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Evolution of sanitary-epidemiological services in Poland in the years 1944-2014

Ewolucja służb sanitarno-epidemiologicznych w Polsce na przestrzeni lat 1944-2014

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Summary

This paper presents the history of sanitary-epidemiological services in the context of the health, economic and socio-political situation in Poland in the years 1944-2014, with a critical analysis of legal restraints, efficiency and achievements.

Polish Sanitary Services, established in 1919, as a state service, have preserved for more than 95 years (also during World War II and the occupation) the continuity of its structures and essential objectives to enable their implementation in the field of public health protection. The unique effectiveness of actions was recorded in the years 1954-1998 and 2002-2009 in the time of central (vertical) subordination of sanitary-epidemiological services.

The pre-accession preparation to the European Union (EU) strongly accelerated the development of sanitary-epidemiological services in Poland. Polish accession to the European Union has promoted the implementation of the WHO document "Health for All in the 21st Century" and the reduction of "health inequalities".

Keywords: Epidemiologic Factors • Epidemiological Monitoring • Public Health

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The WHO in documents “Health for All 2000”, and the “Health for All in the 21st century” points to the strategic directions of health care. Their aim is to intensify activities regarding the prevention of phase I focused on eliminating risk factors. This role is performed by Sanitary Inspection in public health in Poland. The Act on State Sanitary Inspection on the 14 March 1985 (consolidated text: 17 September 2015, Journal of Laws, 17 September 2015, pos. 1412), Art. 1. State Sanitary Inspection is appointed to carry out tasks in the field of public health, in particular by exercising supervision of the following conditions:

- environmental hygiene
- occupational hygiene in the workplace
- radiation hygiene
- teaching and education
- leisure and recreation
- health of food, nutrition and household items,
- hygiene and sanitation to be met by the medical personnel, equipment and the premises in which health care provided in order to protect human health from the adverse impact of environmental harm and nuisance, prevention of diseases, including infectious and occupational diseases.

The authors present the current legal state, structure of possible activities of sanitary-epidemiological service. They also depict the history of statutory activities of sanitary-epidemiological services in the context of the changing historical and political conditions after World War II, the health, economic and socio-political situation of Poland in the years 1944-2014, with a critical analysis of these activities.

State Sanitary Inspection is statutorily appointed central state institution of the combined type, for which the founding body is the Minister of Health. In each of the 16 provinces, a provincial sanitary-epidemiological station is established, to which district stations are substantially subjected. Currently, statutory tasks of Sanitary Inspection are performed by 16 Provincial Sanitary-Epidemiological Stations, 318 District Sanitary-Epidemiological Stations, 10 Border Sanitary-Epidemiological Stations, and 18,000 professionals are employed. The head of the State Sanitary Inspection is the Chief Sanitary Inspector, as a central governmental administration unit appointed by the Prime Minister at the request of the Minister of Health. Advisory and consultative member is the Sanitary-Epidemiological Council, consisting of outstanding scientists and practitioners in the field of epidemiology and public health.

In the period 1944-2014 several time periods can be distinguished in which political events, epidemiological and economic situations, have not only set new concepts of how sanitary-epidemiological services are to function, but actually determined the actions of both ad hoc, intervention character (for example the polio epidemic of type 3 in 1958, the epidemic of smallpox in 1963)

and long-term actions (fighting tuberculosis, trachoma, typhoid fever and typhus, action “W”, fighting diphtheria, implementation of mass scale vaccination against polio, tetanus, tuberculosis, hepatitis B). This division coincides with periods accepted by Polish historians [2].

THE PERIOD FROM 1944 TO 1948.

