

Case Study: Analysis of the Entry Into Force of the Law on the So-Called Hospital Network and Its Consequences for Further Activity of Dr. Wadiusz Kiesz Cardiology and Angiology Center, American Heart of Poland (AHP) in Starachowice

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The aim of the article is to analyze the impact of the introduced systemic change in the health care sector. The case study of a hospital unit in the field of cardiology and vascular surgery analyzes the indirect and direct effects of the implementation of the change in the health care system in the form of the Act of 23 March 2017. The paper describes and assesses the factors that led to the creation, development and liquidation of the Department of Cardiology and Vascular Surgery, which operated as part of Dr Wadiusz Kiesz Cardiology-Angiology Center, American Heart of Poland (AHP) in Starachowice. The study also carried out an analysis of the effects of the depletion of the medical base on patients previously treated in AHP in Starachowice in the field of cardiology and vascular surgery in this area.

Keywords: analysis of health care market, change management, health care system, cardiology and vascular diseases.

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Studium przypadku: analiza wejścia w życie ustawy o tzw. sieci szpitali i jej konsekwencji dla dalszej działalności Centrum Kardiologiczno-Angiologicznego im. dr. Wadiusza Kiesza Polsko-Amerykańskich Klinik Serca (PAKS) w Starachowicach

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Celem artykułu jest analiza wpływu wprowadzonej zmiany systemowej w sektorze ochrony zdrowia na dalszą działalność podmiotu leczniczego na terenie województwa świętokrzyskiego. Studium przypadku placówki szpitalnej z zakresu kardiologii i chirurgii naczyniowej poddaje analizie pośrednie i bezpośrednie skutki wprowadzenia w życie zmiany o charakterze systemowym w sektorze ochrony zdrowia w postaci ustawy z dnia 23 marca 2017 r. W opracowaniu opisano i poddano ocenie czynniki, jakie zadecydowały o powstaniu, rozwoju i doprowadziły do likwidacji Oddziału Kardiologii oraz Oddziału Chirurgii Naczyniowej działających w ramach Centrum Kardiologiczno-Angiologicznego im. dr. Wadiusza Kiesza Polsko-Amerykańskich Klinik Serca (PAKS) w Starachowicach. W pracy przeprowadzono również analizę skutków dla pacjentów leczonych wcześniej w PAKS w Starachowicach związanych z uszczupleniem bazy medycznej w zakresie kardiologii i chirurgii naczyniowej na tym terenie.

Słowa kluczowe: analiza rynku ochrony zdrowia, zarządzanie zmianą, system ochrony zdrowia, choroby serca i naczyń.

JEL: I11, I18

1. Introduction

On 1 October 2017, the Act of 23 March 2017 on the amendment of the Act on healthcare services, the so-called hospital networks, financed from public funds, came into force. It lays down a new legal provision with a systemic change in the health care sector (Ustawa z dn. 23 marca 2017 r. Official Journal (Dz.U.) 2017, item 844). This Act caused changes in the structure of the health services market, and one of the consequences of its implementation was the elimination of the possibility of funding by the National Health Fund of some medical facilities operating on the market of health services.

Based on a case study of a particular hospital unit, the purpose of this investigation was to show how a systemic change in the health sector may have far-reaching consequences for the continuation of the activity of the healthcare provider. The paper describes the factors that determined the emergence, development and led to the liquidation of the Cardiology Department and the Vascular Surgery Department operating within Dr Wadiusz Kiesz Cardiology-Angiology Center, American Heart of Poland in Starachowice. These factors were analyzed in the context of new legal regulations, introduced on 1 October 2017, which formally determined new legal provisions that set the conditions for the entry into the hospital network, thus eliminating the possible financing of medical entities by a public payer.

The paper focuses on an analysis based on the case study of a medical entity, conducting activities in the field of cardiology and angiology, covering its achievements, prospects and threats to its functioning. The collected data on Dr Wadiusz Kiesz Cardiology and Angiology Center, American Heart of Poland in Starachowice are derived directly from this entity. Based on the information available, a comparison and assessment was made of the degree of cardiac protection as well as vascular surgery in patients before and after the liquidation of the AHP Center in Starachowice.

The problem described here was analyzed in a wider context from the perspective of a scientific discipline – public health – therefore, the authors of this publication put the following research questions:

