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ORIGINAL ARTICLE

ANALYSIS OF CHANGES IN CANCER HEALTH CARE SYSTEM IN POLAND SINCE THE SOCIO-ECONOMIC TRANSFORMATION IN 1989

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ABSTRACT

Background. The transformation period in Poland is associated with a set of factors seen as 'socio-economic stress', which unfavourably influenced cancer treatment and slowed down the progress of the Polish cancer care in the 90's. These outcomes in many aspects of cancer care may be experienced till today. The results of the international EUROCARE and CONCORD studies based on European data prove evidence that there is a substantial potential for improvement of low 5-year survival rates in Poland. Since high survivals are related to notably efficient health care system, therefore, to improve organization and treatment methods seems to be one of the most important directions of change in the Polish health care system. Till today, cancer care in Poland is based on a network outlined by Professor Koszarowski in the middle of the last century, and is a solid foundation for the contemporary project of the Comprehensive Cancer Care Network (CCCN) proposed in the frame of CanCon Project.

Objective. Analysis of the structure of health care system and the changes introduced within the network of oncology in Poland since the beginning of the post-commuinist socio-economic transformation in 1989.

Materials and Methods. This study was conducted based on the CanCon methods aimed at reviewing specialist literature and collecting meaningful experiences of European countries in cancer care, including the main legal regulations.

Results. The analysis provided evidence that the political situation and the economic crisis of the Transformation period disintegrated the cancer care and resulted in low 5-year survival rates. A step forward in increasing efficiency of the cancer treatment care was a proposal of the *'Quick Oncological Therapy'* together with one more attempt to organize a CCCN. With this paper the Authors contribute to the CanCon Project by exploration, analysis and discussion of the cancer network in Poland as an example of existing net-like structures in Europe as well as by preparation of guidelines for constructing a contemporary CCCN.

Conclusions. (1) 'Socio-economic' stress adversely affected the efficiency of oncological treatment, both by reducing safety and slowing down the development of modern oncology. (2) Changing the current system into the contemporary form - CCCN could be an important step forward to optimise the oncological health care in Poland. (3) Introduction of the mandatory monitoring of organizational changes with the use of health standardized indicators could allow for the assessment of the effectiveness of implemented solutions and their impact on better prognosis for cancer patients. (4) Optimising the organization of the health care system is possible only by implementing necessary legislative corrections .

Key words: *'socio-economic stress', oncology network in Poland, 5-year survival rate, Comprehensive Cancer Centres Network, CanCon*

STRESZCZENIE

Wprowadzenie. Okres Transformacji w Polsce wiąże się z wieloma czynnikami postrzeganymi jako „stres społeczno-gospodarczy", które niekorzystnie wpłynęły na efekty leczenia nowotworów oraz spowolniły postęp w polskim lecznictwie onkologicznym w latach ,90, co w wielu jego aspektach jest odczuwane do dziś. Wyniki międzynarodowych badań EUROCARE i CONCORD dowodzą, że wskaźniki 5-letnich przeżyć w Polsce mogą być znacząco wyższe. Wysokie wskaźniki 5-letnich przeżyć zależą od efektywnego systemu ochrony zdrowia, dlatego, poprawa organizacji i leczenia nowotworów, jest jednym z najważniejszych kierunków zmian w polskim systemie opieki zdrowotnej. System opieki onkologicznej w Polsce jest oparty na modelu sieci onkologicznej, której budowę w połowie ubiegłego stulecia rozpoczął Profesor Koszarowski. Stanowi on nadal solidny fundament do rozwoju nowoczesnej koncepcji sieci wielodyscyplinarnych centrów onkologii (*ang.* Comprehensive Cancer Care Network - CCCN) zaproponowanej w ramach projektu CanCon.