Immediately after World War II, Poland was completely destroyed and the nation’s biological losses exceeded 6 million killed (!), there was widespread famine, great migrations and pandemics of tuberculosis, typhoid fever and typhus, malaria, dysentery. In 1945 the situation from the years 1917-1922 was repeated (after World War I and the Bolshevik assault) in regards to the threat of people suffering from infectious diseases, the medical staff being decimated or out of the country [2,3,6]. This period is known for its heroism as well and the enthusiasm of people combating epidemics. This resulted in unique scientific developments, as production was under way, in clandestine conditions, of a vaccine against typhus, which was distributed to concentration camps and ghettos (Rudolf Weigl, Henry Mosing and others), and the studies were conducted on hunger disease in the Warsaw Ghetto and war malnutrition of the population [1,4,8].

The gradual liberation of the country resulted in the resumption of activities performed by sanitary supervision structures, the evacuation of Polish sanitary service workers from the eastern lands of the Republic, which were to be given to the Soviet Union in accordance with arrangements of Yalta, and the pioneering establishment of Polish Sanitary Inspection structures on the acquired Western and Northern Territories [2,3]. In the years 1944-1945, the National Institute of Public Health-National Institute of Hygiene (NIPH-NIH) resumed its activities (established in 1918), running other branches in provincial and some district cities, that performed laboratory diagnostics, epidemiological surveillance, disinfection, insects and rat extermination, mass vaccination campaign, sanitary education. On the strength of the Act of 31.12.1944 Ministry of Labour, Welfare and Health was established. At the same time, on Nov. 24, 1944 in Lublin, Central Special Commissioner’s Office for Epidemic Control was established, which was subordinate directly to the Council of Ministers (as it was in 1918), and prof. Jerzy Morzycki, Md, PhD was appointed to the position of Chief Commissioner. In 1946, a decree of the Council of Ministers came into force, which appointed health professionals to fight against epidemics. At the Departments of Health the Special Provincial Commissariats for Epidemics were created, which conducted epidemiological surveillance of infectious diseases, their prevention, diagnosis and combat. Since then, reporting and registering infectious diseases have been carried out to the present.

In 1947, sanitary-antiepidemic branches has been set up in Health Departments, and county doctors involved

Table 1. Infectious diseases in Poland, 1945 [4]

Disease	Number of ill	Deaths	Mortality (%)	Morbidity/ 100 thousand	Mortality/ 100 thousand
Diphtheria	21 705	1464	6.7	91.0	6.2
Dysentery	6690	644	9.4	28.0	2.6
Typhoid fever	81 657	5438	6.6	341.2	22.9
Typhus	15 808	1285	8.1	66.1	5.4
Tuberculosis	150 000	72 000		>600	300
Trachoma	400 000	*	*	1683.3	*
Syphilis (1947)	100-150 000		?	approx. 500?	?
Syphilis (1948)	55 000		?	>230	?
Malaria (1946)	5644	2*)	?	23.6	?
Scarlet fever	12 785	199	1.6	53.4	0.8
Gonorrhea	43 000	*	*	180.0	*
Rhinoscleroma	>200?	?			

*) - Data on deaths unreliable (for example in 1948-1994 cases of malaria, morbidity 41.8 / 100 thousand, 9 [?] deaths).

nurses and sanitary inspectors to carry out antiepidemic field works. All the then actions took place with considerable international aid, including the United States (J. D. Rockefeller Foundation, United Nations Relief and Rehabilitation Administration (UNRRA), United Nations (UN)).

THE PERIOD FROM 1949 TO 1956.

The period of intensified Stalinization with political repression and an attempt to build a planned economy ("five-year plans") under "hot" (Korean War), and then the "cold war" between global ideological and economic blocs. These are also the years of significant improvement, the stabilization of the country's epidemiological situation, especially in regards to social infectious and parasitic diseases (tuberculosis, venereal disease, diphtheria, dysentery, typhoid fever, clothing lice, geohelminths). 1957 – eradication of exanthematic epidemic typhus, 1963 – malaria. The year 1948 was the real beginning of the unification of health service and redirecting it on a central national health service, on the Soviet model (i.e., the Siemaszko model), legislatively initiated in public health care institutions on Oct. 28, 1948. Sanitary Columns were created consisting of sanitary inspectors and an antiepidemic nurse. The column was to be directed by a doctor. But even in 1952, management of district sanitary columns was in 80% performed by sanitary inspectors, and in most districts, doctors did not direct departments of health.