1. Did the decisions made in relation to the cardiovascular department in Starachowice comply with the provisions of Regulations of the Minister of Health on health priorities?
2. While making such and no other decisions concerning the future of a specialist medical center treating patients in life- and health-threatening conditions, was it taken into account that cardiovascular diseases according to GUS data are the main cause of mortality and in our country are more frequent than in the EU 28 countries?
3. Was the epidemiological situation taken under consideration which was described in “Maps of health necessities in cardiology for the Świętokrzyskie Voivodship,” where heart diseases are the primary cause of death among residents of this voivodship, and real coefficients in terms of mortality are on average about 7% higher than the nationwide?
4. Did the decisions taken against the Starachowice unit correspond with the situation described in the report “Prevalence, treatment and secondary prevention of heart infarcts in Poland. Assessment on the basis of National Database for Heart Attacks” AMI-PL 2009-2012 issued in 2014 jointly by four scientific centers: National Institute of Public Health – National Institute of Hygiene, Medical University of Silesia, Medical University of Gdansk and Medical University of Warsaw?
5. Were these decisions in line with the objectives of the national health policy program approved by the Minister of Health under “Program of Prevention and Treatment of Cardiovascular Diseases POLKARD for the years 2017–2020”, and on a voivodship level, did they correspond with the provisions included in “Priorities for Regional Health Policy of the Świętokrzyskie Voivodship” approved by the Świętokrzyskie Voivode?

2. New Regulations – A Change in the Structure of Medical Service

Before the Act on the network of hospitals entered into force, earlier, on 27 June 2017, all voivodship branches of the National Health Fund in Poland published lists of outlets that qualified for the network. It included

594 outlets, of which 516 are public hospitals. Outside the network, there were 355 hospitals, 339 of them were non-public institutions, and 16 were public institutions (Biuletyn Informacji Publicznej NFZ, 2017). According to the Act, the hospital network consists of two main levels of security: basic and specialist, which, in turn, were divided into 6 precision levels. The first level includes first-degree hospitals, second-degree hospitals and third-degree hospitals; in the specialist level, there are oncological or pulmonary hospitals, pediatric hospitals and nationwide hospitals. To enter the hospital network, in the basic level, two formal criteria had to be met:

- 1) providing services in the emergency room or hospital emergency ward based on a contract with the NFZ, the duration of which was for at least the last two calendar years, that is, beginning in 2015;
- 2) providing hospital treatment services for at least the last two calendar years, in the hospitalization mode (Ustawa z dnia 23 marca 2017 r. Official Journal (Dz.U.) 2017, item 844; MZ, 2017b).

What is worth emphasizing, is that no qualitative criteria were taken into account when constructing the criteria for entering the network, restricting them to formal aspects. The inclusion of quality criteria was called for by representatives of non-public institutions, who had provided health services contracted with the NFZ for many years and suddenly were threatened in the face of introduced changes, which questioned not only their further development, but the very presence on the market of medical services in Poland (Lurka, 2017a; 2017b; Newseria Biznes/Rynek Zdrowia, 2017).

3. Characteristics of AHP Medical Group and the Company's Branches

Presented in the article, Dr. Wadiusz Kiesz Center of Cardiology and Angiology, American Heart of Poland in Starachowice was among the institutions that before the entry into force of this law had a contract with the National Health Fund but did not meet the formal qualification requirements for the system of basic hospital security of health care, that is, the hospital network. The Center of Cardiology and Angiology AHP, despite providing hospital treatment, having been contracted with the National Health Fund since 2015 and having two departments: cardiology and vascular surgery, did not have an emergency room contracted with the National Health Fund, although physically it functioned, admitting patients *pro publico bono*, performing health benefits without a signed contract with a public payer.

These departments were part of the American Heart of Poland (AHP), consisting of 20 specialized departments of interventional cardiology, cardio-surgery and vascular surgery in various regions of Poland. The company, founded in 2000 on the initiative of doctors from Poland and the United States, is part of the American Heart of Poland group SA, cooperating with about 300 cardiologists, cardiac surgeons and vascular

surgeons, whose annual revenues for 2016 amounted to approximately PLN 336 million, to be significantly reduced in 2017 and closed the financial year with the sum of PLN 260 million. Four key names representing the AHP are: prof. Paweł Buszman, prof. Andrzej Bochenek, prof. Radosław Kiesz and dr Zbigniew Czyż (American Heart of Poland, 2018).

The AHP activity is focused on three main pillars:

1. Diagnostics and treatment related to invasive cardiac procedures, cardiac surgery procedures, vascular surgery and cardiological rehabilitation.
2. Performing a 24-hour on-call duty for patients with various forms of acute coronary syndrome, including acute myocardial infarction, using the method of percutaneous coronary angioplasty (PCI).
3. The idea of comprehensive care – from prevention and prophylaxis, through the implementation of life-saving intervention procedures, to specialist rehabilitation (<https://www.klinikiserca.pl/o-nas/kim-jestesmy>).

Dr. Wadiusz Kiesz Center of Cardiology and Angiology, American Heart of Poland (AHP) in Starachowice, as one of the AHP Centers, was established in 2008 and started operating as part of the cardiology department in one of the buildings bought by the company and one leased County Hospital building in Starachowice. The AHP bought it for PLN 1.5 million, renovated it and equipped it for over PLN 30 million. In 2012, the Center expanded its activities to a vascular surgery department. The Cardiology-Angiology Center of the American Heart of Poland in Starachowice had 2 operating rooms: a modern operating room with arm C, adapted for surgical, endovascular and hybrid procedures, where stenting and artery bypassing were performed simultaneously. It also had a room equipped with a stationary angiograph for vascular imaging diagnostics, endovascular and hybrid procedures as well as treatments in the field of invasive cardiology. Patients in the AHP Clinics could also use a modern computed tomography laboratory (with the vascular option angio/CT) and ultrasound (with the option of color Doppler).