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Cel. Analiza struktury lecznictwa i zachodzących zmian w ramach sieci onkologicznej w Polsce po rozpoczęciu w 1989 postkomunistycznej transformacji społeczno-ekonomicznej po 1989 roku.
Materiał i metody. Badanie zostało przeprowadzone w oparciu o metody przyjęte przez CanCon, tj. przegląd literatury specjalistycznej i analizę doświadczeń krajów europejskich w zakresie opieki onkologicznej, ze szczególnym uwzględnieniem polskich regulacji prawnych.
Wyniki. Analiza wykazała, że sytuacja polityczna i kryzys gospodarczy w okresie Transformacji przyczyniły się do dezintegracji leczenia onkologicznego, a w efekcie złych wskaźników 5-letnich przeżyć. Analiza ta stanowi wkład Autorów do projektu CanCon poprzez analizę i omówienie sieci onkologicznej w Polsce, jako przykładu istniejących „podobnych do sieci" struktur lecznictwa w Europie. Zostanie ona wykorzystana przy opracowaniu wytycznych dotyczących współczesnej koncepcji CCCN. Postępem w zakresie organizacji leczenia onkologicznego w Polsce jest wdrożenie tzw. „*Szybkiej Terapii Onkologicznej*" oraz ponowna próba zorganizowania lecznictwa onkologicznego w ramach CCCN.
Wnioski. (1) Stres społeczno-gospodarczy niekorzystnie wpływa na rokowanie u chorych na raka, zarówno poprzez obniżenie poczucia bezpieczeństwa socjalnego, jak i spowolnienie rozwoju nowoczesnej onkologii. (2) Zmiana obecnego systemu w nowoczesną formę - CCCN byłaby istotnym krokiem w stronę optymalizacji lecznictwa onkologicznego w Polsce. (3) Wprowadzenie obowiązku monitorowania zmian organizacyjnych, przy użyciu standaryzowanych wskaźników zdrowotnych w lecznictwie onkologicznym pozwoliłoby na ocenę skuteczności zastosowanych rozwiązań i ich wpływu na poprawę rokowania u pacjentów chorych na raka. (4) Optymalizacja organizacji systemu opieki zdrowotnej nie jest możliwa bez wprowadzenia koniecznych zmian legislacyjnych.

Key words: *„stres społeczno-ekonomiczny", sieć onkologiczna w Polsce, wskaźnik 5-letnich przeżyć, Sieć Wielodyscyplinarnych Centrów Onkologicznych, CanCon*

INTRODUCTION

The results of the international EUROCARE and CONCORD studies clearly show that in the countries of Eastern Europe, Poland including, 5-year survival rates, in most cancer cases, are significantly lower than the European average [1, 8]. However, high 5-year survival rates in the countries of Western Europe prove that there is a substantial potential for improvement of these rates in Poland.

High survivals are related to a notably efficient health care system, therefore, to improve the organization and treatment methods is one of the most important directions of change in the Polish health care system requiring urgent strategic political decisions. While seeking for optimal solutions to provide patients with appropriate health care, the medical community and politicians turned their attention to an idea of a network of comprehensive cancer centres that was created by Professor Tadeusz Koszarowski, and was gradually adapted in the 50's [14].

In 1980 Professor Koszarowski represented Poland during the First Annual Meeting of the Organization of European Cancer Institutes (OECI), the association of directors of European cancer centres and cancer institutions [17]. According to the OECI, setting up the Comprehensive Cancer Center (CCC) is the most efficient operational structure in the multidisciplinary approach to diagnosis, treatment, screening tests implementation and cancer education.

The idea of the CCC as well as the project of a close, formalized cooperation between cancer centres proposed once by Professor Koszarowski lie at the heart of the contemporary project of the Comprehensive Cancer Care Network (CCCN) proposed in the frame of CanCon project [5]. The CCCN is an answer to a more and more frequent need by cancer service providers for a comprehensive cooperation between cancer care centers based on reference guidelines outlined according to the competences of each centre. Currently proposed, a multidisciplinary comprehensive cooperation between cancer centres in the frame of the CCCN and evidence-based public health would greatly facilitate diagnosis and treatment and would reduce disparities in the access to high quality cancer services in a way required by experts.