Imposed, repressive (but effective in the post-war conditions), the Soviet model of sanitary supervision has been significantly mitigated ("civilized") by survivors of war, prominent Polish scholars (Chodźko, Hirszfild, Kacprzak Kostrzewski, Reichman, Weigl).

In 1954, Jan Kostrzewski implemented the foundations, pioneering on a global scale the immunization calendar, the so-called the Polish Immunization Programme, which was a state-funded system of universal and compulsory sequential vaccination against infectious diseases for children and youth up to 18 years of age. Annually modified, depending on the epidemiological situation in Poland and Europe, it has been valid to this day as a Communication of Chief Sanitary Inspector – Ordinance of the Minister of Health. In 1955 the compulsory vaccination against tuberculosis was introduced and on April 22, 1959 the law on the fight against tuberculosis was introduced (Journal of Laws 1959.27.170). During this period, great preventive and curative processes ended successfully:

- insight in endemicity of goiter in Poland, conducted by prof. Antoni Falkiewicz (1901-1977) and the hygienist and endocrinologist prof. Adam Pacyński (1912-1986), finalizing the pioneering works before the war, conducted by prof. Józef Heller, MD PhD. The permanent introduction of iodized salt has been introduced;
- great operation of elimination of trachoma, the main cause of blindness;
- liquidation of rhinoscleroma, and intestinal parasitosis.

In 1951, the state Scientific Institutes were created in Lublin, Łódź and Sosnowiec and the Institute of Maritime Medicine in Gdynia was revived, which dealt with occupational health in a variety of industries, maritime economy and agriculture. In 1950 at the Faculty of Medicine in the Medical Academy in Warsaw, the Minister of Health Tadeusz Michejda appointed the Sanitary and Hygiene Department for educating doctors specializing in epidemiology, hygiene, and infectious diseases. On the strength of a resolution of the Presidium of the

Government, in February 1952, sanitary-epidemiological stations were appointed, and the NIPH-NIH branches have been converted into provincial stations. On Aug. 14, 1954, the Council of State appointed, by a decree, the State Sanitary Inspection (Journal of Laws 1954 No. 37, item 160). The centralized structure that was expanded in the field was created. Nearly 400 sanitary-epidemiological stations were created in districts, and in seaports - Port Stations. A great role in creating the Inspection was played by the following professors: Jerzy Morzycki (1905-1954), Witold Chodźko (1875-1954) - co-founder of the League of Nations, Józef Heller (1896-1982) - biochemist, Ludwik Hirszfeld (1884-1954) - immunologist, a prominent researcher of blood groups, Marcin Kacprzak (1888-1968) - hygienist, an international authority on public health, Ludwik Rajchman (1881-1965) - Polish representative in the League of Nations, co-founder of UNICEF.

THE PERIOD FROM 1956 TO 1970.

The Gomułka period was one of political and economic "thaw", along with the gradual degeneration of the period, ending in bloody clashes on the Polish coast. It was also a period of stabilization of the country's epidemiological situation, disturbed by dangerous epidemics: polio virus (type 3) in 1958, smallpox in 1962 in the Tri-City and the great epidemic of smallpox in 1963 in Lower Silesia. Thousands of health workers fulfilled their duties very generously; some died or became ill [3,4]. The aftermath of this epidemic was law of Nov. 13, 1963 regarding the fight against infectious diseases (Journal of Laws 1963.50.279), which replaced the Act of 21.2.1935 on the prevention and combat of infectious diseases (Journal of Laws 1935.27.198), which was at that time innovative in Europe. The liquidation, in 1967, of Sanitary and Hygiene Study at Faculty of Medicine, Medical Academy of Warsaw caused a shortage of qualified management personnel prepared to work in the sanitary-epidemiological services. The introduction of vertical, highly effective structure of the State Sanitary Inspection, while at the same time preserving many existing and proven during the occupation sanitary supervision elements, was a testament to the wisdom of those luminaries of public health. In 1964, professors Jan Karol Kostrzewski and Kazimierz Lachowicz postulated the need to extend the epidemiological studies concerning noninfectious diseases [5]. Principles of supervision over food and objects to be used were modernized and adapted to the current market and consumers needs in 1970 by replacing the historic (though substantively outstanding as at the time of its creation) Regulation of President of the Republic of Poland of March 22, 1928 on the Act on health conditions of food and nutrition.