Until November 2017, the Center included a department of cardiology with OIOK (30 beds), vascular surgery department (21 beds), computed tomography laboratory, cardiac counselling unit, admission room and vascular surgery counselling unit. The annual contract with the National Health Fund was worth about PLN 9 million for cardiology and PLN 4 million for vascular surgery. The scope and number of health services provided by the AHP Center in Starachowice in individual units are illustrated in the tables below.

Department of Cardiology 2008–2016, total number of patients: 14,897
coronary angioplasty in infarction with elevation of ST-1202, mortality 3.6%
coronary angioplasty in total: 5,143
implanted artificial pacemakers in total: 919
implanted cardioverter defibrillators in total: 225

Tab. 1. The scope and number of services at the cardiology department – AHP Starachowice. Source: Own source.

Vascular Surgery Department from 2012, total number of hospitalized patients: 4,687
treatments in total: 8,136 including classic in total: 1,926 percutaneous in total: 6,209

Tab. 2. The scope and number of services in the department of vascular surgery – AHP Starachowice. Source: own source.

Cardiology Outpatient Clinic since 2010 with a contract with the NFZ (it operates until today)
total number of admitted: 44,707, including: 27,981 specialist consultations 3,900 pacemaker controls 5,961 echographic heart examinations 4,275 stress tests 2,592 Holter examinations

Tab. 3. The scope and number of services in the cardiology outpatient clinic – AHP Starachowice. Source: Own source.

The average annual number of patients in individual units
2,200 patients annually in the Department of Cardiology 10,000 counselling a year at the Cardiology Clinic 1,400 patients treated in the Department of Vascular Surgery 1,800 interventions in the Admission Room in 2016, 24 hours a day, without a contract with the NFZ

Tab. 4. The number of patients in individual units – AHP Starachowice. Source: Own source.

4. Can the Patient Be Right – Patients’ Protests Against Closing AHP Departments in Starachowice

Initially, when AHP patients were informed about the probability of it not being contracted with the NFZ and thus the further operation of the facility being questioned, they submitted over 5,000 signatures regarding the further activity of AHP in Starachowice. They were, among others, transferred to the office of the President of Poland and the chairman of the Council of Ministers of Poland, the governor of the Świętokrzyskie Voivodship, the director of the NFZ in Kielce, the president of the NFZ in Warsaw and the Minister of Health. In October 2017, patients with various diagnosed heart diseases, in defense of the endangered entity, organized a picket before the Sejm of the Republic of Poland and a month earlier, together with employees of AHP, they protested in front of the voivodship office in Kielce. In the end, the list of support from patients in defense of the entity reached nearly 8,000 people. Actions taken by patients to reopen

the clinic in Starachowice and to grant a contract to the clinic from the NFZ were also continued after its closure in mid-2018, examples of which were statements of cardiac patients during the meeting with the deputy prime minister of the Polish government for social affairs, at the Health Committee of the Sejm of Poland and also the statement of the representative of the EkoSerce Association at the District Council in Starachowice (Komisja Zdrowia (ZDR), 2018; Nosowicz-Kaczorowska, 2017; Ząbecka, 2017b; Kosiek, 2018c; Batóg, 2018; Starachowice-net.pl, 2018; ZAZ, 2018).

Before the facility was closed, various options related to the future of the Center were considered, among others, as a subcontractor for another unit, e.g. from Skarżysko Kamienna (rejected due to formal reasons by the Voivodship Office in Kielce) (Jamka, 2017). Subcontracting would mean a lump sum for the AHP branch in the amount of PLN 24 million (the amount resulting from the calculation of the amount of the contract and high surpluses, or 13 million contracts and PLN 11 million, surpluses in 2015). At the end of June 2017, at the session of the County Council in Starachowice, it was decided to support AHP Clinics' activity in Starachowice and less than two months later, the City Council in Starachowice presented a similar resolution in defense of the local cardiological and vascular center (BIP, 2017; Telewizja Starachowice, 2017). Between 1 October and 1 November 2017, the Center in Starachowice was functioning in "suspension": not being in the network or having a contract with the NFZ. Due to the lack of funds, the decision was finally made to close the center and on 1 November, 2017 the center ceased to function and formerly the head of the institution being at the same time the head of the cardiology department had posted over 100 notices to the employees of this institution terminating their work there. The remainder of the liquidated Center is the cardiac ward in AHP in Starachowice, which admitted patients until June 2018 as an annex to a contract for AOS with the NFZ and then extended its contract until the end of 2018 with the announcement of the competition procedure.