A Cancer Control Joint Action Project (CanCon) [4] was launched as a result of the international cooperation between the Ministries of Health of the European countries. CanCon is currently working on the recommendations for building a network structure for a modern, comprehensive cancer care system. The *'European Guide on Quality Improvement in Comprehensive Cancer Control'* will include the recommendations in order to: 1) address treatment disparities in Europe, 2) improve the quality of cancer care, 3) improve the quality of life for patients with cancer, and their families.

There is no single universal European model of the CCCN. In every country it has to comply with its specific epidemiological, health and social situation as well as take historical aspects of socio-economic changes into consideration. It seems to be most favourable when a new model starts functioning on the basis of some existing health care background. Such changes need to be implemented following the modern idea of management and monitoring of health indicators.

Building a new model of the CCCN does not only require specialist knowledge on the current situation

in cancer care, but also on the mechanisms that were used to shape it. The Transformation period in Poland is associated with a set of factors seen as 'socio-economic stress', which unfavourably influenced cancer treatment as well as slowed down the progress of the Polish cancer care in the 90's, whose outcomes in many aspects of cancer care may be experienced till today.

Due to the growing interest in health indicators in Poland, their conditioning, and the participation of the Ministry of Health in the CanCon project, a synthetic review of the most significant reasons and organizational processes of decision-making in cancer treatment after Transformation in Poland was prepared.

With this paper the Authors contribute to the CanCon project by exploration and discussion of the cancer network in Poland as an example of existing net-like structures in Europe for its possible incorporation into the modern model of cancer care organization in the European countries.

The aim of this paper was the analysis of the structure of health care and the changes introduced within the network of oncology in Poland after the socio-economic transformation in 1989 began.

MATERIAL AND METHODS

This study was conducted based on the CanCon methods aimed at reviewing literature and collecting meaningful experiences of European countries in cancer care.

Due to lack of data on Poland available for the authors of the CanCon, the research was conducted, also in the Polish specialist literature, with the use of key words whose meaning involved: 'cancer care network', 'comprehensive cancer centres', 'net-like structures'. Table 1 presents the Polish legal acts. The English names of the Polish legal acts were either officially translated or were translated for the purpose of this Paper, if not available otherwise [10].

RESULTS AND COMMENTARY

Changes in Health Care after 1989

Along with the reforms of administration, education and retirement system, the health care system reform was one of the four significant reforms in Poland. The legislative changes in health care introduced at the beginning of the 90's were to decentralize the budget, develop private health care centres and specialist medical practice as well as modernise the infrastructure of public health care providers.

The most important changes were seen in public hospitals in 1991 after the Act on Health Care Institutions coming into force (Table 1, p. 1). The reform allowed for health care providers to become legal entities, which brought them more autonomy, independence and freedom in taking decisions and funding their activities.

Decentralization of the Health Care System Financing - Sickness Funds

The most significant effects of the health care reform became visible in the next decade, after the Act on Universal Health Insurance coming into force in 1999 (Table 1, p. 2). It decentralized the previous health care system and replaced it with a system of financing from health contributions based on the social health insurance. A system of health insurance institutions, the so-called Sickness Funds, was established. There were 16 Sickness Funds, one for each voivoidship, and a separate Sickness Fund for the uniformed services. Sickness Funds guaranteed all the insured the equal access to health care funded by the state through contracts with regional health care providers that complied with required standards of treatment. If a contracted service was inaccessible in the voivodship the insured patient lived in, he/she was entitled to treatment in another one.

Moreover, this reform allowed for extra funding from the state's budget, being at the disposal of the Ministry of Health and Welfare, which funded highly specialised services such as heart transplant service or other expensive procedures. The Act on Universal Health Insurance made it possible to individually purchase services that were not guaranteed by the health insurer, e.g. plastic surgeries or selected modern therapies.

Unfortunately, the health care system reform coincided with the economic slowdown at the end of the 90's, which resulted in lack of funds for expected modernization of health care and planned investments.

