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CANCER CONTROL STRATEGY FOR POLAND 2015-2024

POLSKA UNIA ONKOLOGII

Polskie Towarzystwo Onkologii Klinicznej

Polska Koalicja Pacjentów Onkologicznych

POLSKIE TOWARZYSTWO RADIOTERAPII ONKOLOGICZNEJ

POLSKIE TOWARZYSTWO PATOLOGÓW

Polskie Towarzystwo Onkologii i Hematologii Dziecięcej

PTHiT

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Office of the Project

"We should think big, act small, dare to fail, stop talking … and start acting NOW"

Lucien Engelen

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Main Objective of the Strategy

Improvement in cancer incidence, improvement in cancer survival in Poland and better quality of life for cancer patients

Introduction

Malignant tumours are the second leading cause of death in Poland with approximately 100 thousand people dying of cancer each year. Every year approximately 160 thousand new cancer cases are reported and according to the estimates this number is likely to increase to 185 thousand in the next 10 years. It is therefore expected that cancer will become the leading cause of death in Poland. As a result, our country is facing the epidemiological crisis caused by the increase in cancer incidence and mortality as well as the growing number of patients living with cancer diagnosis. Direct costs of cancer care were estimated to exceed 6 billion PLN in 2011, excluding indirect costs such as lower budgetary contributions, and decreased occupational activity and productivity of patients and their families. Thus taking decisive steps to meet the challenge of cancer needs not only to become a key priority in healthcare but also one of the national public health priorities.

Cancer Strategy for Poland 2015-2024 has been developed as an initiative of the Polish Society of Oncology with the participation of other scientific associations, the Ministry of Health, National Health Fund, patient organisations and NGOs, representatives of service providers and academic communities as well as experts in many areas. Its aim is to indicate the key changes required to decrease cancer incidence, improve cancer survival in Poland and provide better quality of life for cancer patients. Experience of other countries demonstrates that consistent implementation of similar programmes can achieve the goals set therein.

This paper provides a comprehensive and multi-sectorial description of the processes required to achieve the long-term goals and measures in cancer control in Poland. It is based on the experiences of other European countries and international guidelines on how to create similar documents but at the same time it takes into account Polish economic, social and cultural specificities. The proposed solutions and areas of impact should improve effectiveness of cancer prevention and decrease the number of avoidable deaths. The project assumes that the decrease of cancer incidence and mortality rates can be achieved not only through direct actions, but also through the promotion of health and well-being in the society, an improvement in the quality of medical and paramedical education and reinforcement of research and development in oncology. Three years after its first publication, the document was updated taking into account changes in the oncological treatment funding system resulting from the introduction of the so-called "oncological package", which partly is the implementation of postulates contained in the original version of the document. It also addresses the fact of the appointment in 2015 of an opinion-making and advisory body to the Minister for Health, the Cancer Advisory Board, the introduction of new regulations concerning the preparation of maps of health needs and the creation of an institution dealing with health service tariffs.

Risk factors causing various cancers are widely known and well-documented. They include, among others, bad diet, obesity, smoking, alcohol abuse, certain infections or exposure to UV radiation. In relation to lung cancer it is known that primary prevention is still the most effective way to reduce mortality rate.

Still, public awareness in this respect is insufficient and the possibility of effective prevention is underestimated. It is therefore crucial to continue long-term public education in this field.

In addition to public health measures, care of every cancer patient in both medical and non-medical aspects of the disease should be improved. Besides improving the effectiveness of cancer diagnosis and treatment and reducing inequalities in access to cancer care, special attention should be paid to the quality of life during and after treatment, fight against social exclusion and facilitation of a patient's full return to social, occupational and family functions. Psychological support for the patient and patient's closest family is particularly important at the earliest possible stage, and state

help - where necessary – should be provided in case of temporary or permanent deterioration of their financial situation. The distress during advanced stages of the disease remains a major challenge that needs to be addressed and therefore this strategy devotes an entire chapter to address this issue.

Apart from general primary prevention measures, it is necessary to increase the effectiveness of screening programmes for breast, cervical and colorectal cancer. These programmes should be regularly reviewed and modified to ascertain their cost-effectiveness and to revise and include known and newly identified risk factors.

Early diagnosis of cancer seems to be the biggest challenge of cancer care in Poland today. Besides the previously mentioned demographic programmes, early diagnostics requires systemic improvement of the functioning and strengthening of the role of primary healthcare in the cancer control programme. The proposed organisational changes should endeavour to shorten and improve the cancer diagnosis process and promote the earliest possible initiation of treatment based on treatment plan drawn up by a multidisciplinary team of specialists.

Low level of compliance with evidence-based standards for diagnosis and treatment of cancer constitutes another major drawback in the area of cancer care. It is therefore necessary to standardize diagnostic and treatment methods through the development by scientific associations of guidelines for diagnostic and therapeutic procedures and the creation of a mechanism for their effective promotion. By implementing these postulates of oncological environments, in 2017 the Sejm adopted regulations developed via the Ministry of Health which set up a mechanism for announcing by the Minister of Health current versions of guidelines for diagnostic and therapeutic procedures developed by relevant scientific societies.

The recommended ultimate model of cancer care is mainly based on existing resources and the public financing system for the three levels of care: primary care, ambulatory specialist and diagnostic care and inpatient treatment carried out in institutes, clinical hospitals, specialized hospitals and oncology departments in multidisciplinary hospitals. Under the existing system, there is a need to establish an oncological network with a centrally-established National Institute of Oncology which will be the foundation for cancer care in Poland. Coordinating units should be the basis for the Oncological Network. Properly profiled hospital units should serve as *competence centres* in specific areas of cancer diagnosis and treatment. In turn, institutions,

clinical hospitals as well as in specialised oncological hospitals should serve as *centres of excellence* that would serve as the base for the treatment of rare cancers, more difficult cases of malignant tumours and the use of less common diagnostic and therapeutic interventions. *Centres of excellence* should also be active in the field of human resource training and scientific research.

It is necessary to improve the utilisation of existing resources and means of oncological treatment by changing inpatient based care which is dominant in Poland, to outpatient care. In order to support the organizational diagnostic and therapeutic process, it is appropriate to create a coordinated care system both in the area of cancer diagnosis and treatment and to provide the patient with personalised assistance in smooth transition through the process.

Due to the ongoing works on the primary hospital system of securing healthcare services (*hospital network*) and the change in the manner of financing hospital services, the above structures should find the right place. In case of patients covered by the "cancer package", it is also reasonable to maintain financing the services in the form of payments for a given case (JGP).

It has been assumed that cancer control should focus on elements that can be identified and successfully redesigned and adequate measuring of the effectiveness of their impact. This should be based on a reliable and comprehensive analysis of the current state of care and systematic collection of complete quantitative and qualitative information. In this context it is particularly important to improve the data collection process regarding the quality, outcomes and costs of cancer care.

Data analysis, current coordination and monitoring of the effective implementation of almost 100 measures set out in this Strategy should be entrusted to a newly created team that has the relevant remit and competences granted by the Minister of Health. Advisory and control function in this team should be played by the Cancer Advisory Board appointed by the Minister of Health in 2015.

I

Organisation and management of cancer care system

I. Organisation and management of the cancer care system

Several models of the organising and financing of healthcare systems exist in Europe. Ranging from systems based on state and/or budget financing and functioning as a national health service (centralised or decentralised), to insurance based models providing services or reimbursement and financed by only one (national) payor or by several insurance funds. There isn't any convincing evidence of the superiority of one healthcare system over another, as countries with very different systems can achieve equally good or similarly poor results in various areas of cancer care.

In Poland, cancer care is financed mostly through the national system of guaranteed health services, and it includes preventive health programmes, diagnostics, treatment, rehabilitation, palliative care and drug reimbursement. These services are financed from the general and obligatory statutory health insurance system. Since 2015, after the introduction of the so-called oncological package, services are provided via a special procedure, without quantitative limits and disregarding waiting lists of patients with other medical conditions. Organisation of the provided care depends on the type of cancer and the age of the patient. Cancer care is divided between solid and haematological tumours as well as adult and paediatric tumours (aged 0-18). Approximately 90% of cancer cases in Poland are solid tumours in adults, 9% are haematological cancers in adults and 1% are paediatric tumours of any type.

The cancer care system for adult solid tumours is based on a largely centralized system, historically centred around Maria Skłodowska-Curie Institute of Oncology with three regional branches in Warsaw, Gliwice and Cracow. The natural consequence of over 80 years of the Institute's activity combined with highest number of treated patients and a resource potential on a national scale is the transformation of the Institute of Oncology into the National Institute of Oncology. There are also regional oncological centres in the majority of regions, which function either as autonomous stand-alone hospitals or as a part of a multidisciplinary hospital which form an informal oncological network. Clinical hospitals play a vital role in cancer care but only 2 of them (in Gdansk and in Katowice) have the division of radiotherapy in their structures. Some non-academic cancer care centres constitute the base for medical schools to educate medical students. Cancer care is also provided by smaller satellite centres or through oncology departments located in hospitals of various specialisation levels. Some part of preventive, diagnostic and therapeutic services are provided by private entities. Such entities do not always perform comprehensive oncological treatment, but only selected care areas such as imaging diagnostics, clinical oncology or radiotherapy. Emergence of new cancer care centres and the development of existing ones should be based on maps of oncological health

care needs with the assumption that patients are provided with high level and possibly closest in terms of distance from their place of residence multidisciplinary care.

Paediatric cancers in Poland are managed by 17 regional reference centres based in clinical hospitals, cancer care centres and some specialised paediatric hospitals. All the providers belong to a closely coordinated network that covers all of Poland's territory.

The number of new paediatric cancers diagnosed in Poland has been stable at 1100-1200 per annum, but the number of patients being treated or followed up has been increasing along with the improved survival rate.

The surgical treatment of cancer is provided in surgical departments such as oncological surgery, general surgery, neurosurgery, thoracic surgery, ENT surgery, urology and gynaecology. It is estimated that a significant proportion of surgical procedures for gastrointestinal cancers, endocrine cancers as well as pelvic cancers is performed in the departments of general surgery, urology or gynaecology in various hospitals. The number of patients with malignant cancer who had elective surgery is estimated at about 80 thousands. The most common cancer in women, breast cancer, is mostly treated in the oncological surgery departments (86%), whilst the surgical treatment of colorectal tumours (with incidence rate close to that of breast cancer) is equally split between oncological and general surgery departments. In oncological surgery the quality of treatment is related to the number of patients operated at a given facility. Therefore, it is advisable to have greater centralization of surgical treatment in centres with extensive experience in a given surgical area, while providing multidisciplinary care.

Apart from surgery radiation treatment is the primary treatment method for patients with malignant cancers. Oncological radiotherapy is applied as a separate method or in combination with surgery, chemotherapy and other systemic treatment methods. In 2015, 35 providers offered oncological radiotherapy, with the highest number of service providers present in the Śląskie, Małopolskie and Mazowieckie regions (6, 4 and 4, respectively). In other regions radiotherapy is more centralized with only 1 or 2 centres per region. The Dolnośląskie, Kujawsko-Pomorskie and Wielkopolskie regions introduced a model of satellite radiotherapy, i.e. creation of branches of radiotherapy units belonging to regional oncological centres.

In the last ten years the number of both public and private providers offering cancer treatment has increased in Poland. At the same time there are few new providers entering the market who offer comprehensive complex cancer care that include surgical, systemic and radiotherapy treatments. The establishment of new cancer centres has not been coordinated nor preceded by the epidemiological demand analysis as the Ministry of Health saw no such need. In 2013, the European Commission imposed on the Minister of Health the obligation to draw up a

strategic plan for investments in health care which was to assist in the planning of investments made from the EU funds. The Minister of Health has decided to fulfil this obligation by developing the so-called maps of health needs followed by the Investment Applications Assessment Tool in the Health Sector (IOWISZ). Based on the maps of health needs each region prepares priorities for the regional health policy, whereas IOWISZ serves to evaluate individual investment projects on the basis of which the voivode issues an opinion concerning the legitimacy of the investment.

The care of adult haematological cancer patients is the domain of haematology units whilst cancers of the lymphatic system are treated in both haematology and clinical oncology units. On the other hand haematology units also treat non-cancer blood conditions such as haemophilia. There are 30 care providers for these non-solid tumours: the Institute of Haematology and Blood Transfusion in Warsaw, leading clinical hospitals as well as haematology units located in certain regional oncology centres and specialist hospitals.

Paediatric haematological cancers are treated in paediatric haematology-oncology units associated with most medical universities as well as the National Paediatric Centre and the Institute for Maternal and Child Health in Warsaw.

Bone marrow transplants in Poland are performed in 20 specialist centres: 5 paediatric and 15 for adult patients.

The responsibility for collecting and analysing epidemiological data on cancers and for preparing forecasts lies with the National Cancer Registry (NCR)which has been operating for 60 years now and whose central unit is located at the Maria Skłodowska-Curie Institute of Oncology in Warsaw. The Registry processes statistical data provided by regional cancer registers which collect such data on the basis of cancer case notification forms completed by physicians. The Central Statistical Office (CSO) collects additional statistical data derived from death certificates. The average completeness of cancer incidence estimated by the Cancer Registry in Poland has been continuously improving and is currently estimated to be 94%, however significant regional differences still persist within individual regions. Registration of cancer stage at the time of diagnosis remains on a significantly lower level (60-80% depending on tumour location). According to the authors of the *Maps of health needs*, the completeness of NCR data is, however, significantly lower and amounts to an average of 72%. As a result, the numbers regarding current cancer incidence, as well as future incidence forecasts provided in he *Maps of health needs* quite significantly exceed the values reported by the NCR. In addition, the combination of NCR reporting with the so-called Diagnostics and Oncological Treatment Card (DILO) has resulted in a decrease in the quality of NCR data, since the cancer notification form had not been completed for some patients treated outside of the “cancer package”.