5. Epidemiological Situation and Threats in the Area of Cardiovascular Diseases

To look at the problem from a wider perspective, the authors have referred it to the scientific discipline of public health. In this respect, statistical data, and epidemiological situation were analyzed together with the documents designing a health policy framework related to the occurrence and effects of cardiovascular diseases in the Świętokrzyskie Voivodship and whole Poland.

With reference to the methodology of public health as a scientific discipline, it should be underlined that one of its basic domains are analyses of health problems of a given population divided into several progressive phases. The first one is the analysis of a real health situation, and on

its basis, the choice of priorities. The subsequent ones are the definition of the aims and activity strategies, implementation of established actions and finally the evaluation of the obtained effects. The second phase is the establishment of priorities in health problems, i.e. their frequency, an affected category of population (a social group) and their severity measured, for example, by mortality or disability as well as their perception through preventive and curative actions. Next phases in this type of activities include finding accessible sources for problem solving (taking into account material, personal and personnel resources) and determining the level of acceptance of the discussed activities and indispensable interventions by a population (Poździoch, 2001).

Detailed tasks within public health which are determined by the Act of 11 September 2015 include, among others, monitoring and assessment of the health condition of society, threats to health and life quality related to health as well as the analysis of adequacy and effectiveness of provided healthcare services for the recognized health needs of society. At the same time, the Act mentions entities performing public health tasks, such as the NFZ, voivode, self-government of voivodship, commune and powiat (Obwieszczenie Marszałka Sejmu RP w z dnia 9 listopada 2017 r. Official Journal (Dz.U.) 2017, item 2237).

After defining the role of public health – including the role of public institutions responsible for the realization of tasks in this field – in the process of identification, analysis of causes, course and consequences of health problems and activities and interventions in this field, the authors of this paper focused on the presentation of nationwide health priorities, statistical data, epidemiological situation, scientific reports and programs of health policy on morbidity and mortality due to cardiovascular diseases.

The mentioned Regulation by the Minister of Health of 27 February 2018 (prepared in 2017) on health priorities, in paragraph 1 indicates that the main priorities include a decrease in morbidity and premature mortality due to cardiovascular diseases, including heart infarcts, heart failure and cerebral strokes (Rozporządzenie Ministra Zdrowia z dnia 27 lutego 2018 r. Official Journal (Dz.U.) 2018, item 469).

The report “Health situation of Polish population and its conditioning” issued by the National Institute of Public Health – National Institute of Hygiene in Warsaw in 2016, in its introduction states that *“health, apart from the economic level of the country, is the most important resource for the society; therefore, a rational health policy should be one of the priorities of actions of decision-makers at all levels of government administration, both central and local. There is a strong relationship between health of population and economic development of the country”* (Wojtyniak & Goryński, 2016). The authors of the report underlined that the greatest threat to life of Poles were cardiovascular diseases, which in 2014 were responsible for 45.1% of total deaths (40.3% of deaths of males and 50.3% of females),

and cause premature mortality of residents of Poland significantly more frequently than in other countries of the EU. Heart diseases play the main role among cardiovascular diseases (99,600 deaths in 2014, including 13,500 myocardial infarcts, i.e. 59% and 8% of deaths, respectively, due to all heart and blood vessel diseases). The second group is constituted by cerebrovascular diseases (31,000 deaths, 18%). Especially important in the context of the analyzed Starachowice case are the following statements in the report: “*Significant differentiation is observed between voivodships in the occurrence of life-threatening cardiovascular diseases. In the years 2013–2014, mortality due to these diseases was the lowest in the Podlaskie Voivodship and the highest in the Świętokrzyskie Voivodship (higher by 30%); in the latter, the situation was also the worst four years ago*” (Wojtyniak & Goryński, 2016). In this group of diseases, the highest rate of deaths is caused by ischemic heart disease, cerebral vessels disease, heart failure and atherosclerosis. The authors of the report indicated that cardiovascular diseases were also the main cause of judgements of incapacity to work (total or partial), which is an enormous burden for society not only in the purely medical aspect, but also in social and economic terms.

The next analyzed document was the report “Occurrence, treatment and secondary prevention of heart infarcts in Poland. Assessment on the basis of National Database for Heart Attacks” AMI-PL 2009–2012, which, like the previous document, emphasized the fact that cardiovascular diseases constituted the main health problem in Poland, and they were the cause of nearly half of deaths in our country, which markedly impairs professional activity of a large number of patients (Chlebus, Gąsior, Gierlotka, Kalarus, Koziarkiewicz, Opolski, & Poloński, 2014). The authors underlined that “*despite the improvement of an epidemiological situation in the last two decades, mortality coefficients due to cardiovascular diseases, including premature mortality coefficients (under 65 years of age), are still definitely too high Poland [...] Prevention, diagnostics and therapy of cardiovascular diseases and monitoring of the epidemiological situation as well as assessment of the effectiveness of carried out activities must, therefore, constitute the priority for the state health policy. However, the amount of complex analyses of monitoring, which are indispensable for an optimal health policy, is insufficient in Poland*” (Chlebus, Gąsior, Gierlotka, Kalarus, Koziarkiewicz, Opolski & Poloński, 2014). The authors signaled that hospital mortality in patients with access to invasive diagnostics and therapy was 6%, whereas in patients without access to angiography and angioplasty in a severe phase of heart infarct was more than twice as high.