In Poland, as of Dec. 31, 1970, there were 17 Provincial Sanitary-Epidemiological Stations and 5 in divisional cities (Warsaw, Kraków, Łódź, Poznań, Wrocław) with the Departments of Food and Nutrition Hygiene and 391 district stations, of which 215 had food testing laboratories.

The sanitary-epidemiological stations employed 2,731 hygiene instructors.

THE PERIOD FROM 1971 TO 1980.

The years of Edward Gierek saw attempts to restructure and modernize Poland, also in healthcare. In 1972, free health care system included also farmers, in the same year also a network of healthcare centres were established. The last years of this decade saw the economic collapse of reforms, culminating in the great social movements and the emergence of "Solidarity". Also, at the end of this period, the World Health Assembly on Aug. 5, 1980 solemnly announced to the world the eradication of smallpox, the first completely eradicated infectious disease in world history. The contribution of Poles in this work was outstanding and the prof Jan K. Kostrzewski - almost entirely decisive [9].

THE PERIOD FROM 1981 TO 1989.

This period saw the imposition of martial law on Dec. 13, 1981. The gradual abolition of its rigor, as well as the difficult economic situation in Poland. Starting from 1981 in the world, and from 1985 in Poland, the problem of acquired immune deficiency syndrome (AIDS) appeared, bringing about one of the biggest problems of infectious diseases in history. In 1984, there was the last noted polio infection in Poland, caused by wild-type virus, thus ending successfully (resolved under the direction of F. Przesmycki, J. K. Kostrzewski, W. Magdzik and J. Żabicka) the decades-long fight against this disease in the country [7]. The Act of 14.03.1985 on State Sanitary Inspection (Journal of Laws 1985.12.49), modified and still in force, became the basis for its further activities in entirely new social and economic conditions.

The years of the Third Republic, since 1989, resignation the communist rule, until now, is the period of new socio-economic structures in the country, along with the search for a range of solutions, including health prevention and public health [3,11]. Fundamental changes in the Act on Inspection have been made in connection with the reform of the state (Journal of Laws 1998.106.668). On Jan. 1, 1999, the State Sanitary Inspection from state authority of special government administration was transformed into a government complex sanitary inspection at the provincial and local level - district. The transition of Sanitary Inspection to self-government structures has changed significantly, to the detriment of the Inspection's autonomy and hindering the objective assessment of economic entities, because the founding body for these entities was at one time an employer for the Sanitary Inspector and his staff. This condition, in 1999-2001, was also reflected very negatively in financing the 349 sanitary-epidemiological stations, employing about 22,000 employees. The passed subsidy was annually drastically reduced and the state budget caused additional cuts at the end of each

year. Then Parliament became aware of the unfavourable legislation and restored vertical subordination of Inspection.

