back to 1791, became unsuitable for operation. Therefore, in 1863, the project elaboration for the construction of a new hospital with 620 beds began, the developer of which was Academician K. Sokolov. In 1864, the hospital project with 11 buildings (7 for patients and 4 for the staff) was approved by the Naval Ministry (Otchet, 1864, pp. 181–183). In 1867, due to the delay in funding, the construction was stopped until 1872. In 1886 the construction of the hospital complex ended with the consecration of one of the largest hospital churches in the city. Mykolayiv Naval Hospital became one of the best not only in the city but also in the empire in terms of arrangement and organization of activities.

The next Russo-Turkish war of 1877 – 1878 the Russian Empire entered with the weak Black Sea Fleet, and therefore there were no intensive naval battles. During this war, Mykolayiv Naval Hospital operated almost as during peacetime. Only a few temporary military infirmaries operated intensively in the city, to which the sick and wounded from the theatre of war were transported by steamboats. It should be noted that the vast majority of patients in these infirmaries were infectious patients and thus, they were isolated from the townspeople. Therefore, owing to the efforts of naval doctors, who at the same time occupied leading positions in the city’s medicine, the epidemic did not break out in the city. After the end of the war, more than a third of the patients at the naval hospital did not belong to the naval department. At the beginning of the 1880s, the positions of an oculist and a consultant in surgery (as assistants to the hospital’s chief doctor) were introduced to the hospital staff. Such medical specialization (and the prosector) was a novelty in both Ukrainian and imperial medicine.

In addition, the hospital doctors became increasingly active in scientific and practical issues: laboratory, instrumental and functional research, implementing physical therapy methods, new medical technologies (Lister antiseptics, injections, X-rays, etc.). Doctors conducted microbiological studies to identify the causative agents of a number of diseases, the results of which were published in periodical departmental publications. In 1872 naval doctor Mykola Kovalyev-Runskyyi (a graduate of the medical faculty of Kharkiv University) received a large silver medal at the Polytechnic Exhibition in Moscow for the medical airborne knapsack he designed, and at the International Statistical Congress in St. Petersburg – a praise for scientific research and medical, statistical work (Izvlacheniyе, 1875, pp. 609–612, 616–617).

A significant contribution to the development of domestic medicine was made by naval doctors within the framework of the activities of the Society of Naval Doctors in Mykolayiv, established in 1859 (*Kratkiy obzor*, 1860, pp. 511–514). At the meetings of this society, along with the issues of naval medicine (treatment and hygiene), the issues of organization and improvement of the city medicine, the sanitary and epidemic state of the city began to be analyzed and discussed considered more and more often. In particular, substantiated ideas were elaborated and submitted to the city authorities regarding the arrangement of the city water supply and sewerage systems, their construction projects; sanitary and hygienic conditions for using a special device for loading commercial steamships with bread (the so-called “harp”); measures against epidemics that broke out from time to time in the city; ideas regarding the formation and analysis of the city medical and sanitary statistics, etc. Therefore, the Society’s advice on medical issues was often decisive for the local authorities. For a long time, the laboratory of the naval hospital carried out chemical and bacteriological analyses for the needs of the city (duma) medicine. The naval hospital was the first one in the city to have an X-ray room, which was also used by the city hospital for several years. In addition, the Society of Naval Doctors constantly submitted its ideas to state medical authorities on various medical, public and social issues relevant at that time.

During the period of 50 years of activity of the Society of Naval Doctors (1859 – 1909), 546 meetings were held and 671 issues from almost all branches of medicine were considered. The heads of the Society were elected among the most prominent naval doctors (heads of the naval medical service of the Fleet and the city, mainly Doctors of Medicine) D. A. Holubkin, M. K. Taube, K. M. Fylippovych, V. G. Girgenson, A. O. Lavrentiev, M. G. Sofronytskyi, E. E. Kyber, M. M. Morachevsky, who made a significant contribution to the organization and improvement of naval medicine (*Protokol*, 1909, pp. 5–47, 52–53).

In general, the naval medicine of Mykolayiv consisted of the naval medical inspection of the port (with control rights of civil medicine), a naval hospital, infirmaries of naval crews and the reception room for the admiralty. Until the 1890s, this service practically replaced the city medical service, which was formed very slowly in the city (military governorate). Naval doctors were the first city district sanitary doctors, on their initiative and participation the first and the only outpatient facility for the poor operated in the city for a long time – “The First Private Doctor for Incoming Patients in the City of Mykolayiv, Kherson Province” (*SAMR*, f. 230, c. 10591, pp. 3, 5–5v, 10). Naval doctors took an active part in the development and implementation of anti-epidemic measures, medical and police control of prostitution and the fight against venereal diseases in the city.