Re-centralization of the Health Care System Financing - the National Health Fund (NHF)

The new 2003 Act on Universal Health Insurance in the National Health Fund was supposed to provide conditions to complete the tasks which failed earlier during the reform. It brought back the central funding, and the National Health Fund (NHF), with its regional branches, became the successor to previous Sickness Funds (Table 1, p. 3). Till today, the NHF is the only public payer to health service providers in Poland, which is still not an optimal solution.

The advantage of the 2003 Act on National Health Fund was to introduce uniform contracted procedures. However, this Act did not solve a problem of disparities that had grown over the years in infrastructure, staffing, equipment and organizational procedures between the regional branches of the NHF, which resulted in patient overloading in some health care institutions

responsible for providing patients with the highest quality services, and led other health care providers to debts.

Problems that resulted from lack of financial stability appeared in the health care system. A programme raising health insurance in order to bring income to the health care system was introduced, and a discussion on expenditure cuts and introduction of so-called 'procedures guaranteed from the NHF's budget' began.

Furthermore, the Polish Constitutional Tribunal declared the 2003 Act on National Health Fund unconstitutional and called for drawing new comprehensive regulations of the conditions and range of health care services for Polish citizens (Table 1, p. 4).

The contested Act was replaced by the 2004 Act on Health Care Services Financed from Public Sources (Table 1, p. 5), which with its amendments described the rules for guaranteed health care services. Other legislative regulations aimed at defining guaranteed health care services, tackling corruption, ensuring patients' rights, improving the quality of health care services, introducing complementary insurances and facing lack of personnel due to migration flow to other European labour markets.

The Act on Therapeutic Activity came into force in 2011 – a key act of law for the present health care system, whose significant intention was to improve financial efficiency of hospital management and reduce hospital debts (Table 1, p. 6). It allowed to transform public hospitals into commercial code companies. The 2011 Act on Therapeutic Activity replaced the term 'health care institution' (Polish '*zakład opieki zdrowotnej*') with 'medical entity' (Polish'*podmiot leczniczy*'). The 2011 Act continued earlier efforts to commercialize public hospitals. The model of cancer treatment also experienced significant changes throughout those years.

Cancer Control Programmes

Today, cancer care in Poland is based on a network outlined in the Second Cancer Control Programme in the middle of the last century, and implemented between 1952-1974 [14]. The Programme was born due to the establishment of the Maria Skłodowska - Curie Memorial Institute of Oncology in 1952, with its headquarters in Warsaw and two branches, in Cracow and Gliwice.

One of the main objectives of the Programme, apart from research studies, was to build a three-level reference structure of the oncology network that consisted of cancer centres and outpatient clinics under the supervision of the Institute of Oncology. Moreover, in the same year, in order to obtain epidemiological data on cancer, according to the regulation of the Ministry of Health and Welfare, every cancer case in Poland had to be compulsory reported to the regional cancer registries. By the end of the decade a basic oncology network was established in Poland, and the National Cancer Registry was developed [12, 13].

The main objective of the next edition of the National Cancer Control Programme (1976-1990) was to improve 5-year survival rates of cancer patients from about 25% at the time of the Programme implementation to about 50% after the period of 15 years that followed up [14]. A further development of oncology network was planned by establishing other regional Comprehensive Cancer Centres (CCCs) and increasing the number of regional cancer outpatient clinics as well as optimizing the quality of their activities.

Thanks to the effort of Professor Tadeusz Koszarowski, a doyen of Polish oncology, one of the biggest investments of this Programme was constructing a new modern CCC in Warsaw, which merged with existing structures of the Institute of Oncology and created The Maria Skłodowska-Curie Memorial Cancer Centre and Institute of Oncology. This institution has quickly become and still is the biggest CCC in Poland. It has a unique structure of treatment organization in organ-specific clinics that specialize in multidisciplinary cancer treatment. Such organisation facilitates the modern administration of the cancer centre, the development of its competences and the scientific research. In the 90's those CCCs which were equipped with basic radiotherapy machines served as the centres of reference.