Therefore improvement of the quality of the NCR data is an urgent need. Since 2013, the Registry provides physicians with the possibility of filing case notification reports online, together with the possibility to edit and update the report with additional information collected during treatment. However only 25% of physicians make use of this form of reporting.

Data on the costs of cancer treatment in Poland is collected solely by the NHF, whereas information on treatment outcomes is collected and made available by the NCR only in the most basic scope (five-year survival rates) by region and nationally. In the years to come, efforts should be made to extend the capability of the health care IT system by examination of new indicators, such as those regarding the quality and effectiveness of treatment.

Medical professionals involved in cancer care in Poland include surgeons of different specialties, clinical oncologists, radiation therapists, haematologists, paediatric haematologists and oncologists, specialists in nuclear and palliative medicine. According to the records of national consultants in oncological surgery, clinical oncology and radiotherapy, the general number of specialists in these areas was 700, 820 and 585 respectively in 2016 and approximately doubled within the last decade. There were 432 haematologists in Poland and 180 paediatric haematology and oncology specialists registered at that time. Despite this increase, significant regional disproportions persist, leading to difficulties in access to selected specialists.

Objective 1: Development and implementation of an efficient and effective model of oncological care

In order to improve cancer indicators in Poland, the organisation of cancer care needs to be significantly improved. Special importance has to be paid to the optimisation of the patient pathway throughout the care system, the standardisation and management of diagnostic and treatment processes as well as planning and monitoring of the efficacy of interventions. Medical services in the area of oncology should include the following:

- primary healthcare,
- network of specialist cancer outpatient clinics and specialist hospital inpatient units, that contain comprehensive cancer diagnostics units,
- network of cancer treatment centres comprising:
  - evenly geographically dispersed ***competence centers*** availing themselves of relevant experience and resources to treat cancer in the most common locations (e.g., lungs, breast, large intestine, prostate).
  - ***centres of excellence*** dealing additionally with the treatment of complicated clinical cases, rare cancers, research and human resource training.

The scope of the proposed changes should affect all tiers of the healthcare system, thus ensuring their better interoperability. There is evidence that results achieved by units specialising in the treatment of specific cancer types (based on the number of treated patients, staff number and appropriate infrastructure) can be increased by 10-20%. The coordinated utilisation of resources should impact not only treatment outcomes but also significantly improve process organisation, increase competence and lead to higher economic efficiency.

To ensure that most of the Strategy's objectives are implemented, it seems necessary to set up a new institution with a clear remit to coordinate and monitor the key objectives of cancer control programme in Poland. Its activities should be supported by external experts representing scientific societies, physicians and representatives of other paramedical professionals from oncological centres (institutes, medical universities and associated clinical hospitals, regional and specialist centres and others) as well as representatives from patient organisations and NGOs.

Measure 1.1. Establishing an institution responsible for coordination and monitoring of key aspects of the cancer control programme in Poland

A properly empowered agency should play a key role in achieving strategic objectives in a timely and successful manner. Its remit would be to monitor the functioning of the cancer care system, undertake initiatives to restructure the system, improve coordination and increase its effectiveness. This institution should be able to undertake actions and initiatives of a regulatory and administrative nature. Conceptual assistance for these activities should be provided by Cancer Advisory Board, founded in 2015, composed of representatives drawn from all areas of cancer care, patient organisations and NGOs.

Setting main goals in the area of cancer control and preparing appropriate recommendations should have a multi-sectoral character and include a wide range of issues such as coordination of works on the development and updating all the diagnostic and therapeutic guidelines for all cancer types, modification of the guaranteed services, supervision of occupational training of healthcare professionals, initiating of scientific research, public health promotion as well as initiating actions in cancer prevention and cancer control. This multi-sectoral approach means that there is a need to create effective institutional solutions to allow for the coordination of the activities that encompass the competencies of several ministries and public administration bodies.

This coordinating body of cancer control in order to function effectively needs to secure the following:

- be equipped with appropriate competences, authority and access to data,
- collective and transparent decision-making process supported by expert circles that include a broad representation of various entities and institutions involved in the cancer control programme as well as patient organisations,
- appropriate budget.

Responsibility

MH

Timing

4th Quarter 2017

Measure 1.2. Preparing and updating the maps of oncology needs and resource requirements in Poland

The starting point for implementing the Strategy should be up-to-date knowledge about the status of infrastructure and equipment as well as staff resources available in the cancer control institutions in Poland and should consider the current level of cancer incidence (approximately 16 thousand new cases per year) and the predicted increase of incidence. In 2016, maps of oncology needs and resource requirements were prepared and published by MH. This basic tool in the planning of organisational and structural changes (investments, training) should be used at the earliest possible stage of Strategy implementation and regularly updated.

Responsibility

MH, NHF

Timing

every two years

Measure 1.3. Establishing a system for monitoring the quality of cancer care in Poland

Monitoring the quality of healthcare in Poland is a significant, system-wide problem. Currently it is restricted to the control function implemented by NHF exclusively as regards required resources (without any measurement or monitoring of the processes themselves or their outcomes). The obligatory standards in the area of quality assurance of processes, and partly of their results, in oncology apply only to procedures relating to the use of ionising radiation or radionucleosides for therapeutic or diagnostic purposes. In all other areas these norms, based on guidelines developed by the Centre for Quality Monitoring in Health Care for the accreditation of inpatient units or those proposed by the Polish Centre for Accreditation, are not binding.

A new system for quality assurance in cancer care, broader in its range and functions than the system currently in place, needs to be created based on systematic and comprehensive data collection on treatment outcomes, side effects and complications; such data will need to be analysed at the level of individual areas of care, regions and service providers, and regular publication of such information will need to be implemented. Quality control should be judged

against the Donabedian criteria that set out quality management standards for structures, process and outcomes. This function may be performed by the Agency for Healthcare Quality and Patient Safety planned by MH, whereby in the design and interpretation of test results the substantive involvement of the institution mentioned in Measure 1.1 will be necessary.

Responsibility

MH in cooperation with CQM, NHF and CHCIS

Timing

4th Quarter 2017

Measure 1.4. Nomination of reference units providing specialised comprehensive cancer treatment for common cancers

The idea of creating organ-specific "units" specialising in the treatment of defined cancer types appeared at the end of the 1970s and was based on breast units (BUs). At the beginning of the 21st century, the European Society of Mastology (EUSOMA) published its position on BUs, which was further supported by a European Parliament resolution outlining the key features of BUs and the need to propagate this cancer care model in EU countries.

The concept of specialisation results from earlier studies describing key success factors in breast cancer control in selected European countries and the current status of breast cancer control system in Poland; these indicate that achieving good outcomes depends on the optimisation of treatment and diagnostic processes including the specialisation of treatment centres, a combination of various methods of treatment and systematic evaluation of treatment outcomes at the unit level. The establishment of BUs and similar organ-based streams for common cancers is meant to be a response to the problem of fragmented care and lack of institutional responsibility for treatment outcomes, delays in diagnosis and in the commencement of first and subsequent treatment as well as the choice of the most appropriate treatment based on the most up-to-date diagnostic and therapeutic recommendations.

With the appropriate legal and administrative environment, an organ-specific unit network in Poland should be developed, based on the *Map of Healthcare Needs*. This process should be undertaken in stages: initially in the form of pilot programs and having developed the principles of its operation - nation-wide. The process of solution implementation, preceded by

a pilot program, is anticipated to take approximately six years. The regional balance and target form of the networks will be achieved in the second stage of the process. In successive stages, based on similar principles, units specialising in treating colorectal cancer and other most common cancers (lung, prostate) will be set up.

Responsibility

MH in cooperation with NHF, CCIO, medical schools and scientific societies

Timing

Stage I – pilot program – 2017-2018

Stage II – target status – 2023

Measure 1.5. Selection of centres of reference(centres of excellence) specialising in treatment of rare tumours and complicated clinical cases

The treatment of patients with rare cancers, defined as those whose incidence rate does not exceed 3 per 100,000 population (according to criteria adopted by IRCI), in multidisciplinary centres of reference allows for better treatment outcomes to be achieved and is more economically efficient. There are over 180 known types of rare malignant tumours (in majority, these are soft tissue and bone sarcomas, neuroendocrine tumours, haematological cancers and some lymphomas). In Poland, there are 1,000 new cases of sarcoma diagnosed each year and these patients should be referred for treatment to at most five to six centres. These centres should also provide treatment for complicated clinical cases by using innovative or experimental methods. This should decrease current problems of delayed diagnosis, difficulties in histopathological confirmation and inappropriate treatment in centres with limited expertise. At the same time, it should be ensured that the patient is referred to the centres of reference in the earliest possible stage of the disease.

Centres aspiring for the role of centres of excellence should actively seek to be included in the European Network of Centres of Excellence (ERN) and, ultimately, participation in this network should be the prerequisite for the role of the centre of excellence in Poland.

Responsibility

MH in cooperation with CCIO, medical schools, NHF, scientific societies

Timing

1st Quarter 2019

Measure 1.6. Setting up local points of oncological information

Patients with suspected or diagnosed cancer and their immediate family members most often feel frightened, uncertain and lost. Points providing information on the available methods of treatment, diagnostic and treatment centres, the most frequent side effects of therapy, with information brochures for patients, helplines and dedicated websites can help in reducing the level of anxiety and lack of knowledge, especially at the beginning of the process. Cooperation with social care organisations, NGOs and volunteers should provide legal support and advice of life after cancer including the return to work or education or the options for psychological and social support for patients and their families. Such points should be set up in each existing regional cancer care centre and they should be financed from the local health promotion budgets.

Responsibility

MH

Timing

2nd Quarter 2018

Objective 2: Improvement in the quality and scope of collected data

Access to comprehensive, reliable, updated and coherent data on various types of cancer and their characteristics, and monitoring of processes and outcomes based on these data, are prerequisites for identifying risks and adopting rational decisions in health policy.

This information should also be one of the key tools in assessing the implementation of the Cancer Control Strategy in Poland. The available data should also constitute the basis for further research, publications, dissemination of information and knowledge about cancer in society. Despite significant improvement in epidemiological data collected on cancer in Poland in the last two decades, mainly due to the creation of a National Cancer Registry, there are still numerous barriers that prevent further progress. These barriers include, but are not limited to, lack of physicians' awareness of the need to fill in a cancer notification from, lack of detailed information in the forms sent by physicians to the National Cancer Registry, limited flow of information between institutions having access to cancer data, fragmentary nature of the information collected, insufficient IT infrastructure of healthcare system participants as well as insufficient level of knowledge about quality of cancer care in Poland. Elimination of these barriers and improvement in the availability of information will enable the implementation of a number of tools enhancing the efficacy and efficiency of the entire system of cancer control.

Measure 2.1. Ensuring the integrity, cohesion and comprehensiveness of oncological data collected within the scope of available databases (records) and standards for data linkage

The National Cancer Registry remains the most important source of cancer risk assessment in Poland. The estimated completeness of cancer registration is approximately 94% although in the opinion of the authors of the Maps of Healthcare Needs it is barely 72%. The NCR is, at present, the central database for 16 regional Cancer Registry offices and for the national registration office. But there are also other sources of oncological data – first of all, data collected by the NHF (including those from the ISPM system), hospital databases, hospital morbidity database held by the Institute of Public Health or the information on deaths published by the CSO. Some of the information contained in these databases is identical to the information contained in the NCR but some of it is complementary. Ultimately, any data on oncological patients should be collected, verified and analyzed in NCR (taking data from other databases, including hospital databases, using the capabilities of Electronic Medical Records. It is also important to highlight the increasingly more important role of pathology laboratories in cancer registration as the first clinical entity to confirm the occurrence of cancer in a given

person. Creating the technical conditions and legal basis for sensitive data linkage will improve the comprehensiveness and accuracy of cancer information in Poland.

Responsibility

MH in cooperation with CHCIS, NHF, NCR, CSO, MIAA, IGPDP, MD (Ministry of Digitalization)

Timing

1st Quarter 2018

Measure 2.2. Development and publication of epidemiological analyses

Currently, NCR is primarily responsible for epidemiological analyses relating to cancer in Poland. The scope of the analyses is not sufficient and does not include, for example, rolling forecasts, audit of epidemiological forecasts, prevalence analyses as well as cyclical survival analyses (including benchmarking of healthcare providers), etc. Expanding the scale of NCR's activity, broadening the scope of analyses and their publication will contribute to a better understanding of issues relating to cancer in Poland, enhance oncology-related publications and provide tools for shaping the cancer health policy based on continuously updated analyses and forecasts.

Responsibility

MH in cooperation with NCR, NHF, NIH

Timing

On a continuous basis

Measure 2.3. Assessment of the quality of oncological care in Poland

So far, patient perception of the quality of cancer treatment in Poland has not been the subject of analyses or evaluation in studies. The development of benchmarks for assessing the quality of treatment and of the patient's life, further development of tools and benchmarking basis for quality assessment (including instruments for assessing cancer care centres) will enable a better understanding of the patient situation and needs and, consequently, implementation of corrective measures. This process will be enhanced by the collection and evaluation of studies relating to the status of health, the quality of life, and the economic and social standing of patients during and after treatment.

This function may be performed by the Agency for Healthcare Quality and Patient Safety planned by MH, mentioned in Measure 1.3.

Responsibility

MH in cooperation with CQM, NHF, scientific associations and NGOs

Timing

Periodically (every two years) starting from the 1st Quarter of 2018

Measure 2.4. Identification and measurement of factors leading to regional differences in the outcomes of cancer treatment in Poland

At present, information on the outcomes of treatment in individual regions or oncological centres is not published in Poland (except for the 5-year overall survival (OS) for individual regions available in the NCR). The measurement of outcome indicators is also hampered by low cancer stage reporting to NCR. Development of benchmarks for treatment outcomes along with a simultaneous increase in cancer stage reportability will enable the evaluation of treatment efficacy in individual haematological and oncological units so that in the future this can become the evaluation tool for the institutions in charge of monitoring and enforcing the quality of treatment in Poland.