Referring to the health policy of the Minister of Health, “Program of prevention and treatment of cardiovascular diseases POLKARD for the years 2017–2020” indicates an increase in recent years in accessibility to specialist medical care in the field of cardiology, and shows that the basic measure of the program effectiveness is mortality rate due to circulatory

system diseases, which on the day of program preparation was 441.1 deaths per 100,000 population because of these diseases, and the target indicator examined in 2021 will be the decrease in the number of deaths from cardiovascular diseases to 427 deaths per 100,000 population (a decrease by 3%) (MZ, 2017a).

Analyzing “Priorities for the Regional Health Policy of the Świętokrzyskie Voivodship” approved by the Voivode of Świętokrzyskie on 28 February 2018, it should be noted that its authors – referring to the maps of health necessities for this region – indicated that the target state of the cardiology department in this area should assume “*rationalization of the number of beds in the wards resulting from the increase in the number of hospitalizations of 24 for the years 2016–2029*”, and “*designation of some beds for patients over 85 years of age*” (ŚUW, 2018). The report did not address the problem of vascular surgery. The authors underlined that the largest percentage of all deaths was caused by cardiovascular disease, constituting nearly half of all deaths in this area (49.8%). The report also stated that in cardiological wards, a total of 260 beds in 2016 provided full security for the voivodship, though it did not explain where this statement came from. According to the report, in 2029 the demand for cardiological beds would increase to 330, and on 31 March 2016 there were 346 available beds. Similarly, no information about bed resources in the vascular surgery department appeared there (ŚUW, 2018).

To complement the previously provided information, the key document for this region was analyzed in terms of epidemiological situation concerning cardiovascular diseases, i.e. “The Map of Health Demands in cardiology for the Świętokrzyskie Voivodship.” (MZ, 2015). It shows that in 2013, cardiovascular diseases were responsible for 27.3% of all deaths among this voivodship’s population (26.3% of males and 28.4% of females) and these values were close to the mortality rate in Poland (28.0%, 27.0% and 29.1%, respectively). The actual coefficient of mortality due to cardiovascular diseases of inhabitants of the Świętokrzyskie Voivodship was 298.7/100 thousand population and was by 7.4% higher than the nationwide (278/100 thousand population). Actual coefficients for women and men were also higher than those for the whole Poland (by 6.9 and 7.7, respectively). The authors of the map of health demands estimated that only considering demographic processes in the years 2015–2025 in the Świętokrzyskie Voivodship, the morbidity rate would increase from the level of 12,600 to 13,800. This document underlined that over the forecast years (2016–2029), changes in the structure of population as regards age, sex and place of residence would cause a 16.2% increase in the demand in this region for procedures implemented in haemodynamic laboratories, which means a systematic increase in the demand for haemodynamic tables. In this document, it is also stated that the then number of 8 tables in the voivodship (the map was issued in 2015) allows for concluding that during

the forecast period there is no urgent need to increase the number of haemodynamic tables there. In these maps, there is no information about an excessive number of facilities and cardiological beds (MZ, 2015).

6. Assessment of Providing Services in Cardiology and Vascular Surgery in Starachowice and Surrounding Areas – Hazards and Prospects. Analysis From the Perspective of Public Health

A branch of cardiology is currently operating in Starachowice as part of the County Healthcare Institution, from which the AHP bought and leased the premises years ago. After closing the AHP Clinics, in the cardiology department of the County Hospital in Starachowice, the number of admissions slightly increased, but the total number of treatments in invasive cardiology reaches about 50% of the number previously performed by both units. Comparing the first four months of 2017 and 2018, the Department of Cardiology of the County Hospital received 711 and 773 patients, respectively (the AHP cardiology department in 2017 admitted 700 patients). From January to April 2018, in the cardiology department of the County Hospital, a total of 561 haemodynamic procedures were performed, compared to 993 procedures performed earlier in both laboratories in 2017, which is 56%. Thus, the number of services in this field decreased by 44%¹. The liquidation of the vascular surgery department means total elimination of these services in this area, and therefore, a reduction by 100%. The value of funds spent on cardiovascular treatment in 2015, in this area was 12 million for AHP cardiology, 12 million for AHP vascular surgery and 10 million for cardiology of the County Hospital. Currently, the lump sum in the cardiology ward at the County Hospital is approximately estimated at PLN 8 million (per year), that is about 2 million less compared to the value of procedures in 2015². Information about the funds for this period was deliberately given because, according to the Act on the network of hospitals, just year 2015 was to be the reference point for calculating the lump sum. A comparison of these cash values then and now shows a decrease in expenditure on cardiovascular diseases from a total of PLN 34 million to PLN 8 million, i.e. a reduction by over 70%.