From Jan. 1, 2002 Inspection was excluded from a complex public administration (Journal of Laws 2001.128.1407). The return of Sanitary Inspection to the state structures has created hope for the correction of the current restructuration. Another change, made on the day March 1, 2002 consisted in changing the name of Inspection into State Sanitary Inspection and correspondingly its organs to the State (Provincial, District, Border) Sanitary Inspector. These values have gained new meaning in the Polish Third Republic, in the pre-accession period to the European Union. Adapting to EU legislation, the implementation of European Union directives, positive (without exception) assessment of European commissioners in all areas of statutory activity of State Sanitary Inspection was proof of the professionalism of Inspection. The preparations for entry to the European Union, accession on May 1, 2004 until 2009, was a period of full development, stability of operations in Inspection, proper selection of staff, which reflected positively in epidemiological statistics conducted in the Chief Sanitary Inspectorate and NIPH-NIH. Unfortunately, the Act of 23.01.2009 (Journal of Laws 2009.92.753) again subordinated Provincial Sanitary-Epidemiological Stations to Voivodes, and District Sanitary-Epidemiological Stations to heads of district administration (Presidents of Cities), which significantly weakened the effectiveness of State Sanitary Inspection, and above all, the independence of decision-making. A worrying phenomenon is the decrease in the number of doctors in positions of district and provincial Sanitary Inspectors (as of Dec. 31, 2004 approx. 30%) and an insufficient number of doctors in the departments of epidemiology. The data about undertaken statutory tasks by the Sanitary Inspection has been transmitted continuously to the European Office of the WHO and ECDC and published in the country every 2 weeks (for infectious diseases) and in the annual reports of Chief Sanitary Inspectorate.

The laboratories of Inspection have been converted, in cooperation with the EU structures, into a modern integrated network of accredited units of the highest referentiality. The databases of the computer system of infectious diseases in the so-called Basic Surveillance Network (BSN) within the EU were created. Activities of the Inspection have co-created EU the Rapid Alert System for Food and Feed (RASFF). State Sanitary Inspection has 2 laboratories, which test genetically modified food. A contact point of European Food Safety Authority (EFSA) and International Health Regulations (IHR) operates in Chief Sanitary Inspectorate. In the field of environment protection, Inspection participates in Registration, Evaluation and Authorisation of Chemicals (REACH), Chemicals Legislation European Enforcement Network (CLEEN) projects. Activities in the field of education and health have been extended, and the cre-

ation of the Department of Health Promotion and Health Education in the Chief Inspectorate increased the rank of implemented initiatives. Health programs, common with the EU, refer to a range of infectious and not infectious diseases of civilization [10].

State Sanitary Inspection participates in the international networks of early warning:

EWRS (Early Warning Response System), RASFF (Rapid Alert System for Food and Feed), RAS BICHAT (Rapid Alert System – Biological and Chemical Attacks and Threats). The Polish side co-creates the epidemiological surveillance, for instance, within the network of EWRS, State Sanitary Inspection repeatedly participated in emergency proceedings IHR (International Health Regulations) relating to emerging infectious diseases, such as: viral haemorrhagic fevers (VHF) – for example, Ebola fever with its large epidemic in West Africa in 2014-2015; severe acute respiratory syndromes caused by coronaviruses (SARS – November 2002; MERS – 2012); influenza – type A viruses: both seasonal and pandemic (worldwide influenza pandemic of 2009); as well as ‘old’, but re-emerging, dangerous infectious diseases (diphtheria, MDR TB, cholera, poliomyelitis, invasive meningococcal disease, measles).

CONCLUSIONS

1. Polish Sanitary Services, established in 1919, as a state service, have preserved for more than 95 years the continuity of its essential objectives and structures, which enable their implementation in the field of public health protection in Poland. They are effective and efficiently regardless of the changing situation: epidemiological, economic, social and political, which confirms the need for the existence of these services.

2. Coping with the civilization and epidemiological threats of recent years (bioterrorism, great migrations, emerging and re-emerging diseases, antibiotic resistance, the fight against drugs and designer drugs) – requires:

- the return to central subordination and financing of Inspection, with current organizational structure (by failing to transfer supervision over food to the Ministry of Agriculture and Rural Development),
- the intensification of employment and continuing education in the country and abroad of State Sanitary Inspection staff: doctors and representatives of other professionals, inter alia, biologists, biotechnologists, engineers: environmental, sanitary, hydrology, construction; toxicologists, statisticians, demographers, computer specialists.

3. Currently being discussed in Parliament re-centralization of Polish State Sanitary Inspection structures seems to be a step in the right direction in order to face the challenges of globalization.

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