This function may be performed by the Agency for Healthcare Quality and Patient Safety planned by MH, mentioned in Measure 1.3.

Responsibility

MH in cooperation with NHF, NCR, CAB and scientific associations

Timing

1st Quarter 2018

Measure 2.5. Inclusion of the Cancer Notification Form in medical documentation

Currently, the Cancer Notification Form, which is the main source of cancer epidemiology in Poland, is a statistical reporting form. Cancer Notification Form in the form of an EMD document (electronic medical documentation) will improve the completeness of any collected cancer data in Poland through the possibility of automatically downloading information from the IT system for the hospital service (HIS). In particular the preparation of the Cancer Notification Form as an EMD should include the attachment of medical documentation from pathomorphological labs to the EMD.

Responsibility

MH

Timing

4th Quarter 2017

Measure 2.6. Development of new data sources and databases

Better understanding of phenomena relating to cancer in Poland requires not only the development and integration of the already existing databases but also the development of new information sources. Currently, Poland lacks homogeneous histopathological databases, which hampers obtainment of the necessary information before the initiation of treatment. Standardisation of histopathological reports, informatisation of all histopathological laboratories and system-wide collection and analysis of these data, development of authorised

web portals on oncology for patients and professionals, possibility of participation in clinical studies, databases of biobanks and information systems for the support of clinical decisions should contribute to further development of knowledge about cancer. For efficient collection and analysis of such data, institutions with relevant powers and duties granted, and with appropriate financial support need to be designated.

Responsibility

MH in cooperation with NCR, scientific associations

Timing

On a continuous basis

Measure 2.7. Systematic monitoring of the relationship between treatment cost and treatment outcomes

Currently, the monitoring of treatment outcomes in Poland is very limited (Measure 2.4.); this, combined with the lack of data linkage between the National Cancer Registry data and activity data relating to oncological treatment expenditure (Measure 2.1.) makes it impossible to carry out a systematic analysis of treatment efficacy by region or provider. According to data available for breast cancer or colorectal cancer, there are significant regional differences between treatment efficacy (measured by five-year OS) and the average NHF expenditure per patient treated. A more detailed analysis and understanding of these differences should improve allocation of funding towards providers achieving the best clinical outcomes whilst maintaining the effectiveness of those funds spent. (Measure 27.5.).

Responsibility

NHF in cooperation with NCR

Timing

4th Quarter 2017

Objective 3: Legislative changes required to effectively implement the Strategy

Some legislative solutions in the health system area lag behind a dynamically changing reality. As a result, the application and interpretation of the legal provisions can be subjective. Such imprecision is often pointed out as "tying the hands" of the State institutions that are unable to provide broader access to the most innovative methods of treatment. Legal imperfections can be observed in several areas and affect various levels of patient care. Detailed analysis is required, for example, of regulations pertaining to the financing of primary healthcare, drug programmes or decrees describing guaranteed public health services. Targeted systemic solutions, ordering coordination and management of oncological care in Poland should be lead through the introduction of legal regulation defining the role of the National Institute of Oncology, the National Oncological Network and the institutions mentioned in 1.1.

Measure 3.1. Current legal status analysis in the context of achieving the objectives and tasks of the Strategy

It is necessary to identify and list all legal acts and regulations that can affect, directly or indirectly, the area of cancer control. As part of detailed verification of legal provisions, their prioritisation will also be required so that the process of unification and quality improvement can be started from those that have the greatest impact on cancer control in Poland. The goals of this Strategy concern many areas; therefore modification of numerous legal acts, including those without clear and direct relationships, will be required. Such a comprehensive analysis of the Polish legal system and holistic approach should lead to the elimination of major mechanisms responsible for the fragmentation of the current system of cancer control in Poland.

Responsibility

MH in cooperation with CAB

Timing

4th Quarter 2017

Measure 3.2. Identification of the necessary changes in existing regulations

A list of legal acts that have the greatest impact on the areas described in the Strategy needs to be established. Furthermore, a list of inconsistencies, subjective interpretations or bad practices that could be eliminated without complex legislative process should be drawn up. The gathered material should constitute a legislative "white paper" indicating the list of areas requiring legislative changes or identifying the missing provisions.

Responsibility

MH in cooperation with CAB

Timing

4th Quarter 2017

Measure 3.3. Preparing a list of the proposed changes and the time-frame for legislative works

The improvement of access to cancer treatment is influenced by provisions of the Pharmaceutical Law or law relating to the financing of healthcare services from public funds. Creation of coherent solutions eliminating current legal interpretation doubts in the current legal system and introducing new quality in line with the priorities of this Strategy will require the cooperation of all stakeholders at each stage of the proposed changes.

Responsibility

MH in cooperation with CAB

Timing

1st Quarter 2018

Objective 4: Provision of adequate staffing according to national and regional needs

New tasks set by the Strategy call for appropriate staff resources, i.e. the proper number of individuals equipped with appropriate competencies. These tasks are going to be fulfilled by the employees of the healthcare system (physicians, nurses and other paramedical professionals). It therefore needs to be ensured that the number of staff and their skill mix guarantee the implementation of the objectives throughout the entire period of this Strategy. Furthermore, individuals with new competencies and functions in the health system will be needed. Their training should therefore be started as soon as possible to enable them participate in the implementation of the proposed changes within pre-defined timeframes. There is a need to identify professions and specialties that are under-resourced, unify and improve the level of undergraduate and postgraduate education and support and facilitate continuous education.

Measure 4.1. Identification of gaps in specialist staff availability at regional and national level

Baseline analysis should be carried out in the areas of specialisation such as clinical oncology, haematology, paediatric haematology and oncology, radiation oncology, oncological surgery, pathology, clinical genetics, nuclear medicine, palliative medicine, psycho-oncology, medical physics, electroradiology, rehabilitation, oncological nursing and other medical specialists involved in cancer care. Such analysis should include the number of active specialists, taking into consideration regional disproportions and the tasks determined on the one hand by demographic trends and on the other the requirements regulated by the public payer.

Responsibility

MH in cooperation with NHF, PCPD, national consultants, other professional associations

Timing

4th Quarter 2018

Measure 4.2. Development of rolling forecasts of medical staffing demand by specialty and plans for specialist oncological training

According to the map of current resources (Measure 4.1.), a rolling forecast of medical staff requirements should be drawn up based on the current situation, analysis of specialist training rotations, replacement and migration of medical staff, and on demographic and epidemiological forecasts. This plan should take into account the current specialist training system and include financing provisions for its effective implementation.

Responsibility

MH in cooperation with PCPD and national consultant

Timing

1st Quarter of 2018

Measure 4.3. Developing a training system for cancer care coordinators

In order to deliver a new quality of care level, the Polish healthcare system should strengthen coordination at each stage of cancer control. To fulfil this objective, institutional and organisational changes are necessary, and this task should be conferred on newly appointed persons acting as cancer care coordinators (oncological patient carer) (Measure 26.2). Such solution is included in the so-called "oncological package" operating since 2015, however its implementation does not always meet its assumptions. The competencies required will include basic medical, legal, administrative, psychological and social assistance knowledge, therefore at the beginning such complementary training should be aimed at paramedical staff. At the same time, medical universities should prepare a programme for cancer care coordinators, especially in degrees of public health.

Responsibility

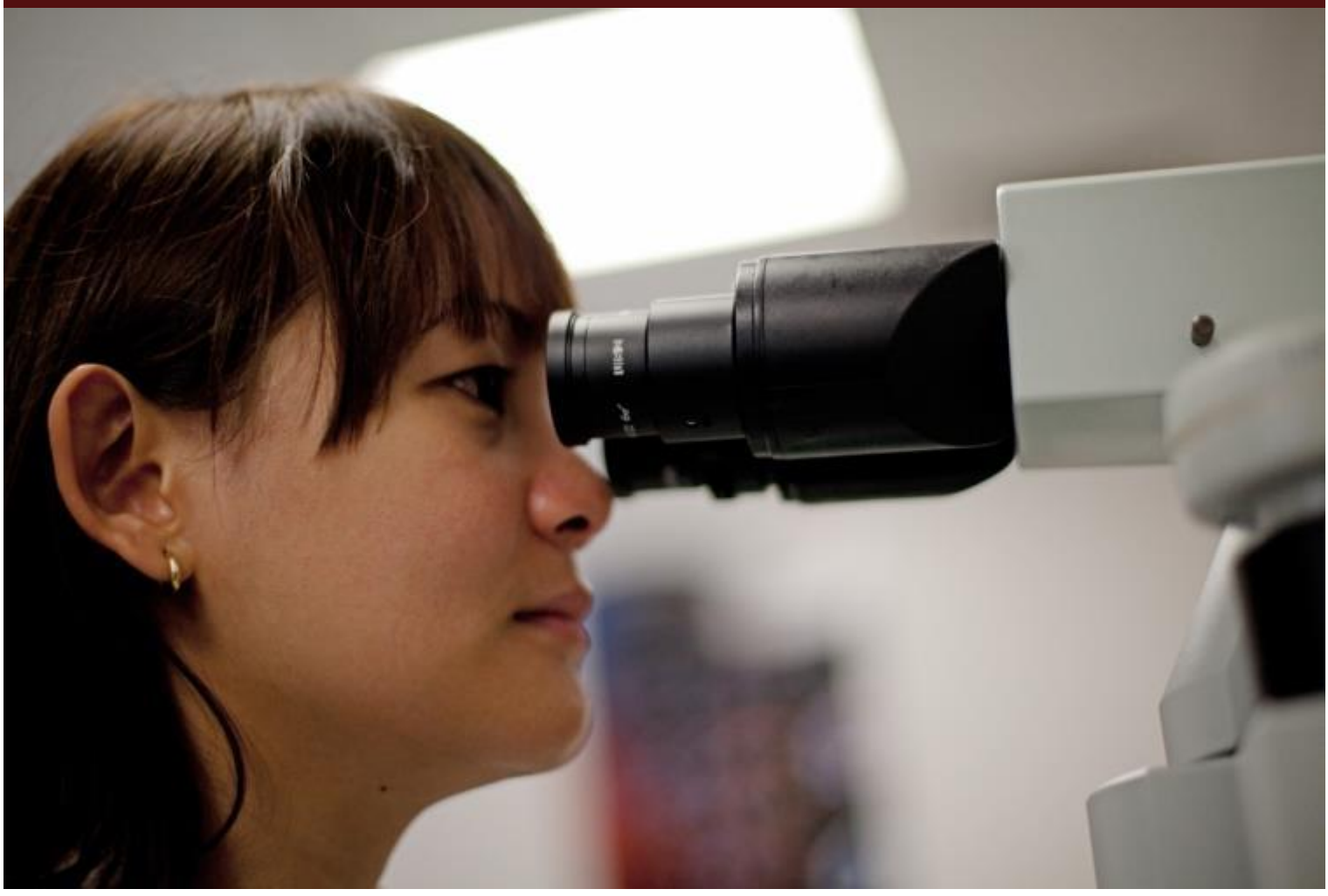
MH in cooperation with MSHE

Timing

1st Quarter 2018

II

Cancer science and research



II. Cancer science and research

The achievements in cancer control in recent decades are primarily due to progress in cancer biology research and its translation into clinical practice.

In Poland, scientific research in cancer is conducted at universities with medical faculties, research institutes under the control of the Minister of Health and the Minister of National Defence as well as in the Institutes of the Polish Academy of Sciences. This research is financed mainly from the following sources:

- annual subventions from the state budget for the statutory activity of the universities or institutes, the amount of these subventions depends primarily on the number of research staff and on the parametric assessment,
- competitive system of the research grants awarded by the National Centre of Science for basic research and by the National Centre for Research and Development for implementation of research and commercialisation of new discoveries.

Polish scientists can also apply and participate in the research projects financed by the European Union grants. In the world of knowledge and science, the boundaries between the resources of individual countries are disappearing and the progress is increasingly achieved as a result of the co-operation of international research teams. Participation of the Polish centres in these efforts is too low vis-à-vis its staff numbers and intellectual potential.

In addition, clinical trials – mainly Phase 2 - 4 – on new drugs or new therapeutic indications for the registered substances are conducted in clinical centres or hospitals of various types. These studies are commercial and mainly industry sponsored. Academic clinical trials are led by few research groups, mainly in the area of haematological and lymphatic oncology.

In order to improve the level and quality of cancer research, steps should be taken to make the application for research grants competitive and transparent so that this can become the dominant method of financing. The fastest possible transfer of bench-top discoveries to clinical practice should be a priority supported by the State.

The majority of cancer research is conducted with the use of biological samples. Support for this research should also include the establishment of organisational and legal framework as well as financing of the biobanks. At present, the establishment of the biobanks is based on bottom-up initiatives, and is usually driven by the requirements of a defined research project. In such cases, the most common practice is to collect a relatively small amount of the materials, and in most cases the materials are not available for future projects. The current network of

biobanks is dispersed. There are no standards for the type, amount of the material, method of isolation, storage system, minimum clinical data, description, etc.

Objective 5: Strengthening of Polish science and research centres

The ranking and role of Polish researchers on the national and international level is established based on the following main criteria:

- participation in, or coordination of the multidisciplinary research project teams, including international ones,
- active and effective grant applications for scientific research projects,
- publication of the research results in the peer-reviewed periodicals and the number of citations,
- number of patents granted and their implementation.

The areas for improvement include the success ratio of applications for research grants and participation in the international teams and research projects, especially since the projects coordinated by Polish scientists are scarce.