The closure of the AHP Clinics in Starachowice began to result in a situation in which some patients with diagnosed cardiac and vascular diseases seek further help at AHP facilities far away in Nysa, Dąbrowa Górnicza, Ustroń or Tychy. Representatives of local authorities in Starachowice at the county and city level draw attention to incomplete cardiac care by the SPZOZ in Starachowice and elimination of vascular surgery by closing the AHP branch in Starachowice, where the nearest vascular surgery centers are in Końskie and Kielce – both about 50 km

away from Starachowice. It should be noted that in the closed ward, emergency vascular surgeries were performed, implanting over 300 stent grafts, also in patients with a ruptured aneurysm. On the other hand, the authorities of the hospital in Starachowice, the NFZ in the Świętokrzyskie Voivodship and the NFZ headquarters assure about the lack of danger and full services in cardiology and vascular surgery in the discussed area. In addition, the NFZ authorities in Kielce consider the migration of patients to other centers as a natural situation, occurring widely³ (Ząbecka, 2017a; Prędotka, 2018; Kosiek, 2018b). In the context of the described distance between medical centers, it is particularly important to pay attention to the so-called golden hour in heart infarct, especially with ST segment elevation as a critical prognostic factor determining success or failure of cardiological intervention associated with the duration of cardiac ischaemia and consequent irreversible damage to the myocardium (Kazimierska, 2014; Heestermans, van't Hof, ten Berg & van Werkum et al. 2010). Time also plays a key role in case of rupture of aneurysm requiring urgent surgical intervention because associated severe haemorrhagic shock is responsible for 80% of deaths (Pupka, Przemysław, Szyber, Janczak, Pawłowski, & Szyber, 2006).

To get familiar with and to critically analyze the position of various parties involved directly or indirectly in the assessment of the further functioning of AHP in Starachowice, in this work we reviewed and analyzed reports of the Health Committee of the Sejm of Poland, the District Council in Starachowice, speeches and actions by patients as well as publications that appeared in connection with the publicity of these events in local and nationwide mass media. The results of this analysis show a complex picture of the situation and indicate the opposite – contradictory in practice – positions of various parties involved in this matter.

The authors of the article analyzed several speeches that were delivered publicly on this topic and were registered by various institutions or were presented by mass media. For the purpose of this article, only a few selected views will be cited. Speeches considered as reliable were those given by the representatives of the NFZ authorities, the city of Starachowice and patient associations invited to the meetings. These citations come from transcripts of two meetings of the Health Committee of the Sejm of Poland. The first, was held on 10 October 2017 and considered “The information of Minister of Health Konstanty Radziwiłł and Deputy President of the National Fund Andrzej Jacyna on the actions they intend to take to secure accessibility to services in cardiology after the entry into force of the Act amending the Act on healthcare services, financed from public funds, as well as on the change in the valuation of these services” (Sejm RP, 2017). The second one took place on 6 July 2018 and discussed “The information of the Minister of Health on the effects of implementing the system of basic hospital health care services (so-called hospital networks) according

to the provisions of the Act of 23 March 2017, amending the Act on health care services financed from public funds (Official Journal (Dz.U.) 2017, item 844) as well as the availability of health services within this network” (Sejm RP, 2018).

The session of the Parliamentary Health Committee of October 2017 dealt with the information about health services within the network of hospitals, and in June 2018, the effects of the new regulations were discussed. In this order, only selected (due to the volume of the article) speeches about cardiological and vascular care in Starachowice are quoted.

During the first of these meetings, just after the entry into force of the Act on the network and the expiration of the contract with the NFZ for AHP in Starachowice, the floor was taken by, among others, Deputy President of the NFZ Maciej Miłkowski, saying: (...) *Regarding interventional cardiology in the Świętokrzyskie Voivodship, there are 8 entities for providing services and 6 units eligible for the basic health care system. Another entity was selected in the competition; therefore, there are additionally 7 entities. There is full protection, according to the guidelines of the Polish Cardiac Society, to which we have committed. The city of Starachowice has a population of no more than 250,000, and therefore – according to the PTK guidelines – there is no need for two centers. The travel time to both centers was similar, it did not differ significantly in relation to one or the other. Thus, interventional cardiology in the Świętokrzyskie Voivodship has been secured in accordance with the requirements of the PTK (...)* (Sejm RP, 2017).

During the second meeting, among the invited guests, Deputy President Ewa Skiba gave a speech dedicated to the protection of health care in Starachowice, saying: *I represent the residents of the city of Starachowice. To President of Starachowice, Marek Materka, as well as to me, come residents who feel a lot of discomfort after the entry into force of this law and the closure of cardiological and vascular surgery departments of the American Heart of Poland.. Unfortunately, the availability and quality of medical services has deteriorated. Residents are forced to use other hospitals, which are not always accessible. It is related to the fact that these are often elderly sick people, so both access (distance and time) and costs accumulate. Therefore, the inhabitants turn to the President and to me for help in these matters, and for appealing to the Members of Parliament to try to help Starachowice. On behalf of President Marek Materka and the residents of Starachowice and our county, I request this. Thank you* (Sejm RP, 2018).