Unsatisfactory treatment results at the beginning of the 90's as well as a rapid increase in cancer cases in Poland required coordinated actions on the national level [24]. After a 15-year-long break, a new multi-year National Cancer Programme (NCP) for years 2006-2015 was established (Table 1, p. 7). It was the fourth programme on the national level, which ensured stable funding, treatment quality monitoring and modes of its provision. Still, one of the main objectives of the Programme was to achieve the average European cancer survival rates in treatment efficiency. At the moment, a project for the new edition of NCP has begun (Table 1, p. 8).

Organization of the Cancer Care System

In practice, till 1998 standard cancer treatment was fully funded by the public sources, and the decision upon the treatment was taken by a doctor responsible for the patient. At that time the most crucial problem was the limited access to drugs. The reforms and changes of the 90's related to the decentralisation of the funding system - the introduction of the regional Sickness Funds did not significantly improve the access to treatment.

Once the Sickness Funds were liquidated and the central funding system was brought back, the NHF

was established. Cancer service providers started to operate on the basis of individual contracts with the NHF, including services financed from public sources at the NHF disposal. As a consequence of the 2014 Act, contracts themselves as well as contracted cancer treatment were limited, being the result of insufficient funds in the NHF budget. One way to make the health care system more efficient was to introduce the '*Oncological Package*' and '*Waiting List Package*' on 1 January with the Act of 22 July 2014 (Table 1, p. 9). Those Acts and the regulations of the Minister of Health, among others, were followed by other important documents: The Act amending the Act on Professions of Nurse and Midwife (Table 1, p. 10), The Act amending the Act on Consultants in Health Care (Table 1, p. 11), The Regulation of the Minister of Health on the Guaranteed Medical Services in Hospital Treatment (Table 1, p. 12) as well as two Decrees of the President of the National Health Fund dedicated to out-patients and hospital treatment (Table 1, p. 13, p. 14).

Oncological Package

The *'Oncological Package*' consists of legal regulations that introduce a new systemic solution – the '*Quick Oncological Therapy*' without cancer treatment limits. Its objective is to guarantee complex cancer care to every patient in a way outlined by the NHF, mainly by improving early diagnosis and shortening long queues of patients waiting for treatment, so the final diagnosis and the beginning of the treatment should not exceed 9 weeks [22].

One of the advantages of the '*Oncological Package*' is that the cancer patient detailed documentation on diagnosis and treatment of the disease is gathered in a standard, electronic way, so called '*DiLO* card' (*the Diagnosis and Oncological Treatment card*) [22] (Table 1, p. 15). Every doctor contracted with the NHF has online access to '*DiLO* card' system.

The 'Q*uick Oncological Therapy*' is followed by the patient in two stages. The first stage - confirmation of cancer diagnosis, is most often coordinated by the primary health care doctor. If the cancer diagnosis is confirmed, the patient is referred to a specialist whose task is to perform further diagnostic tests as the basis for the treatment planned by a council of specialists, if necessary. Until recovery the patient is followed by a coordinator responsible for the efficient treatment process. Having completed the treatment, the patient returns to his/her primary health care doctor.

The objective of the '*Oncological Package'* provided a crucial role of the primary health care doctor who refers the patient to the '*Quick Oncological Therapy'* and coordinates long-term care after the cancer treatment has been completed.

According to the Ministry of Health, the '*Oncological Package*' contributed to a more orderly way of certain aspects of the diagnosis and treatment process [18]. However, since the *'Oncological Package'* has been introduced only recently, the most important epidemiological factors and the treatment costs cannot be yet assessed.

Due to the complexity of problems in oncology, we may still observe a number of deficiencies that impede the treatment process itself, but also unfavourably influence patients' comfort. Already, at the early stage of the *Package* implementation, a limited access to drugs available on the market was observed, which in particular made it difficult for the breast cancer patients to be treated according to the ESMO (European Society for Medical Oncology) recommendations [11].

The main criticism of the '*Oncological Package*' came from the medical community concerned about the lack of prior and careful preparation and organization of the health service providers as well as the lack of proper funding of such a complex initiative on the national level. In the opinion of critics, many difficulties and misunderstandings could have been avoided through the progressive introduction of this reform in the form of a pilot study. Experts and cancer interest groups still cooperate in order to facilitate the functioning of the '*Oncological Package'*. The biggest needs are related to the implementation of diagnostic and treatment standards as well as the rules of referral for cancer centres. Legislative corrections in this respect are expected to be introduced soon.