The driving force behind a greater number of Polish researchers participating in international projects should be an open and transparent competition process as the dominant mechanism for research funding from national sources as well as regular assessment using standard indicators and the aforementioned criteria combined with the publication of annual reports.

A particular type of interventional research in oncology is a clinical trial i.e. a medical therapeutic experiment conducted under strictly defined legal and ethical conditions. Such studies may be commercial (where they are commissioned and financed by the industry) or non-commercial (academic-sponsored studies, institution-sponsored studies etc. that are not profit-driven and in Poland represent a negligible proportion). In Western European countries, approximately 40% of clinical trials are non-commercial studies, including academic scientific and research projects or academic-sponsored studies. Poland has a well-developed network of centres for the undertaking of clinical trials; but their potential is under-utilised due to legal, administrative and financial limitations and insufficient public awareness of their potential. For the purposes of comparison, nearly the same number of trials is conducted each year in Hungary and the Czech Republic, and these countries have a much lower population. The goal to be pursued is the promotion, development and support of non-commercial clinical trials including early phase studies, financed from scientific and research grants. This aim also relates to the improvement or modification of the existing technologies (drugs or interventions), since the current options for their financing within the framework of the grant system are limited. These measures should go hand in hand with supporting and encouraging patients to participate in these studies.

Measure 5.1. Creation and promotion of multidisciplinary clusters and research projects

Very often the requirement for scientific research is the collection of thousands of cases. Frequent challenges are studies relating to rare diseases or to several co-existing conditions. Most often collecting such a large dataset is beyond the possibilities of a single centre. Therefore ensuring the means of promoting the establishment of consortia capable of applying for funds for ambitious projects becomes necessary. Research projects should be carried out jointly by specialists in basic sciences (biology, genetics and immunology), clinicians, and specialists in epidemiology, public health, toxicology, pharmacology and sociology. In order to do so, the mechanisms forcing the creation of consortia for multidisciplinary projects should be strengthened within the existing framework of project evaluation.

Responsibility

MH in cooperation with NSC and NCRD

Timing

On a continuous basis

Measure 5.2. Support for cancer control projects through the collaboration of national science and research institutions with the NSC and NCRD

NSC and NCRD are responsible for the evaluation of research projects: NSC in basic sciences and NCRD in implementation projects. These institutions should formulate themes for calls for proposals with appropriate relevance to oncology.

The current NSC/NCRD system does not have the possibility to finance projects of particular importance from a social or medical point of view and which are not related to basic sciences or to implementation. Separate methods for financing such projects should be developed and implemented.

Responsibility

MSHE in cooperation with MH, NSC and NCRD

Timing

On a continuous basis

Measure 5.3. Promotion and increased participation rate of Polish science and research centres in international projects

Polish centres may participate in numerous international studies. Regrettably, such projects are rarely coordinated by Polish researchers. The State should promote and support coordinated projects that could result in a patentable solution or product or creation of a prototype.

Responsibility

MSHE in cooperation with MH, NSC and NCRD

Timing

On a continuous basis

Measure 5.4. Measurement and dissemination of study results (including publications, number of quotations, patents) through preparation of annual reports

Parameters such as the number of publications in scientific journals with high impact factor (IF), number of quotations, Hirsch index (or H-index) or the success rates of grant applications are easily accessible and commonly used. It needs to be ensured that these parameters are actually taken into account in the evaluation of research teams and researchers through the regular preparation and publication of the relevant annual reports.

Responsibility

MSHE in cooperation with MH

Timing

Periodically (on annual basis) starting from the 4th Quarter of 2017

Measure 5.5. Promotion of Polish non-commercial clinical studies

Preferential financing from scientific grants of the NCRD (e.g. ring-fencing funds for defined category of grants) as well as clear confirmation that standard medical procedures performed by health providers participating in non-commercial clinical trials may be financed by the NHF should result in the development of non-commercial clinical trials. It seems appropriate to modify existing regulations to clearly distinguish the non-commercial clinical studies from industry-sponsored trials (differentiation of fees, financial and administrative requirements, such as risk pricing and rules for sponsor insurance of non-commercial studies).

Responsibility

MSHE in cooperation with MH, NIC and NHF

Timing

On a continuous basis

Objective 6: Improvement in undergraduate and postgraduate teaching at Polish medical schools

Given the challenges faced by modern Polish oncology, it is necessary to increase the role of the medical schools and CPME in the development of system-wide solutions relating to this area of medicine. This is dictated by both the statutory mission of medical schools in education, science and innovation and the mission of clinical hospitals based on three pillars: "treat, teach, discover".

Medical schools and CPME play a particular role in the undergraduate and postgraduate education of medical personnel and it is their level of competency that determines the quality of medical service provision in oncology at both the individual and organisational levels. This position is supported by the resolution of CRAMS adopted on 10 January 2014.

Poland has developed and implemented "Uniform Programme of Oncological Education in Medical Schools" since 2009. In only in 2 out of 12 medical universities the execution of this programme is based on the medical school's fully owned and operated clinical and didactic infrastructure. In the remaining schools, this programme is partly or wholly based on of contracted clinical units. Elimination of postgraduate internship of physicians and the need to strengthen practical training during the course of the studies means that new standards of education in oncology are required. The existing programmes need to be revised and standardised and the possibility of measuring and benchmarking of oncology education programmess among medical schools should be considered. Undergraduate teaching of oncology should be a part of not just all medical and dental faculties but also those of pharmacy and other health sciences.

Measure 6.1. Revision and update of the oncology curriculum in medical schools

The lecture database and related question banks should be updated on a regular basis and they should be provided free-of-charge online. Teaching of the oncology programme should end with a testing examination conducted according to uniform rules and criteria; this will allow for an inter-school comparison of the results and the identification of problem areas so that an appropriate modification of curricula can be implemented.

Responsibility

MH in cooperation with CRAMS

Timing

2nd Quarter 2018

Objective 7: Effective collaboration of clinical centres with industry

Poland remains the largest market for clinical trials in the region and has significant potential for growth. Clinical trials, in addition to their scientific value, result in a number of benefits contributing to both social and economic development. In order to increase the number of clinical studies in Poland, and to increase attractiveness of Poland as the preferred country for clinical studies, a number of initiatives should be launched including the review of administrative requirements and simplification of regulations. Preliminary estimates indicate that only approximately 4% of Polish cancer patients participate in the clinical trials. Potential NHF savings in 2010 were estimated at approximately PLN 130 million if part of the medical expenditure was covered by trial sponsors. Professional development, relationship building and expertise gained during international cooperation have a strongly positive impact on young physicians. Intensifying such international cooperation will help integrate Poland more with the international community and thereby allow the introduction of most novel medical achievements.

Measure 7.1. Increase in the number of clinical trials and patient participation rate

All stakeholders should aim at ensuring an increase in the number of clinical trials that will contribute to the dissemination of modern medical knowledge and to the increased opportunities to implement it. This will result in the improvement of the general healthcare standards, with noticeable benefits for the patients. An indispensable element of the cancer research development in Poland is streamlining the collaboration of clinical centres with industry. This should be part of the coordination of the scope and themes of research programmes. Simplification of legal regulations and effective implementation of the European regulations, rather than excessive interference and multiplication of administrative requirements, will be the best incentive for increasing the number of both industry-sponsored and non-commercial trials. The most direct impact on the number of clinical trials registered in Poland will be the reduction of their time of registration (current average being several months). Another significant factor will be providing wider patient access to the information on recruiting clinical studies and their objectives, scope and inclusion criteria (for example, in the form of a public information platform managed by the centres involved in such studies). Introduction of clear and transparent rules for the sharing of healthcare costs between the sponsor and NHF for patients enrolled in clinical trials (for both standard and non-standard treatment) will have significant impact.

Responsibility

MH in cooperation with MSHE

Timing

On a continuous basis

Objective 8: Development of research in cancer biology

Progress in basic sciences is crucial for better understanding of the pathomechanism of neoplastic transformation and carcinogenesis. Due to rapid progress there are now new systems for cancer classification based on immunological or genetic markers, in addition to older phenotypic classification. Such markers are increasingly important for predictive medicine and may be used in targeted therapies. It is common assumption that basic research in cancer may one day contribute to groundbreaking discoveries that will enable more effective cancer control.

Measure 8.1. Selection of and a bigger role of Reference Centres in molecular and clinical genetics, immunology and pathomorphology

Reference Centres should have an additional role in advanced immunophenotyping and genotyping diagnostics of rare tumours which, due to high costs and a small number of cases, cannot be financed as commercial activity.

These centres should also be involved in quality supervision and provide a second opinion on questionable results. In addition, the reference centres could create biobanks of unique biological materials. Appropriate legal provisions should regulate the establishment and funding of such centres.

Responsibility

MH in cooperation with PSP, NCLD, PSG, PSHG

Timing

4th Quarter 2017

Measure 8.2. Establishment of the central registry of biospecimen banks

A central registry of biospecimens should be established. The establishment of the registry should be preceded by stock-taking and listing of all existing and scattered biospecimens. The central registry will firstly be the source of information, and secondly it will issue standards

relating to the method of isolation and quantity of the collected biological material, its storage, as well as the minimum scope of collected clinical data.

Responsibility

MH in cooperation with MSHE

Timing

4th Quarter 2019

Measure 8.3. Introduction of a rule framework for researcher access to biospecimens

At present, access to biospecimens is based on either commercial or non-commercial rules. Commercial access is a significant impediment for researchers due to its high costs, while non-commercial access is not regulated. Preparation of regulations relating to this issue should become a stimulus for resource sharing among the research teams, which in turn would facilitate their collaboration and reduce the costs of access to biological materials required in scientific and research projects.

Responsibility

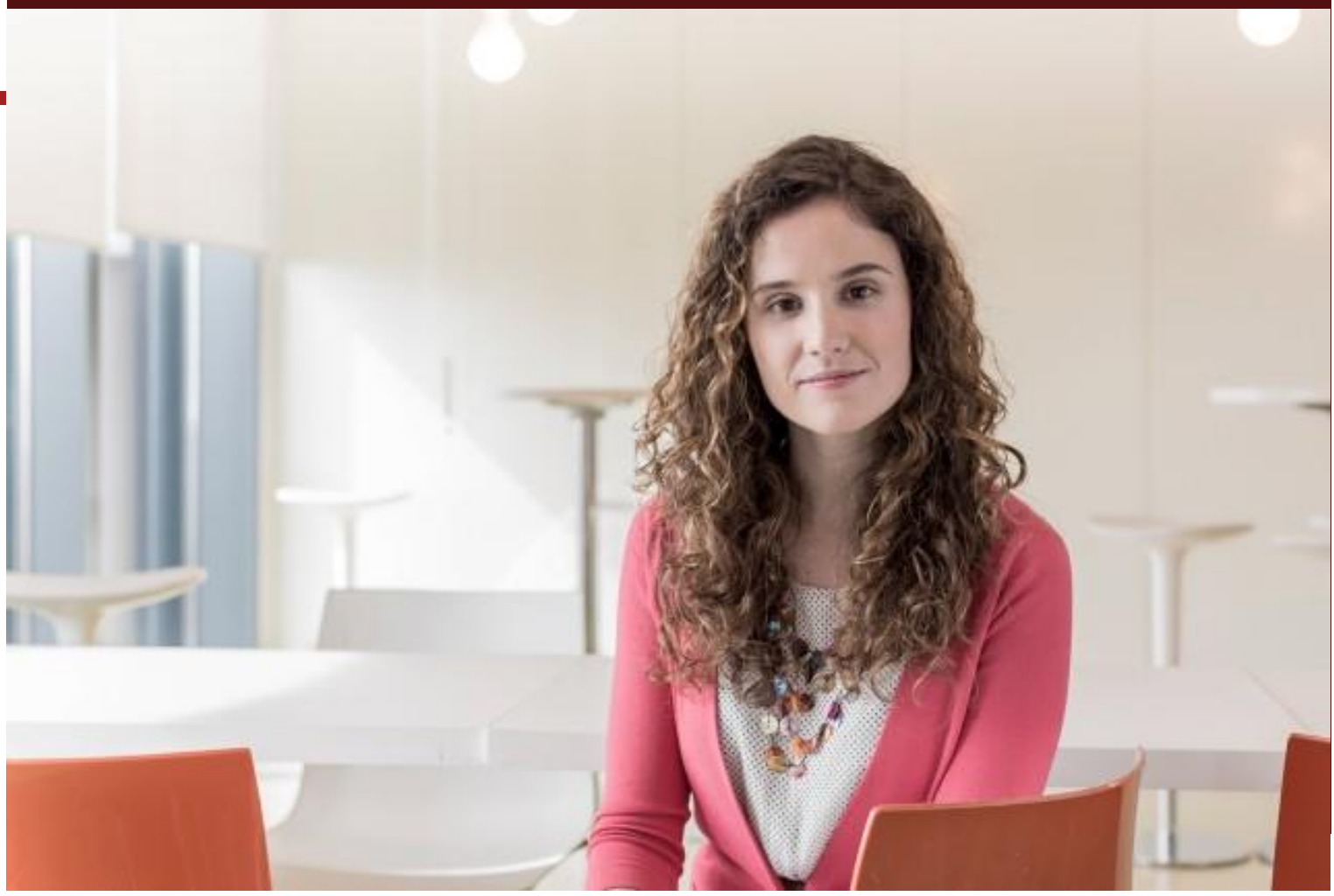
MSHE in cooperation with MH and IGPDP

Timing

4th Quarter 2019

III

Primary and secondary prevention



III. Primary and secondary prevention

IIIa. Primary prevention

Cancers are ones of the most frequent causes of premature death in Europe. This problem poses a major challenge to public health. There is scientific evidence to prove that malignant tumours can be prevented. Although cancer incidence rates in individual populations across the world may differ, the changes over time can be determined and predicted.