Another person who also took the floor during this meeting was President of the Association of Patients with Heart Diseases and the “EkoSerce” System of Circulation, Zenon Krzeszowski, who said: *I am a representative of 17,000 patients who do not know what to do after the liquidation of the American Heart of Poland. (...) The extension of the clinics’ operation, mentioned here, is a positive element. If not for this, the situation would be extremely dramatic when it comes to these two cities. But, what happened after*

the non-acceptance of the American Heart of Poland to the hospital network? I am surprised and astonished that something like this has happened. These clinics were made of private money – the state has not paid a single zloty – they are perfectly equipped, and have excellent staff. It all just fell apart. A very big gap has been created. Devices that remain – like an angiograph – are waiting to this day. The most modern devices in the Świętokrzyskie Voivodship stand and do not work. This is a scandalous situation. The National Health Fund ensured that the availability for patients after the reform would be 140% when it comes to Starachowice and Skarżysko. The reality turned out to be very brutal – 40% remained. This pertains to cardiology. When it comes to vascular surgery – zero remained. This caused such a situation that patients have to migrate. (...) I will give an example of our hospital the County Hospital in Starachowice – however, it is very difficult for me to talk about it, because I am a person who contributed to the creation of this hospital. The hospital in Starachowice was designed to provide care for cardiac patients. But, it did not admit these patients. It was known in advance that it could not admit them as the cardiology ward in Starachowice employed only seven doctors, one of them doing a specialty program. They are not able to accept such a number of patients. And we pointed to it before the liquidation of the American Heart of Poland. At the moment, the patients are unprotected, insecure and scared because they do not know where they can be treated. They do not know where to go. (...) Starachowice, apart from the fact that patients have no place for cure, have been robbed of PLN 24 million – I am sorry that I am profane, but I do it consciously. So much money did not go to Starachowice for health care. That is the amount of money the American Heart of Poland needed for cardiology and vascular surgery (Sejm RP, 2018).

The article does not assess the positions of each party, it is limited to the analysis of cardiological protection and that of vascular surgery, on the basis of available and uncontested and, therefore, fully verifiable information. The first – discussed in more detail – was the reduction of the volume of performed services by 44% in cardiology and by 100% in vascular surgery. The second issue is the comparison of expenditures on these two branches of medicine in Starachowice, part of which was deprived of over 70% of expenditures on cardiovascular diseases.

Another aspect of the matter discussed in this article, which should also be touched on, is the discrepancy between the position of the Świętokrzyskie branch of the NFZ promising, on the one hand, to provide vascular surgery in over 200% and, on the other hand, informing about the need to open a one-day clinic and vascular surgery in the County Hospital in Starachowice⁴ (Kosiek, 2018a). Director of the Świętokrzyskie branch of the National Health Fund, Małgorzata Kiebzak, spoke about this matter via the Kielce radio station (Radio Kielce), underlining that “thanks to the establishment of a vascular surgery clinic in Starachowice, the availability of this type of medical services to patients will increase.”

Małgorzata Kiebzak assures: *Specialization should be a priority, which is why we are open to launch such a clinic in Starachowice. We see the need, especially in the eastern part of our region, to launch a vascular surgery clinic. For sure, in the financial plans which we are currently developing, this clinic will be included* (Murawska, 2018).

What is more, a group of Świętokrzyskie parliamentarians and representatives of the local government appealed to the NFZ to create a vascular surgery department in the County Hospital in Starachowice (Goszczyńska, 2017). In addition, the County Hospital in Starachowice tried – so far ineffectually – to obtain co-financing under the Regional Operational Programme of the Świętokrzyskie Voivodship for the amount of PLN 1 million 200 thousand to buy, among others, patient monitoring stations, heart echocardiographs, holter test kits, a treadmill for exercise tests and a respirator as part of improving the infrastructure for the cardiology department there (Telewizja Starachowice, 2018; Piwko, 2018). Such investment plans are undoubtedly necessary and even indispensable to improve the safety of patients. Surprising is the fact that the need to improve the medical infrastructure was noticed in a situation where two nearby fully equipped AHP branches are standing closed: cardiology and vascular surgery, declared unnecessary less than a year ago.

Although this paper describes a unitary example, it seems that the analysis of the data cannot be reduced to the loss of liquidated medical center or to a simple conclusion and opting for one of the parties on the principle that its reasoning was more accurate: whether NFZ or AHP. It seems that the problem is deeper and touches the strategy – or rather the lack of strategy – in the field of health, not only here and now but in the perspective of many years.