Despite those problems, the idea of the *'Oncological Package'* is seen favourably.

Paediatrics Oncology

The '*Quick Oncological Therapy'* in children cancer treatment has been criticised by pediatricians and children hematologists. According to pediatricians, actions that follow the recommendations of the '*Oncological Package*' meet potential delays in treatment initiation due to overregulation. Currently, the cooperation between specialists in different children oncological specialisations bases on individual contacts between the doctors. Therefore, diagnosis and treatment initiation of a child patient may start even the same day.

In Poland today, there are 11 regional reference children cancer and hematology centres, with several specialist hospitals, units and wards [15]. Children cancer centres are located in such as a way that the distance between a cancer centre and the patient's place of living is no longer than 120 kilometers. There is an interdisciplinary cooperation between the centres, which allows for quick solutions of diagnostic and treatment problems of young cancer patients, and guarantees highly specialised medical staff. Not only are there doctors who treat children with cancer, but also qualified nurses, psychologists, educators, social workers and occupational therapists.

Table 1. Polish legal instruments used in the study

No	Name of Act	Date	Reference
1.	Ustawa o Zakładach Opieki Zdrowotnej *Act on Health Care Institutions*	30 August 1991	Dz.U. 1991, nr 91, poz. 408
2.	Ustawa o powszechnym ubezpieczeniu zdrowotnym *Act on the Universal Health Insurance*	6 February 1997	Dz.U. 1997, nr 28, poz. 153
3.	Ustawa o powszechnym ubezpieczeniu w Narodowym Funduszu Zdrowia *Act on the Universal Health Insurance in the National Health Fund*	23 January 2003	Dz.U. 2003, nr 45, poz. 391
4.	Wyrok Trybunału Konstytucyjnego sygn. akt K 14/03 *The Constitutional Tribunal Act K14/03*	7 January 2004	Dz.U. 2004, nr 5, poz. 37
5.	Ustawa o świadczeniach opieki zdrowotnej finansowanych ze środków publicznych *Act on Health Care Services Financed from Public Sources*	27 August 2004	Dz.U. 2004, nr 210, poz. 2135
6.	Ustawa o działalności leczniczej *Act on Therapeutic Activity*	15 April 2011	Dz.U. 2011, nr 112, poz. 654
7.	Ustawa o ustanowieniu programu wieloletniego na lata 2006-2015 „Narodowy program zwalczania chorób nowotworowych*”* *Act on Establishing the Multi-Year “National Cancer Control Programme” for years 2006-2015*	1 July 2005	Dz.U. 2005, nr 143, poz. 1200
8.	Uchwała nr 208 Rady Ministrów w sprawie ustanowienia programu wieloletniego na lata 2016–2024 pod nazwą „Narodowy Program Zwalczania Chorób Nowotworowych” *Resolution No 208 of the Council of Ministers on Establishing the Multi-Year “National Cancer Control Programme” for years 2016-2024*	3 November 2015	M.P. 2015, poz. 1165
9.	Ustawa o zmianie ustawy o świadczeniach opieki zdrowotnej finansowanych ze środków publicznych oraz niektórych innych ustaw *Act Amending the Act on Health Care Services Financed from Public Sources*	22 July 2014	Dz.U. 2014, poz. 1138
10.	Ustawa o zmianie ustawy o zawodach pielęgniarki i położnej oraz niektórych innych ustaw *Act Amending the Act on Professions of Nurse and Midwife*	22 July 2014	Dz.U. 2014, poz. 1136
11.	Ustawa o zmianie ustawy o konsultantach w ochronie zdrowia *Act Amending the Act on Consultants in the Health Care*	22 July 2014	Dz.U. 2014, poz. 1135
12.	Rozporządzenie Ministra Zdrowia w sprawie świadczeń gwarantowanych z zakresu leczenia szpitalnego *Regulation of the Minister of Health on Guaranteed Hospital Services*	20 October 2014	Dz.U. 2014, poz. 1441
13.	Zarządzenie nr 79/2014/DSOZ Prezesa NFZ w sprawie określenia warunków zawierania i realizacji umów w rodzaju ambulatoryjna opieka specjalistyczna *Regulation No 79/2014/DSOZ of the President of the National Health Fund (NFZ) on Conditions of Concluding and Performing Contracts for Outpatient Specialist Care*	5 December 2014	http://www.nfz.gov.pl/zarzadzenia-prezesa/zarzadzenia-prezesa-nfz/zarzadzenie-nr-792014dsoz,6342.html(Accessed 26.09.2016)
14.	Zarządzenie nr 81/2014/DSOZ Prezesa NFZ w sprawie określenia warunków zawierania i realizacji umów w rodzaju leczenie szpitalne *Regulation No 81/2014/DSOZ of the President of the National Health Fund (NFZ) on Conditions of Concluding and Performing Contracts for Outpatient Specialist Care*	5 December 2014	http://www.nfz.gov.pl/zarzadzenia-prezesa/zarzadzenia-prezesa-nfz/zarzadzenie-nr-812014dsoz,6344.html (Accessed 26.09.2016)