World Health Organisation (WHO) data proves that approximately 40% of deaths due to cancer can be prevented. The results of migration of social or ethnic groups with different lifestyles reveal that over 80% of cancer cases in Western countries can be attributed to broadly defined environmental factors.

These factors primarily include carcinogens contained in tobacco smoke (active smoking), but also factors such as dietary habits and other social and cultural attitudes. Admittedly, not all avoidable causes of cancer have been identified yet, but it is currently deemed that about half of them are due to known risk factors.

Primary prevention of malignant tumours is based on identification of cancer-causing risk factors whose role in the aetiology of this disease has been sufficiently documented through epidemiological studies. Therefore eliminating these factors or reducing exposure thereto should cause the cancer incidence rates to decrease.

In 1984, the first European Code against Cancer was prepared at the request of the European Commission; this Code was subsequently updated in 1994, 2003 and 2014.

In Poland, actions for the primary prevention of cancer should take into account the major threats to our population, and should raise awareness about them both in the society as a whole and among social or occupational groups which play a particular roles in society, i.e. opinion leaders, teachers, journalists, physicians and politicians.

Besides intervention measures that reduce the incidence and impact of recognised cancer risk factors, the health education of society should play an important role.

The risk factors of cancer that can be reduced include, among others:

- tobacco smoking,
- alcohol abuse,

- poor eating habits,
- low physical activity,
- excess weight and obesity,
- environmental and occupational carcinogenic risk factors (passive smoking, chemical and physical pollutants) and
- biological carcinogenic factors (infections with HBV and HPV),
- UV radiation.

A significant part of the above-mentioned factors contributes to causing many other diseases as well; therefore their reduction will not only beneficially impact cancer but should also positively impact general health of the population.

Objective 9: Raising the level of public knowledge about cancer risk factors in Poland

Creating public awareness about the role of cancer risk factors and thus building understanding of the disease process, is one of the vital steps towards decreasing the incidence of selected diseases. Education on well-being and healthy behaviours is undertaken independently by many entities, including central or local authorities, educational centres, healthcare centres and NGOs. Public education at the national level includes, among others, nationwide social media campaigns, meetings with journalists, meetings with public opinion leaders or publication of selected health information in the media.

Measure 9.1. Public education on cancer risk factors and on factors reducing the risk of developing the disease

Polish society still has insufficient knowledge about cancer and oncology. This relates to both the risk factors increasing cancer incidence and to activities and behaviours that can affect its decrease. These measures should be implemented at both the national and local levels due to potential benefits.

Educational measures that need to be taken at the national level include:

- launching of national social media campaigns including meetings with journalists and national opinion leaders, involving authors of movies and TV serials, holding press conferences, etc.
- collaboration with NGOs to prepare social media campaigns using modern channels of communication (Internet sites, outdoor media, social networks),
- development of a coherent and general educational programme on cancer risk factors in cooperation with the Ministry of Health and the Ministry of National Education,
- making use of public broadcasters' "public mission"

The following educational measures at the local level are recommended:

- raising awareness relating to the recommendations of the European Code against Cancer directly through the education of children and adolescents, teachers and educators
- cooperation with NGOs to educate local communities on cancer risk factors .

Responsibility

MH in cooperation with LGUs and NGOs, NBC

Timing

On a continuous basis

Measure 9.2. Education and training of medical personnel to increase their awareness of cancer symptoms

In order to increase knowledge about cancer risk factors it is important that not only patients but also healthcare professionals are appropriately trained. The measures implemented so far have focused primarily on the organisation of educational workshops. They included information on epidemiology, prevention, prophylaxis, diagnostics and treatment of cancer. In addition a free online educational platform for healthcare professionals and a free oncological infoline were launched. We need to ensure that these programmes are continued and we need to initiate cooperation on further public education with the NGOs at both national and local levels.

Responsibility

MH in cooperation with PCPD, CNM, PSFM, CFP

Timing

On a continuous basis

Objective 10: Promoting healthy eating habits and physical activity

According to the European Code against Cancer, risk factors for cancer development include unhealthy diet (including, but not limited to, alcohol abuse, excess consumption of animal fats, salt and red and processed meat) and insufficient physical activity leading to excess body mass. The WHO estimates that between 7% and 41% of certain cancers are due to excess weight and obesity. Obesity seems to be the most important nutrition-related risk factor for many cancers in both males and females. According to the WCRF/AICR report, physical activity and healthy diet are thought to be one of the key factors that reduce the risk of developing cancer and that also bring about other health benefits. According to survey research conducted by the Division of Epidemiology and Cancer Prevention at the Maria Skłodowska-Curie Institute of Oncology, in 2011 43% of males and 27% of females were deemed to have excess weight and 15% of males and females were deemed obese. Excess weight and obesity in children is of particular concern. The percentage of Polish fifteen-year olds suffering from excess weight and obesity increased from 18% in 2006 to 22% in 2010 for boys and from 8% to 13% for girls. Lifestyle changes at a young age have potential for the highest health benefits overall, not just in terms of reducing the risk of developing cancer.

Measure 10.1. Identification of high-risk groups by GPs, promotion of healthy eating habits and physical activity

GPs have a special position in the healthcare system which makes them ideally situated for identifying cancer risk factors and monitoring high-risk groups. Primary healthcare physicians, oncologists and other medical specialists should develop and implement guidelines on healthy eating habits, physical activity, participation in cancer screening programmes or steps reducing the exposure to risk factors. All these, together, will increase the effectiveness of cancer prevention and aid cancer diagnosis at an early stage.

Responsibility

MH in cooperation with NHF, CFP, PSFM

Timing

On a continuous basis

Measure 10.2. Development and dissemination of guidelines on nutrition

It is important that educational programmes promoting healthy eating in local communities are based on long term co-operation of representatives drawn from various sectors (physicians, social care workers, local authorities, NGOs, churches, schools, food producers, media, etc.). Educational activities addressing various target groups (children, parents, pregnant women and elderly people) should be properly adapted to these groups and diversified in nature.

Responsibility

MH in cooperation with CCIO, ME, FNI, PCPD, PSD, MNE

Timing

4th Quarter 2017

Measure 10.3. Increasing co-operation of oncological groups with institutions involved in health promotion such as local-governments or NGOs

Primary prevention of cancer through a balanced diet, physical activity and maintenance of proper body mass can also help prevent other diseases caused by amodern lifestyle, including type 2 diabetes or cardiovascular disease. These public health measures lead to better public health.

Potential co-operation with institutions in charge of health programmes that are part of strategic goals of the National Health Programme should be considered in order to prepare common initiatives.

Collaboration in implementing other existing programmes that are compatible with the primary prevention programme is advisable. Examples of such programmes include the EU School Fruit Scheme carried out by the Agricultural Market Agency or the education and research programme “Wise Nutrition, Healthy Generation” coordinated by the Polish Society of Dietetics.

Responsibility

MH in cooperation with AMA, PSD, LGUs, NGOs

Timing

On a continuous basis

Objective 11: Prevention of tobacco-induced cancers

Legislative and fiscal measures taken in recent years, together with public education on tobacco smoking, have brought about measurable results. The percentage of adult smokers dropped from 37.9% in 1995 to 25.8% in 2013. Lung cancer remains the primary cause of death in men (31% death due to malignant tumours in 2013), but both incidence and mortality rates have decreased in the last decade. In women, lung cancer incidence and mortality rates have increased in recent years, as more women born in the years 1940-1960, who had a particularly high exposure to tobacco smoke, have started to enter a high risk age group. Limiting tobacco smoking has been, and still is, one of the fundamental objectives in the area of primary prevention. Continuation of legislative and fiscal measures taken so far, their consistent enforcement and further education on harmful effects and consequences of tobacco smoking, in particular in minors, are essential for decreasing cancer-related morbidity and mortality in Poland.

Measure 11.1. Public education on harmful effects of tobacco smoking, especially among minors

Most of current smokers started smoking and became addicted before their 18th birthday. In Poland the proportion of smokers among children and adolescents, and in particular girls, is one of the highest in the European Union. The patterns of tobacco use are changing, with the increasing popularity of RYO cigarettes, menthol or slim cigarettes, e-cigarettes, water pipes and smoke-free tobacco products. Many children in Poland are exposed to passive inhaling tobacco smoke, in particular at home and in public places.

One of the methods of limiting smoking includes public awareness campaigns about its negative consequences. Measures taken so far have focused on educational actions addressing children and young people, media and social campaigns and warning labels on the packaging of tobacco products. As of January 2017, an EU directive is also in force in Poland, requiring tobacco manufacturers to place on cigarette packs pictures warning against harmful influence of cigarette smoke. In order to increase the effectiveness of these measures, targeted campaigns aimed at homogenous groups should be considered (e.g. children and young people in the defined age groups, parents and pregnant women).

Responsibility

MH in cooperation with MNE

Timing

On a continuous basis

Measure 11.2. Publication of statistical data on tobacco smoking in Poland and its consequences

Decisions and measures designed to limit tobacco smoking in Poland should be based on appropriate statistical data. It is particularly important to measure the impact of preventive programmes implemented to date. Such evaluation will lead to a more appropriate strategy for subsequent years. It is therefore necessary to establish a system of regular studies assessing tobacco smoking in Poland. There should be a strong emphasis on data quality, which should be reflected in the appropriate level of aggregation and comparability between time periods.

Responsibility

MH in cooperation with MD, ~~MF~~, CSO

Timing

On a continuous basis

Measure 11.3. Support for smokers in smoking cessation

Treatment of tobacco dependence remains one of the greatest health challenges. Eliminating smoking is one of the most pressing health priorities for both public health and for clinical medicine.

All healthcare professionals need to take an active role so that the health consequences of tobacco smoking can be effectively limited. Treatment of tobacco addiction syndrome should be part of routine medical practice. It seems that the current programmes for treating tobacco

addiction syndrome (participation of primary health physicians, smoking cessation clinics and Smokers' Telephone Helpline) are still not sufficient. One significant action in this respect should by the increased access and support for smokers who want to quit, start outpatient treatment or use telephone assistance.

Responsibility

MH in cooperation with NHF

Timing

On a continuous basis

Measure 11.4. Training physicians and nurses in the treatment of tobacco dependence

Successful treatment of tobacco addiction syndrome depends, to a large extent, on the appropriate medical and social assistance from healthcare professionals, in particular physicians and nurses. There is therefore a need to provide appropriate training to medical personnel. Such training for physicians and nurses should be supported by professional governments and scientific associations and provide appropriate tools according to best medical standards.

Responsibility

MH in cooperation with PCPD, CNM, CFP, PSFM

Timing

On a continuous basis

Measure 11.5. Legislative changes related to the implementation of anti-tobacco regulations

EC Directive 2014/40/EU imposes on the EU Member States the obligation to introduce anti-tobacco regulations limiting the consumption of tobacco products into their national legislation. These limitations are inclusive of menthol, slim cigarettes and advertising of tobacco products at point of sale. Under this directive, Poland has introduced relevant provisions by the Act of 22 July 2016 amending the Health Care Act against the consequences of use of tobacco and tobacco products.

Responsibility

MH

Timing

2nd Quarter 2016

Objective 12: Prevention of infection-induced cancers

Preventive vaccinations play an important role in reducing the incidence of infection-induced cancer.

At present, there are two vaccines available against the infection agents responsible for cancer: the vaccine against HBV that causes liver cancer and the vaccine against HPV that causes cervical cancer, cancer of oral cavity, throat cancer and anal cancer. WHO defines explicitly the role of both screening tests and vaccinations against HPV in national strategies for cervical cancer prevention. Whereas smear tests are still remain the main method of prevention, it is now considered that vaccination is an increasingly important factor for successful prevention of cervical cancer and other HPV-related diseases.

Measure 12.1. Increased uptake of vaccinations against infection-induced cancers

Vaccination against HBV was introduced into the calendar of obligatory vaccinations in 1994. Vaccinations against HPV in Poland were included in the second part of Programme of Preventive Vaccinations, i.e. – "Immunisation recommended but not financed by the Ministry of Health" and have been administered free of charge only in areas where they were financed by the local government. In 2010, approximately 150 entities decided to allocate the funds for this purpose, financing the vaccination of 30 thousand girls. The vaccination coverage level under these initiatives reached approximately 90%. Many countries encourage and finance vaccination of young girls against HPV to prevent HPV infection and to reduce the risk of cervical dysplasia and carcinoma and possibly the risk of other HPV-linked cancers as well. Therefore raising public awareness (in particular, among women and physicians) about the risks and effects of HPV infection and increasing the accessibility of vaccinations are steps that should be undertaken.

Responsibility

MH in cooperation with LGUs

Timing

On a continuous basis

Measure 12.2. Data collection on girls vaccinated against HPV in Polish local government programmes

At present, Poland does not have a system for collecting data about vaccinations against HPV; therefore it is currently not possible to objectively evaluate the health outcomes of the implemented measures. Registering HPV vaccination, as part of the comprehensive programme of preventive immunisation, would be a significant step towards being able to evaluate the effectiveness and benefits of implemented measures.

Responsibility

MH in cooperation with LGUs

Timing

4th Quarter 2018

Objective 13: Reducing exposure to carcinogenic factors in the workplace

Identifying a large number of environmental carcinogenic substances in recent decades has helped introduce preventive measures that have resulted in decreased cancer incidence related to occupational exposure. It is estimated that approximately 5% of cancers can be attributed to carcinogens in the workplace; these include, but are not limited to, ionising radiation, benzene, asbestos, ethylene oxide, acrylamide, chromium (VI), nickel, cadmium and arsenic compounds, polycyclic aromatic hydrocarbons wood dust, carcinogens present in diesel engine exhaust emissions and tobacco smoke including passively inhaled. According to the Central Register of Data on Exposure to Substances, Preparations, Agents and Technological Processes Showing Carcinogenic or Mutagenic Properties, 2634 work establishments reported the occurrence of carcinogenic substances and compounds in 2012; 1516 facilities reported occurrence of ionising radiation and 757 facilities reported potentially carcinogenic technological processes. The number of persons exposed to chemical substances was 55.6 thousand and the number of reported per-person exposure was 169.9 thousand. It remains important to supplement knowledge in this area and to raise employees' and employers' awareness of carcinogens in the workplace.