Referring the case study presented here to the discipline and tasks of public health, and after analyzing legal regulations, reports and other documents which indicate threats associated with the occurrence and mortality due to cardiovascular diseases throughout Poland and particularly in the Świętokrzyskie Voivodship, it can be presumed – thus answering previously asked research questions – that institutions responsible for health protection in this region have not carried out a proper comprehensive analysis of health problems and resulting risks. Decisions undertaken not to hold a supplementary competition in cardiology and vascular surgery, convicted the AHP branch to liquidation, not considering the epidemiological situation and prognosis about the occurrence and consequences of cardiovascular diseases in this region, but above all they are in conflict with the provisions, reports and other documents analyzed in this paper. As a result, actions needed in such a situation were discontinued, which, from the perspective of public health, should be based on an accurate diagnosis of the problem and suitable activities or interventions. The effects will be subjected to first analyses in 2019 and subsequent years.

7. Conclusions

The analysis of the systemic change in the form of new regulations and its consequences presented in this article – based on the case study of Dr. Wadiusz Kiesz Center of Cardiology and Angiology, American Heart of Poland in Starachowice – allowed some basic conclusions to be formulated.

The Act on the so-called hospital network, implemented on 1 October 2018, led to significant changes in the market of health services, changing the structure of this market in Poland by eliminating some of the entities that previously provided medical services, based on a contract with the National Health Fund. The newly introduced hospital care system significantly reduced the number of healthcare providers based on lump sums. The liquidation of both hospital Departments of AHP – Cardiology and Vascular Surgery – not only led to the loss of the potential of this unit, founded and developed over the years, but also created a sense of threat in some patients, associated with uncertainty about their future health. Depriving patients of the possibility of using coronary angioplasty procedures, implantation of pacemakers and cardioverter-defibrillators in the specialized AHP Department of Cardiology, thus, limiting the performance of such procedures in Starachowice only to one of the county hospitals there, led to a significant decrease in the availability of cardiac services in that area. This, as the statistics on the incidence of cardiovascular diseases and the percentage of deaths due to this show, may be in the long term a serious population risk factor and should be a reason for increased monitoring by the institutions responsible for this area of public health. The complete elimination of the vascular surgery ward in Starachowice caused the necessity of using health services in distant hospitals in Kielce and Końskie. Assertions of the authorities of the Świętokrzyskie NFZ Branch that full care in the area of vascular diseases in Starachowice was over 200% were doubtful, because after less than a year it was considered that the provision of these benefits was not complete and it was planned to open a vascular surgery clinic within the structure of the County Hospital. Local MPs and representatives of local government authorities demand the opening, within this hospital, of also a vascular surgery ward, while next to it there is a fully equipped and unused AHP department of this profile, closed because of not being included in the hospital network and the NFZ failing to hold supplementary competitions in this area due to – as was assured – the existence of full vascular services in this area.

The question is why the AHP Center in Starachowice did not use the opportunities created by the Act on the network of hospitals. In the absence of an automatic qualification for one of the security levels specified in the Act, there were three options to maintain the AHP Center: subcontracting in relation to the unit already included in the network, including the Center in the network in extra-coordinated mode at the request of the director of

the voivodship branch of the NFZ, and announcement of a supplementary competition. None of these options were taken into account and the following years will show – taking into consideration, among others, the rates of morbidity and mortality due to cardiovascular diseases in the area of the Świętokrzyskie Voivodship – whether such a decision was right.

The case of AHP in Starachowice is not the only one because if we look at the scale of hospital units which did not enter the network, we can see that 355 entities encountered such a situation. In the vast majority of cases, however, they could later fight and received smaller or larger contracts as a result of supplementary competitions. Starachowice was not given such a chance, and therefore, the case described here may be a unique one in the country if we take into account the number and strength of patients' protests, the scale of treatments and actions aiming to restore this unit to its rightful place and their effects. There was a lack of any will to think of the consequences of such a decision for many patients with drastically restricted access to specialist health care in conditions of immediate risk to health and life. The assertion of representatives of institutions responsible for this state of affairs that full protection of health needs was assured turned out to be rather illusory.

Endnotes

- ¹ Analyses carried out based on information on the SPZOK in Starachowice were presented during the session of the District Council in Starachowice on 30 August 2018.
- ² The amount was calculated based on the analysis of information on the lump sum in the cardiology ward at the County Hospital in Starachowice for the first half of 2018, which was PLN 4 million. It was assumed that the lump sum for the second half of the year would be similar and for the whole year 2018 it could oscillate around PLN 8 million.
- ³ Based on written information from the Świętokrzyskie branch of the NFZ transferred to, among others, the Chairman of the District Council in Starachowice and protesting patients about the condition of securing cardiology and vascular surgery in the Świętokrzyskie Voivodship.
- ⁴ Based on information from the Świętokrzyskie branch of the NFZ transferred to, among others, the Chairman of the District Council in Starachowice about the condition of securing vascular surgery in the Świętokrzyskie Voivodship at the level of 245%.

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