Data on childhood cancers is collected in the National Cancer Registry in ICD-10, and since 1999 also in ICCC-3 in the Polish Cancer Childhood Registry [16]. Information from the Registry is used by the National Consultant in Pediatric Oncology and Hematology in the national specialist supervision and monitoring.

Breast Units

In order to improve the functioning of cancer care across Europe there is a tendency to set up cancer specialist diagnostic and treatment centres. Such examples are diagnostic and treatment breast cancer centres – Breast Units (BUs), which operate in compliance with the European standards and hold the accreditation granted by the Senologic International Society (SIS) [23, 28]. Currently, in Poland, there are three operating BUs.

More BUs are needed to satisfy the country's needs. According to the Polish Chamber of Physicians the main obstacles are: understaffing and lack of equipment [20].

DISCUSSION

Health Care System and Health Indicators

During the transformation period the post-communist countries had to reorganise their structures in social, political and economic aspects, which resulted in the significant slowdown of their economic development in comparison to the countries that did not experience such changes.

After 1989 the Polish health care system faced a number of challenges, among which the process of change from the centrally planned funding into the market economy funding was the most crucial one. The economic crisis of the end of the last century and the Article 68 of the Polish Constitution, which guaranteed every citizen the equal access to health care, impeded the implementation of necessary legal regulations to come into effect [26]. The consequence was a worse access to health care and worse population health status indicators, mainly with a drop in the rising trend of life expectancy of Poles [29].

The 5-year Survival Rates in the Context of Cancer Programmes in Poland

The problems of the transformation period resulted in slowing down of the Polish oncology, which reflected in low survival rates for malignant cancers. In Eurocare 3 research Project (1990-1994), 5-year survival rates for all cancers in Poland were approximately 15% lower than the European average and amounted to 29% [6]. Such low survival rates in Poland were the consequence of the unsuccessful implementation of one of the main objectives of the National Cancer Programme (NCP) in years 1976-1990.

It turned out that the long-term objective formulated by Professor Koszarowski – curability at the level of 50%, was in 1990 reachable only for some countries of Western Europe (e.g. Finland), whereas the European average was lower, approximately 45% [14, 6]. At the end of the 90's survival rates in Europe showed at 52%, whereas in Poland they rose only to 42% [6]. In the first decade of the 21st century there was still a rising trend of 5-year survival rates in Europe (in 2007 they showed at 55%), though in Poland the improvement was minimal, and did not exceed 1% (in the same year it showed at 43%) [6].

It is necessary to pinpoint the fact that those unfavourable disparities for Poland were in preventable cancers, whose methods of early diagnosis and optimal treatment were widely used in the countries of Western Europe [3]. Nonetheless, some favourable changes in certain cancers, e.g. leukemia and childhood cancers were observed [2, in prep.].