Measure 13.1. Educating employers and employees on carcinogenic factors connected with occupational exposure

Ensuring an appropriate level of education for employers and employees around the risks linked with the presence of carcinogens in the workplace would help identify and take appropriate steps to reduce their impact in the workplace. This goal could be achieved by the introduction of training for employers and EHS services on the identification of carcinogens in the workplace, the selection of the correct exposure index for a compound substance as well as the correct estimation of the number of persons exposed.

It is also important to prepare and provide basic information to persons working with carcinogens.

Responsibility

MFLSP in cooperation with IOM, NLI, SSI

Timing

On a continuous basis

Measure 13.2. Increased supervision by state institutions of exposure monitoring and corrective actions relating to carcinogenic factors in the workplace

Appropriate education of officers of supervising bodies relating to the identification of carcinogens in the workplace, selection of the correct exposure index for a compound substance and correct determination of the number of persons exposed is essential. Such training can help in better supervision of work establishments where carcinogens are known to occur. This should translate to increased reliability of data collected in the Central Register of Data on Exposure to Substances, Preparations, Agents and Technological Processes Showing Carcinogenic or Mutagenic Properties in the workplace. This data provides collective information on the scale of exposure to carcinogens at the national level and may be the basis for taking appropriate measures related to risk management.

Responsibility

CSI in cooperation with IOM and NLI, SSI, MH

Timing

On a continuous basis

Objective 14: Prevention of cancers caused by UV exposure

Exposure to ultraviolet (UV) radiation (one of the components of solar radiation) is the primary environmental cause of skin cancer. The number of patients diagnosed with melanoma in Poland in 2011 exceeded 2.6 thousand, and those with other skin cancers – over 11 thousand. Epidemiological studies conducted in the last two decades in Poland show a significant increase in the number of cases diagnosed with skin cancers, which is most probably associated with the increasing exposure to UV radiation (both natural – solar radiation, and artificial – sunbeds, solaria). Preventing the exposure of skin to UV radiation and early detection of cancerous lesions are key steps required to reduce the risks related to this disease and to improve treatment outcomes of skin cancer.

Measure 14.1. Education on harmful effects of the UV exposure

One of the measures to reduce skin cancer risk due to UV exposure is public education about its harmful effects and assessment of the effectiveness of such campaigns.

Definition of the appropriate target groups and adapting effective channels of communication should increase the effectiveness of such campaigns. The target group of particular importance is young people using solaria. Information and education on harmful effects of UV radiation should be conducted with the cooperation of appropriate partners, e.g. travel agencies or manufacturers of cosmetic products.

Responsibility

MH in cooperation with MNE

Timing

On a continuous basis

Measure 14.2. Education on early detection of skin cancer

Early detection of skin cancer lesions is crucial for effective treatment. In this area, public education plays a vital role. Ideally, everyone should check their own skin and any changes causing concern should be consulted with the physician. Public campaigns on early detection should be implemented. Identification of high-risk groups may significantly increase the percentage of skin cancers detected at an early stage.

Education of healthcare professionals on the need to perform skin checks as a routine medical procedure is another element increasing the effectiveness of early detection of skin cancers.

Responsibility

MH in cooperation with PCPD, CNM, CFP, PSFM

Timing

On a continuous basis

Measure 14.3. Legislative changes limiting access to sunbeds and solaria for minors

Legal restrictions on minors' access to solaria, modelled on regulations in force in other European countries, are some of the measures reducing the risk of developing skin cancer. Strictly defined requirements for solarium operators should also be introduced.

Responsibility

MH in cooperation with CSI

Timing

4th Quarter 2017

Objective 15: Prevention of cancers caused by air pollution

The International Agency For Research On Cancer working group (IARC) has identified air pollution (as well as individual substances including dust) as a human carcinogen class I (carcinogens with proven effect on humans). Experts have found that both animal models, observations on human populations, as well as the course of physical and biological processes confirm carcinogenic effects of contaminated air.

A number of carcinogens have been identified in the air (i.e. benzene, asbestos, ethylene oxide, acrylamide, chromium (VI), nickel, cadmium and arsenic compounds, polycyclic aromatic hydrocarbons, hardwood dust, diesel exhaust gases carcinogenic components) and at the same time, the principles and methods of measuring their concentration have been worked out.

Measure 15.1. Identification of substances to be monitored

The list of substances should be determined on the basis of IARC publications.

Responsibility

SSI, MH in cooperation with IGEP

Timing

2nd Quarter 2018

Measure 15.2. Increasing the number of measurement stations

It is necessary to determine where additional measuring stations should be established so as to evenly cover territory of the entire country.

Responsibility

SSI, MH in cooperation with IGEP

Timing

2nd Quarter 2018

Measure 15.3. Increasing public awareness of the effects of exposure to polluted air, ecological education

Preparation and dissemination of educational materials on environmental education (e.g. limitation of waste incineration).

Responsibility

IGEP in cooperation with the Division of Epidemiology CCIO, Police, environmental inspectors

Timing

On a continuous basis

IIIb. Secondary prevention

Screening tests for defined groups of a healthy population without clinical symptoms aim to identify those individuals with pre-cancerous lesions or with early stage asymptomatic cancer. The basic aim of such measures is to reduce cancer mortality rate through early detection. It is believed that approximately one in every three cancer cases can be detected in its early stage and cured completely. In countries where the majority of cancers are diagnosed at an advanced stage, implementation of a broad programme for early cancer diagnosis may have a more significant impact on both the reduction of high mortality rates as well as on the costs of treatment.

In Poland, similarly to the majority of developed countries, population-based screening programmes cover the following groups:

- Females aged 25-59 – cervical cancer screening tests based on cervical cytology performed every three years – in place nationally since 2005.
- Females aged 50-69 – breast cancer screening based on mammography performed every two years – in place nationally since 2005.
- Females and males aged 55-64 – colorectal cancer screening based on colonoscopy performed every ten years. Conducted since 2000 as an opportunistic screening programme and since 2012 rolled out as national programme currently covering a limited area in Poland (25 of 380 departments).

Regardless of the steps designed to increase the participation in the population based cancer screening programmes, continuous professional education of all healthcare professionals is essential to ensure that index of suspicion for cancer symptoms is seen as vital.

Objective 16: Improvement in the organisation, efficacy and economic effectiveness of population based screening tests

Despite different modalities of population-based screening tests, a number of common measures ensure their efficacy. Such measures include PR campaigns, public education, promotion of patient participation in screening tests by GPs , training of test operators, understanding and reducing the regional differences as well as effective involvement of local governments. A separate issue involves the organisation of screening programmes, in particular, cytology and mammography testing and their cost-effectiveness, which is determined primarily by the proper identification of the at-risk target groups.

Two separate systems have been set up in Poland to organise cervical and breast cancer screening programmes. One of them reports to the Ministry of Health and comprises the Central Coordinating Unit and 23 Regional Coordinating Units. This group is in charge of administration and promotion of tests as well as supervision of the quality of the tests. The institution responsible for contracts with providers and financing screening programmes is NHF. Both these structures operate separately, which divides the responsibility for ensuring the quality and efficacy of these screening programmes. For reasons mentioned above part of the population not entitled to universal health insurance (estimated to be a significant percentage of the population) cannot participate in these programmes despite meeting the inclusion criteria.

Information System for Prevention Monitoring (ISPM) monitored the cervical and breast cancer population screening programmes between 2006 and 2013. However the ISPM data is incomplete (especially in regard to cervical cytology testing) since a significant number of these tests are conducted outside of these programmes and are therefore not subject to registration with the ISPM.

Measure 16.1. Analysis of unequal access to screening programmes and possible reasons

It is deemed necessary to ensure continuous measurement of the effectiveness of promotion, performance and realisation of the screening tests. Since the tests monitored by the ISPM have only one source of information, the data on the number of tests performed is incomplete. Moreover, it does not allow the capture of real differences between individual areas where screening tests have been performed. Lack of data and analysis of mammography and cytology screening tests prevents process improvement and implementation of effective solutions. The

analysis of the current situation and the appointment of appropriate bodies to monitor all the steps in the process as well as to determine the standards of registration and to prepare periodic reports is strongly recommended. Statutory provision of the possibility to use the ISPM data to monitor efficacy of the performed tests is also strongly recommended.

Responsibility

MH in cooperation with NHF, LGUs

Timing

1st Quarter of 2018 and continuing

Measure 16.2. Establishment of a coordinated integrated model for the organisation and financing of the screening programmes

Experiences from current programmes have demonstrated that there is potential to improve the model of organising and financing screening programmes. A key problem that has been identified is the lack of cooperation between the test organiser and the payer. Another vital issue for effective functioning is to ensure the continuity of financing for the logistical chain. It is therefore necessary to improve the model of screening programmes and their financing through better cooperation between the entities organising and financing the tests as well as the development of common quality control procedures and urgently going back to written invitations for screening tests as the most effective means of informing and recruiting for screening. tests.

Responsibility

MH in cooperation with the NHF, IGPDP (in the scope they raise reservations as regards the invitation sending system)

Timing

3rd Quarter 2018

Measure 16.3. Creation of a common source library on prevention programmes for local governmental bodies

Local government bodies allocate funds for the implementation of programmes of health promotion and primary and secondary prevention. These institutions are not always equipped with sufficient knowledge to undertake such health programmes so as to ensure measurable benefits and meet the requirements of AHTA towards such programmes. It is therefore justified to create the library of prevention programmes, which the local government units could use as a source of information for the selection and realisation of health programmes based on updated data.

Responsibility

MH in cooperation with scientific associations, AHTA

Timing

3rd Quarter 2018

Measure 16.4. Enhancement of the role of primary healthcare physicians in encouraging participation in screening tests

GPs are the first point of contact for patients and they should therefore play an important role in the promotion of screening tests. According to the ISPM data, only a small percentage of women attending screening mammography and cytology tests had received information about screening programmes from GPs. As GPs enjoy a high level of trust they can significantly influence patient decisions on attending the screening tests. GPs should therefore be properly motivated to participate in cancer prevention programmes.

Responsibility

MH in cooperation with NHF

Timing

3rd Quarter 2018

Measure 16.5. Implementation of training for participants in screening programmes

During the first years of the population screening programmes in Poland, large-scale training was implemented for individual groups of specialists performing mammography and cytology tests, including gynaecologists, obstetricians, histopathologists, radiologists, radiology technicians and physicists. Due to staff rotation and changes in the legal and technological environment and in clinical standards such training should be on a continuous basis.

Responsibility

MH

Timing

4th Quarter 2017 and continuing

Measure 16.6. Screening test pomotion

Screening tests have been promoted thus far through various marketing and educational campaigns. Such initiatives included educational materials, press articles or broadcasts on TV and radio. At the local level special events and education campaigns in schools and workplaces were organised. But the impact of these individual measures on the uptake of the screening programmes had not been analysed. The measures listed above should be continued but with the evaluation of their effectiveness. In addition target groups should be determined and appropriate methods and means of communication adapted.

Responsibility

MH in cooperation with LGUs and NGOs

Timing

On a continuous basis

Objective 17: Improving efficacy of cervical cancer screening tests

765,000 cytology tests were performed in Poland as part of the screening programme in 2012. An additional 411,000 tests were performed outside this programme as part of outpatient specialist healthcare.

The Cervical Cancer Early Detection Programme is realised in three stages: preliminary, where the material is collected, diagnostic, where the assessment is performed, and enhanced, where patients with positive results have additional diagnostic tests. Under the current programme gynaecologists and midwives can perform smears at outpatient clinics and midwives can also perform smears at GP clinics. Cervical smears in women irrespective of age can also be performed under the universal health coverage in outpatient gynaecology clinics and in private gynaecology consulting rooms financed out-of-pocket.

The number of women who had cytology tests was approximately 36% of the target population in 2012 (including tests performed under the screening programme in the outpatient services), with significant regional differences ranging from approximately 31% in Łódzkie region to approximately 44% in Wielkopolskie region. A survey has estimated that approximately 18% of Polish women have never undergone a cytological test. This group includes poorly educated women living in smaller localities. Improvement in the uptake and quality of cytological tests, as well as revision of the screening programmes to take into account their adaptation to the level of risk, are indispensable in improving the effectiveness of the population-based cervical cancer screening programme.

Measure 17.1. Revision of the current population screening programmes to ensure appropriate cost-effectiveness and adaptation to the risk level

Actions should be taken to standardise all cytological tests and introduce random quality control. Pilot screening tests based on the detection of HPV virus should also be commenced.

Responsibility

MH in cooperation with NHF

Timing

2nd Quarter 2018

Measure 17.2. Quality control of cytological and virological tests

High quality of the screening test programme is indispensable for improving its effectiveness. This objective may be better achieved through integration of the ISPM with the future system for collecting the results of pathomorphological tests, registration of all tests in the joint system and introduction of quality control for cytology specimens and for virological tests.

Responsibility

MH in cooperation with NHF, CQM, NCR

Timing

On a continuous basis

Objective 18: Improvement in the efficacy of breast cancer screening tests

The Breast Cancer Early Detection Programme is completed in two stages. The preliminary stage involves X-ray mammography. The second stage of advanced diagnostics for women with abnormal or suspicious mammogram result includes the following additional tests:

a. clinical examination,
b. additional mammograms, ultrasonography,
c. biopsy of the detected lesion.