Since the naval hospital had been the only medical facility in the city for a long time, there was a need to establish the city hospital for the civilian population, which grew dynamically with the development of the city. Only after the adoption of the City Regulations of 1870 did the city medicine begin to develop in Mykolayiv. In 1873, in the City Duma, the issue of “plans and estimates for the construction of the city hospital according to the new barracks system” was put on the meeting agenda (*Levchenko*, 2006, p. 125). Subsequently, a whole system of city medicine was formed: in addition to the city hospital, the duma employed district sanitary doctors and doctors for the poor (similar to district zemstvo doctors). This process began to develop more intensively after 1895 – 1896, when the command of the Black Sea Fleet was transferred from Mykolayiv to Sevastopol, and in 1900 the military governorship was replaced by the city administration. At the beginning of the 20th century industrial and commercial development of the city contributed to the growth of the medical

field. But the naval hospital and the local Society of Naval Doctors remained the most authoritative medical formations in the city and had a significant impact on the state of health care of its residents.

The paramedic school at the naval hospital constantly supplied the fleet of qualified specialists who, after serving the prescribed term, replenished the civilian medical staff of the city. Retired naval doctors, held key positions in the city medicine (city doctors, chief doctors, senior and junior interns of the city hospital), were active members of local self-government (the *duma* members, members of the board and executive commissions) and many city public organizations, they replenished the management personnel in the medical formations of other fleets of the Russian Empire. In particular, Mykolayiv naval doctor, Doctor of Medicine K. O. Rosenberger held the positions of a director of the Medical Department of the Naval Department and general-staff doctor of the imperial fleet for ten years (1856 – 1866); Doctor of Medicine A. O. Lippe was appointed a chief doctor of the naval hospital in Vladyvostok, etc.

During World War I, in Mykolayiv Naval Hospital tens of sisters of mercy among willing local women were trained, and naval doctors worked at the city's largest hospital (with 400 beds) for wounded and sick soldiers evacuated from the front. The chief doctor of the hospital, Mykhailo Kvitsynskyi, was appointed the head of the evacuation of the sick and wounded from the theatre of hostilities and the head of the city's sanitary welfare (SAMR, f. 229, c. 496, pp. 45–49v).

During the Ukrainian Revolution of 1917 – 1921, Mykolayiv Naval Hospital was a part of the Ukrainian Naval Forces. In 1918, when the city was occupied by the German allied troops, the paramedic school ceased to operate, and its premises, built in 1912 according to the project of a famous architect O. I. Dmytriyev, were used by the German troops as barracks. During this period, when different authorities ruled the city, the naval hospital provided medical assistance to both naval and land servicemen. After the final invasion of Mykolayiv by the Bolshevik troops, the naval hospital became the Soviet general military hospital.

**The Conclusion.** Thus, the birth of naval medicine in the South of Ukraine had its beginnings precisely in Mykolayiv, where a centre of practical and scientific medical professional elite of naval doctors was formed on the Ukrainian lands. The establishment of a naval hospital in Mykolayiv played a significant role in rescuing patients with infectious diseases and wounded servicemen during the Crimean War and the Russo-Turkish wars, as well as reducing the spread of epidemics among the urban civilian population of Southern Ukraine. A whole galaxy of prominent Ukrainian doctors worked in naval medicine in the South of Ukraine (D. S. Samoilyovych, D. V. Volchanetsky, E. F. Zverako, S. A. Pavlovsky, M. I. Vrachko, D. A. Holubkin, A. V. Lysenko, V. A. Stradomsky, etc.), who made a significant contribution to world medicine, but their achievements are appropriated by Russia, identifying them as the Russian doctors. Mykolayiv naval doctors made a significant contribution to the development of naval medicine science and the development of medical and sanitary measures during epidemics both in the troops (including on sea vessels) and the civilian urban population. In general, their activity became an important component for the development of Ukrainian medical issue and medical science. Under modern difficult conditions, during the aggressive war launched by the Russian Federation against Ukraine, representatives of naval medicine in Mykolayiv provide professional medical assistance to the defenders of Ukraine and civilian population of Mykolayiv region.

**Prospects for further research.** The organization and activity experience of the naval medicine of the South of Ukraine with local civilian medicine can be promising for further research and implementation in the practice of the national health care system.

**Acknowledgement.** We express our sincere gratitude to all members of the editorial board for consultations provided during the preparation of the article for publishing.

**Funding.** The authors received no financial support for the research, authorship, and/or publication of this article.

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*The article was received January 17, 2022.  
Article recommended for publishing 23/11/2022.*