A critical analysis of research methodology on cancer curability and a multi-year observation of cancer trends proved that persisting disparities in cancer curability between European countries are significant, and particularly unfavourable for post-communist countries [7].

European Recommendations Concerning Cancer Control Programmes

This observation led to the formulation of the recommendations within the European Partnership for Action Against Cancer (EPAAC), which reflected the recommendations of the European Commission for a joint response to prevent and control cancer [9, 27].

According to these recommendations cancer control is the most successful when implemented systematically within a multi-year regional or national cancer control programme which follows well-defined priorities, has stable funding, and its health performance indicators are monitored in accordance with scientific methods.

The recommendations which refer to the third NCP formulated by Koszarowski in the 70's laid the foundations for the fourth NCP for years 2006-2015 [14]. Again, one of the main objectives of this Programme was to improve cancer survival rates in order to reach the European average. However, the health results of the third NCP are not available yet.

The currently started NCP for years 2016-2024 continues to follow the objectives of its previous editions, and, as earlier, is financed from public funds. The fact that the health effects of the previous 10-year-long NCP have not yet been published is a disadvantage when taking strategic decisions in current cancer control programme. Legal regulations for data collecting and

processing to allow for health indicators evaluation and assessment of health effects at every stage of cancer control are being elaborated on.

Health effectiveness of any intervention (set of procedures) ought to be the subject to surveillance. That requires clearly defined specific indicators which allow for comparison between the countries involved in the same programme. The surveillance system requires funds to be properly allocated. It is estimated that the costs of population screening program evaluation will amount to at least 10-20% worth of the total costs of all interventions performed [27].

New-old Solution – Oncology Network

So far, the performance of the tasks outlined in the NCPs was made possible as a consequence of unofficial contacts between doctors and their mutual cooperation in taking diagnostic and treatment decisions. Therefore, it seems that in the current situation in Poland, coming back to the old idea of oncology network in its modern formula might be beneficial - a network built around the contemporary idea of the CCCN that formalizes the cooperation between the already existing cancer centres. According to the CanCon definition, which is essentially similar to Koszarowski's idea, CCCN is characterized by through integration, commonly agreed protocols, common IT, and a formal agreement for common governance. It covers all the components of cancer care: from cancer prevention and organised screening programmes through standard diagnostic and treatment procedures to follow-up plans. Specialised rare tumours-focused care as well as palliative care is also included.

According to the CanCon best experience it is essential that an oncology network is built in a gradual, multidimensional way based on the already existing cancer care system, which ought to be modernized. In the Czech Republic, the cooperation within the CCCN was initiated with a pilot study covering two regions [25]. At the same time, favourable trends in cancer curability were also observed [19, 8].

The Polish National Oncology Network and Cancer Institutes (*unofficial English translation),* which currently consists of several hospitals from every region in Poland, is at the moment holding talks to establish a national CCCN [21].

Summing up, the present cancer care system in Poland faces many challenges, including: a rapid rise in the number of cancer patients due to demographic changes, low effectiveness of population screening, lack of trained personnel or enough funding.

A long process of change into the market-oriented health care system as well as its frequent changes do not bring expected stabilization. A new amendment to facilitate the '*Quick Oncological Therapy*' is waiting to be launched.

Thus, the idea of the oncology network proposed in the middle of the last century by Professor Koszarowski has come full circle.

CONCLUSIONS

1. 'Socio-economic' stress in Poland after the socio-economic transformation began in the 90's of the last century adversely affected the efficiency of oncological treatment, both by reducing the sense of safety and slowing down the development of modern oncology.
2. Upgrading the current system into the contemporary form – the Comprehensive Cancer Centers Network (CCCN) could be an important step forward to optimise the oncological health care in Poland.
3. Developing and introduction of the mandatory monitoring system of organizational challenges by applying standardized health indicators could allow for the assessment of the effectiveness of implemented solutions and their impact on better prognosis of cancer patients.
4. Optimising the organization of the health care system is possible only by implementing the necessary legislative corrections.

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Conflict of interest

The authors declare no conflict of interests.

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