Approximately 43% of the target population had a mammography in 2013 in Poland, with significant regional differences noted, ranging from 37% in the Małopolskie region to 55% in Lubuskie region.

Increased participation in the screening programme and better quality of mammography tests is indispensable for higher programme effectiveness. Independently, joint steps to increase the diagnosis of cancer at an early stage and to expedite the initiation of treatment are required. Time to treatment commencement in Poland is currently far from optimal and ranges from 65 to 100 days.

Measure 18.1. Increased participation rate of women in screening mammography

At present, less than half of the target female population in Poland makes use of screening mammography. As is the case of cytological testing, one group with a low attendance level ia women with poor education and living in smaller localities. In order to increase the participation of women in screening tests, a detailed analysis of the causes of non-attendance is required, which will in turn help develop more effective methods of communication on the importance of screening tests. Marketing and educational campaigns on mammography, addressed to women and containing description of the test and its efficacy, are crucial and should be continued. Mammography should also be encouraged by medical staff, including GPs (Measure 15.4.).

Responsibility

MH in cooperation with NHF

Timing

3rd Quarter 2018

Measure 18.2. Continuous improvement in mammographic quality control

There is a potential to further improve the quality control model, including but not limited to, the possibility to compare screening results with histopathological results (through online access) and further improvement of the clinical audit procedures.

Responsibility

MH in cooperation with NHF

Timing

On a continuous basis

Objective 19: Improvement in the efficacy of the colorectal cancer screening programme

Approximately 31,000 colonoscopies were performed in Poland under the screening programme in 2012.

Colorectal cancer screening in Poland is financed entirely by the Ministry of Health from NCCP funds.

There is no evidence-based recommendation indicating which screening test for the detection of colorectal cancer is optimal. The available methods include endoscopic tests (colonoscopy and sigmoidoscopy) or faecal occult blood tests (FOBT or more specific FIT) conducted in one or two-stage programmes. In Poland, the one stage colonoscopy was the method selected. Increasing participation in colonoscopy screening and improving its quality are essential in increasing the programme's effectiveness.

Measure 19.1. Target population education on risks of developing colorectal cancer and on efficacy of screening tests

Colorectal cancer screening has been conducted through an opportunistic system and through a targeted invitation system. Depending on the risk factors identified, respective appropriate target groups were determined. In the opportunistic system screening was offered to people aged 50-65 irrespective of the family history, and to persons aged 40-65 or 25-65 with a family history of colorectal cancer. In the invitation system the target group includes individuals aged 55-64 and those with symptoms of the disease.

Systematically raising awareness about the risks factors of colorectal cancer and of the efficacy of screening tests is required. Both the content and the form of the information should be adapted to the defined target group.

Responsibility

MH in cooperation with NHF

Timing

On a continuous basis

Measure 19.2. Increased participation rate in the screening colonoscopy programme

An increase in the number of persons undergoing screening colonoscopy in the invitation system depends on attendance rate and access. Improved access to screening tests in the invitation system should be achieved through the increase in the number of centres performing such tests. Improvement of the attendance rate at the screening tests depends to a large extent on the level of knowledge of the target group about the risks of developing colorectal cancer and efficacy of screening programmes. Participation rate in the screening is therefore the derivative of Measure 18.1. As such future campaigns should include GPs participation to encourage patients to undergo colonoscopy (Measure 15.4.).

The participation rate in the NCCP-financed invitation system for colonoscopy screening in the first 2 years of operation reached approximately 18%. There is therefore significant potential for improving this rate. Due to limited funding available for the tests themselves no significant measures to increase attendance have been undertaken.

Responsibility

MH in cooperation with NHF

Timing

4th Quarter 2018

Measure 19.3. Improvement in quality indicators of colonoscopy screenings

The system for evaluation and quality improvement of preventive colonoscopy screenings via the invitation system needs to be developed further. The current system adequately monitors the quality of performed tests, but its value is limited in relation to patient satisfaction measures (in the long-term the satisfaction level will drive the attendance level). The development of a training programme for colonoscopy training staff and the establishment of a training programme for histopathologists participating in the screening programme are also required.

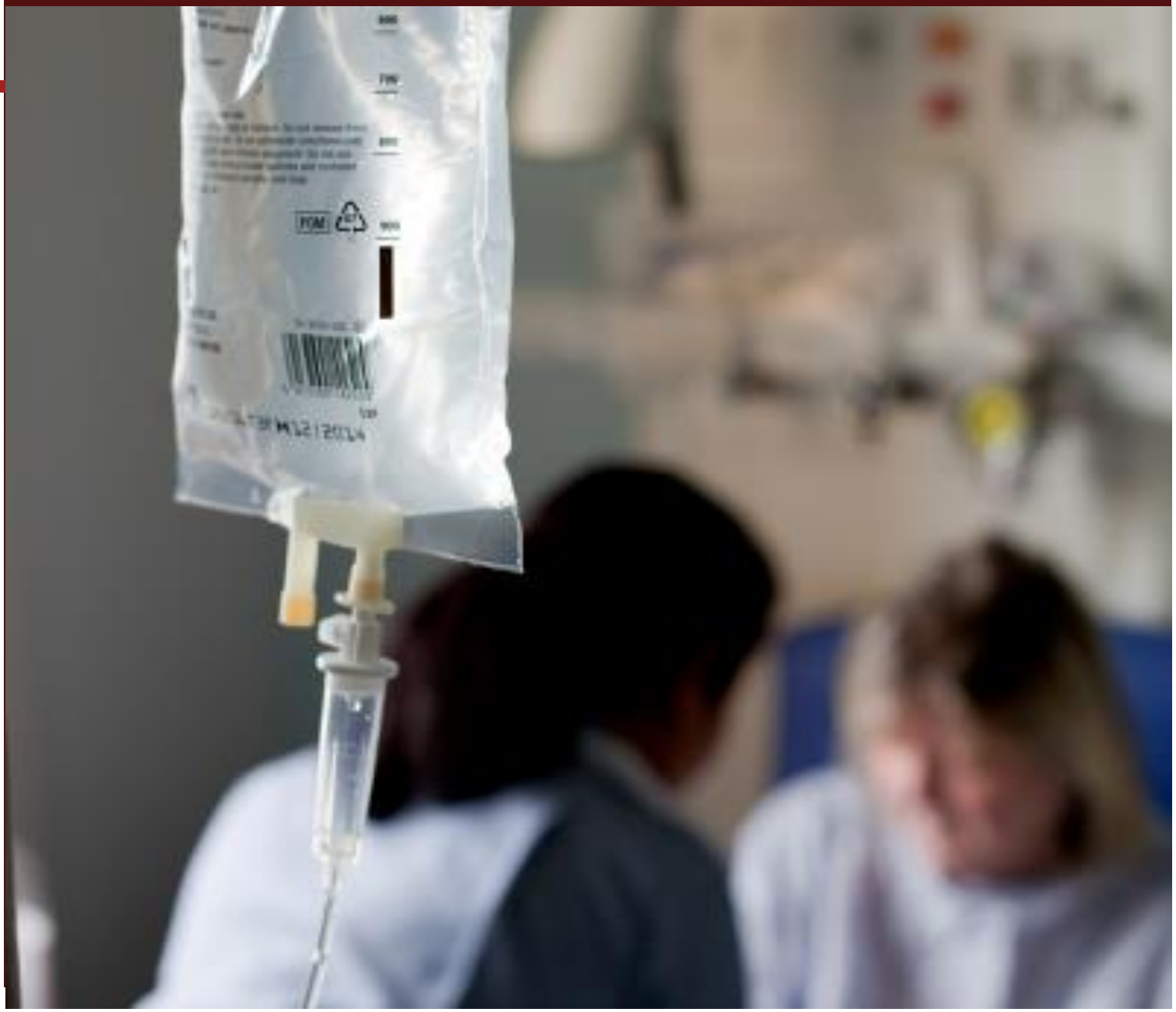
Responsibility

MH in cooperation with NHF

Timing

On a continuous basis

IV
Diagnostics and treatment



IV. Diagnosis and treatment

The cancer diagnosis process and treatment can be divided into several phases that start at the following decision points:

- suspicion of cancer,
- confirmation of the diagnosis by microscopic examination and cancer staging ,
- treatment initiation and completion.

Efficient course of these pathways determines both the efficacy of the interventions carried out and their cost effectiveness. The measure of this efficiency is the occurrence of problems such as:

- process delays,
- duplication of interventions,
- lack of cooperation among service providers,
- lack of coordination and multidisciplinary approach to the patient,
- lack of standardised protocols for the most prevalent cancers.

The frequency of these problems is reflected in both the objective indicators of the system efficiency and in the subjective measures such as the level of patient satisfaction with the quality of cancer care and their sense of security.

The initial phase of the process should end with the verification of the initial suspicion i.e. confirmation of cancer and determination of its stage or its exclusion and should not last more than seven weeks; for paediatric cancers the target should be two weeks due to their rapid progression.

A treatment plan drawn up by a multidisciplinary team of specialists, if possible with patient participation, that takes into account the available treatment options should commence the therapeutic process. The first and subsequent treatments depend on stage and the clinical status and can last from several days (e.g. simple surgical intervention) to several months (e.g. combined therapy including surgical interventions, radiotherapy and chemotherapy). In some cases active treatment can last several years (e.g. adjuvant hormonal therapy in breast cancer).

After the active anti-cancer treatment phase patients are followed up by years of observation limited to periodic checks for cancer relapse or late treatment side effects. The improvement of cancer diagnostics and treatment process in Poland should in the first place include the following measures:

1. Enhancing the role of the GPs in the initial diagnosis phase and follow-up through provision of appropriate tools and competencies.
2. Establishing the function of the cancer care coordinator at each phase.
3. Creating a network of centres providing rapid and comprehensive cancer diagnostic services based on existing infrastructure.
4. Developing and implementing common diagnostic and treatment standards for the selected, most common cancers that will be binding and enforceable.
5. Moving from the current inpatient model of cancer treatment to much more cost effective ambulatory cancer care.

Improvement in healthcare pathways requires systematic monitoring of output measures. Registration of key decision points in these pathways and their outcomes is necessary to evaluate the effectiveness of the implemented measures and to indicate the directions for future changes. The data collected should facilitate the analyses at population and regional levels as regards to individual service providers. This variance in access to treatment and outcomes can be identified.

An equally important element of the Strategy should be separate monitoring of the care system through “the patients' eyes” based on periodic, systematic, coordinated and standardised surveys of patient satisfaction levels.

Objective 20: Identifying, monitoring and reducing inequalities in access to cancer care

There are regional and socio-economic differences in the incidence and mortality rates for cancer. For example, the highest standardised cancer mortality rates in men are observed in the Pomorskie, Warmińsko-Mazurskie, Wielkopolskie and Kujawsko-Pomorskie regions, while the highest mortality rates in women are seen in the Pomorskie, Wielkopolskie and Kujawsko-Pomorskie regions. Variation in patients' quality of life during and after the treatment has been observed and is also reflected in varying patient satisfaction levels at regional or oncological provider level. Furthermore, the cost effectiveness of treatments as measured by the ratio of NHF expenditure on selected patient groups to their five-year survival rate also shows significant variation. Comprehensive data collection and analysis in order to define the cause of such inequalities, sharing knowledge and eliminating the sources of these disproportions should become one of the key priorities of the national health policy.

Measure 20.1. Identification of factors affecting equal access to treatment

Differences in treatment access are multi-factorial and include the geographical distribution of service providers, access to specialist diagnostic services, social and economic barriers, regional differences in financing of healthcare services and lack of oncology specialists. Thus far these inequalities and their causes have not been the subject of a comprehensive analysis. Understanding the disproportions in access to treatment and their reduction should be one of the priorities of the proposed demand and resource maps in the area of oncology in Poland (Measure 1.2.).

Responsibility

MH in cooperation with NHF, NCR and CSO

Timing

1st Quarter 2018

Measure 20.2. Reducing regional inequalities in access to medical specialists through better resource allocation

Despite an increase over the last decade in Poland in the number of physicians specialising in oncology there is still a provision gap. Moreover, significant regional differences still remain; for example the number of oncology specialists* per 100 thousand inhabitants in the Podkarpackie region is more than two times lower than in the Mazowieckie region. As a result access to oncologists (e.g. in outpatient clinics) and ensuring an adequate level of care throughout the oncological treatment are not sufficient in selected regions. Reducing these differences through a more appropriate allocation of training posts in selected oncological specialties should enable, in due course, a reduction in such regional disproportions in access to specialists.

Responsibility

MH in cooperation with NHF

Timing

3rd Quarter 2022

* Including specialists in the following areas: oncological surgery, oncological gynaecology, palliative medicine, clinical oncology, pathomorphology, oncological radiotherapy

Objective 21: Enhancing the role of primary healthcare in diagnosis, treatment and follow up of cancer patients

Primary healthcare plays a key role in the healthcare system of every country. Its remit involves promotion of a healthy lifestyle, disease prevention diseases and ensuring the continuity of medical care for patients and their families. These tasks are equally important in the cancer care system. We can distinguish four areas where primary healthcare might perform a key role:

- Health promotion and public education on behaviours reducing cancer risks.
- Risk factor assessment, cancer prevention and early detection.
- Diagnostic process coordination and follow up after the completion of treatment.
- Care over those patients deemed cured of cancer and patients in advanced stages of the disease.

At present, these functions are not always well performed, and as a result, combined with the absence of system wide co-ordinated care, patients often feel lost in the system and limited resources are used ineffectively. Patients are often referred too late, diagnostic tests are duplicated and specialist services are provided for years where there is no longer a clinical need for them. This results in both reluctance from the patient to leave specialist care but also lack of motivation from other service providers to take over patient care.

Measure 21.1. Continuous cancer care education of GPs

Continuous training of GPs in the area of oncology and implementation of modern education modalities that interest physicians and have proven their usefulness in daily practice are necessary. Development of comprehensive and simple modules relating to common problems and clinical situations may be helpful. Organisation and delivery of training should be partially supported from public funds, and participants should asses the standards and quality of such training. These training schemes should be combined with a system of collecting educational points by physicians.

Responsibility

MH in cooperation with CFP, PSFM and PCDP

Timing

On a continuous basis

Measure 21.2. Establishing mechanisms to increase the role of GPs in early cancer detection programmes

The current array of diagnostic tests that can be prescribed by GPs is limited. Development and implementation of a basic diagnostic standard, jointly by the oncological community and family physicians, should lead to a faster smoother process and prevent unnecessary duplication of diagnostic tests.

Responsibility

MH in cooperation with NHF, CFP, PSFM and PCDP

Timing

4th Quarter 2015

Measure 21.3. Establishing mechanisms to increase the role of GPs in the long-term follow up of cancer patients, including a system for information sharing between oncologists and GPs

Patients with a history of cancer often remain under the supervision of oncology specialists for a long time even though this is no longer necessary. A large number of follow-up visits in oncological centres limits access to specialist care for patients starting or undergoing active treatment. GPs often have no feedback from the oncology specialist and they frequently rely on the information obtained from patients themselves or from patients' medical documentation. An important element would be the development of a standard information template for transference of key information from the oncologist to the GP after treatment

completion, including a brief discharge summary, description of potential post-treatment complications and recommended follow up procedures (including, but not limited to, the timeline of recommended follow-up diagnostic checks). The possibility of specialist consultation (direct or in the form of teleconsultations) at the oncologist - GP level in case of questions would encourage GPs to take over most of the follow up care of patients with a history of cancer. GPs should also play an active role in the care over patients in advanced stages of the disease and to obtain appropriate support.

Responsibility

MH in cooperation with NHF, CFP, PSFM and PCDP

Timing

4th Quarter 2017

Objective 22: Development of cancer treatment in outpatient and day care settings

Historical constraints reinforced through the financing of healthcare services from public funds have resulted in the dominant role of the inpatient model of cancer care in Poland. The most frequent measure of hospital infrastructure is the number of hospital beds per 10,000 people. This indicator does not define the quality but only the potential capacity for patient hospitalisation. Experience of other countries has shown that there is no correlation between the number of inpatient beds and the effectiveness of cancer control, and indeed countries like Sweden and Finland that have the best cancer outcomes also have the lowest indices of hospital beds. Over the past years European and other developed countries have strived to reduce the number of hospital beds and transfer the treatment process from inpatient to ambulatory and home-based care. In Poland, in contrast, the number of inpatient oncology beds has been constantly increasing: from 3751 in 2002 to 5733 in 2014 according to the CHCIS data. There are also significant regional differences in the number of oncological beds per capita that can exceed 100% . In 2012, NHF expenditure on inpatient treatment (excluding substance costs) in oncology or clinical oncology wards for chemotherapy was two times higher than the expenditure for single day chemotherapy admission, while outpatient chemotherapy accounted for only 9% of the entire chemotherapy expenditure. This category of expenditure does not include drug reimbursement used in chemotherapy. The proportion of inpatient spending on chemotherapy in 2012 ranged from 39% in the Pomorskie region to 82% in the Łódzkie region whilst five-year survival was similar. This seems to support the opinion that the financing of oncological services by regional branches of the NHF supports the local model of cancer care rather than contributing to the national outline of desired changes. A similar situation is observed in radiotherapy. NHF expenditure on radiotherapy hospitalisation compared to the costs of radiotherapy treatments ranged from 0.21 in the Śląskie region to 1.03 in the Podlaskie region, with a national average for 2012 of 0.35. This can be contrasted with the United Kingdom, France and Australia where 99% of radiotherapy patients and 90-95% of chemotherapy patients are treated in outpatient setting. One factor contributing to the high proportion of inpatient care in the cancer treatment system is the low geographical availability to treatment with ionizing radiation when measured by the distance from the patient's place of residence. Communication hindrance plus the difficult financial situation of some patients results in the hospitals taking over some part of the role of social care institutions. It also happens that these barriers cause the patient to resign from recommended treatment. Introduction in 2015 of the so-called "oncological package" has created the possibility of financing from the NHF fund of hotel accommodation for patients receiving outpatient radiotherapy.

Measure 22.1. Establishing a system of economic support for patients in difficult financial situations

For some patients the treatment of cancer means a significant additional financial burden (transport, adjuvant treatments and diet). This issue is not sufficiently measured nor taken into consideration in the current social care system. An indirect consequence of this extra burden is the shifting of costs to the healthcare system in the form of hospital admissions that are not medically justified. The development of special subsidies in the social care system framework for low income patients with active cancer could help cover costs of travel to the place of treatment or other disease-related expenses.

Responsibility

MFLSP in cooperation with MH and NHF

Timing

4th Quarter 2019

Measure 22.2. Improving access to ambulatory and day care settings through creation of alternative accommodation possibilities for non-residents

Utilisation of the use of existing base of community hotels or the creation of a network of hostels in the vicinity of oncological centres for patients who cannot commute to the treatment centre on a daily basis is recommended. Such centres would accommodate patients who do not require 24-hour care or medical supervision. The proximity of the oncological unit would increase the patient's sense of security and facilitate communication whilst allowing access to professional medical care when needed. The possibility of financing hotel accommodation during radiotherapy, which was recently introduced, will be conducive to the development of such solutions. One step forward in the development of outpatient forms of oncological treatment could be to provide patients with ambulance transport or to reimburse their costs of commuting to obtain treatment.

Responsibility

MH in cooperation with LGUs and NHF

Timing

4th Quarter 2017

Measure 22.3. Revision of financing rules for inpatient versus outpatient and day care settings

The present system of oncological financing encourages service providers to provide inpatient treatment. Such motivation has gradually been changing; however, those funds saved do not reach cancer treatment centres. Verification of the service reimbursement mechanism and of tariffs applied is required so that hospitalisations are limited solely to clinically justified cases. Treatment in an outpatient setting should cover all costs, which should act as an incentive for new investments and development of this sector. Savings resulting from the change in the manner of operation should be used for the improvement of cancer diagnostics and treatment financing.

Responsibility

NHF in cooperation with MH

Timing

4th Quarter 2017

Objective 23: Improvement of the access to and quality in cancer diagnostics

One of the most pressing problems of the Polish cancer care system is the slow and fragmented diagnostic process that leads to confirmation or exclusion of cancer in a diagnosis. This process often includes diagnostic imaging (RTG, USG, mammography, CT, MRI), histopathological or cytological examination of the tissue specimens collected and, with increasing frequency, specialist genetic tests.

Properly selected diagnostic standards and their prompt execution should end with the verification of the initial suspicion of cancer i.e. its confirmation or exclusion, and if appropriate, staging. This process should not last longer than four weeks.

In the case of suspected cancer, patients (who understandably are in a state of severe stress or anxiety) are frequently referred to another specialist, hospital department, oncological centre or for further testing such as imaging. To ensure that the necessary tests are performed promptly and competently, patients make appointments in several centres and visit many physicians in subsequent phases of the diagnostic process. The diagnostic process in these circumstances has the following shortcomings:

- it is slow, badly coordinated and interrupted by the periods of waiting for subsequent phases,
- it is often chaotic, which means that unnecessary tests are performed. Followed by redundancy of services, unjustified hospital admissions, etc.,
- it often ends without the final (or most probable) cancer diagnosis and staging, which means that treatment is commenced without these key elements,
- it often ends with an ambiguous exclusion of cancer forcing the patient to seek advice from other healthcare units and to find further evidence confirming the absence of the disease.

Cancer diagnostics in Poland should be based on the network of well-equipped, general units linked with the reference centres providing specialist diagnostic tests or second opinion in cases of doubt. These centres should also be in charge of the implementation of the quality control systems in cancer diagnostics.

Measure 23.1. Creating a comprehensive diagnostic path for patients with suspected cancer

Comprehensive diagnosis cancer centres, based on existing units and the specialists employed therein should be established. The main characteristic of such centres should be the ability to perform full diagnostic processing starting with the suspicion of cancer and ending with cancer exclusion or diagnosis and staging in a mostly ambulatory mode; this could take place "under one roof" or within specialised partner centre models. Such a process must be based on uniform and controlled standards and protocols of patient care that have been "quality branded". Comprehensive diagnostics centres should cooperate with oncological treatment units in a given region.

Responsibility

MH in cooperation with NHF

Timing

3rd Quarter 2017

Measure 23.2. Creating an accreditation and quality control system for molecular genetics laboratories

Quality control consists of the introduction of standards for test performance, cyclical assessment of the quality of results (internal and external laboratory control) and meeting the requirements relating to staff and equipment (including reagents) to meet the guidelines of Good Laboratory Practice. External quality assessment allows laboratories to control test accuracy and benchmark themselves against other laboratories. Setting standards for and implementing the quality assurance system in molecular diagnostics should in the first instance cover routine diagnostic tests, and in due course be expanded to setting up reference laboratories for rare diseases.

Responsibility

MH in cooperation with NCLD, PSG and PSHG

Timing

2nd Quarter 2018

Measure 23.3. Personalised testing as part of early detection programmes for patients with increased and genetically predetermined cancer risk

A special programme for genetically predetermined high cancer risk patients has been operating in Poland for over eight years as part of the general NCCP project. This programme is highly effective as it uses knowledge of the types of mutations characteristic of the Polish population. Carriers are monitored under personalised care programmes. With progress in scientific research, programmes should be expanded to cover other at-risk groups where diagnosis has not been possible so far. Screening programmes in these groups have better outcomes and are more cost-effective.

Responsibility

MH in cooperation with NHF, PSG and PSHG

Timing

4th Quarter 2017

Measure 23.4. Setting up a dedicated fund for diagnostics in special clinical cases

Certain clinical cases require specialised additional diagnostic tests for the differential diagnosis of cancer or for the evaluation of a treatment response. A team of specialists , working jointly with the NHF, should be created with a remit to prepare a catalogue of such cases, the applicable diagnostic standards and protocols, and a proposed method of financing.

Responsibility

NHF in cooperation with MH, scientific associations

Timing

4th Quarter 2017

Measure 23.5. Implementation of the diagnostic image transfer system to help interpret imaging and morphology tests

Technological progress in diagnostic imaging that relies on digital image acquisition technologies allows for the electronic transfer of these images and their remote interpretation by specialists. Such solutions are made possible by the development of fast optical data transmission infrastructure, software development and demand from end users resulting from the shortage of or unequal access to specialist staff. Planned development of rapid diagnostic centres may result in the inability to provide equal and evenly distributed access to specialists in radiology and pathomorphology. One of the solutions could be the development and promotion of the existing technologies in telemedicine (in diagnostic imaging) and to support the implementation of such solutions in the new areas of medicine (e.g. telepathology).

Responsibility

MH in cooperation with MIAA, PSP

Timing

4th Quarter 2018

Measure 23.6. Improving the quality of pathomorphological diagnostics by creating a system of accreditation and control pathomorphological departments

Pathomorphology deals with the identification, classification and prediction of diseases based on morphological changes in cells, tissues and organs. It is an interdisciplinary medical specialisation involved in the diagnosis and treatment of many specialisations ranging from oncology through all surgical and most conservative departments of medicine. Assessment of the current situation has shown problems, some of which have been signaled at the Ministry of Health by national consultants in the field of pathomorphology, however so far they remain unactioned.

At present, in the era of targeted therapy in oncology, the role of pathomorphological diagnostics is crucial in determining the diagnosis of cancer and identification of patients who will benefit from scheduled, sometimes expensive, molecularly targeted therapy, which is clearly translated into therapy costs. The role of the pathologist in this respect is to evaluate predictors tested via immunohistochemistry and molecular methods. The diagnosis in the form of a complete pathological report is signed by a pathologist physician.

The most important tasks include:

1. Defining the role of pathomorphology as an independent domain in the healthcare system.
2. Defining the place and role of the pathomorphology and histopathological laboratory in the healthcare system.
3. Improvement in the quality of pathomorphological diagnostics and adaptation to current clinical oncological and non-oncological requirements.
4. Identify activities aimed at increasing the number of pathologists.

Responsibility

MH in cooperation with PSP

Timing

4th Quarter 2018

Objective 24: Improving access to cancer treatment

Access to oncological treatment in Poland depends to a large extent on the following factors:

- territorial distribution of infrastructure (service providers) regionally and nationally,
- the number of specialist physicians in each region
- the level of financing by regional NHF, both in relation to tariffs and activity volumes.

These factors are of course interrelated and can affect migration of patients and specialists, often irrational investments in the development of certain domains and thus ensuing excess supply and demand for such services or the decrease in the number of service providers and therefore restricted access. Market mechanisms have become the prevailing, spontaneous stimulus for the development of new cancer care centres in recent years. Rather than improving the functioning of the system as a whole it has resulted in a more deregulated market that is less sensitive to administrative tools. The task of the public payer is to create incentives and solutions that support continuous and balanced growth in the entire sector and new investments based on a long-term stable policy of service financing.

The service contracting and financing policy of the regional NHF branches should aim to identify the causes of significant disproportions in regional spending for specific types of services per capita and at reducing them in the coming years.

Measure 24.1. Identification of inappropriately financed healthcare services

In 2015 a new agency (AHTAT) was established, which besides the previous AHTA's tasks deals with the tariffication of services. AHTAT with the participation of the public payer and the support of experts conducts analyses and assessments of services in terms of the level and/or principles of financing based on the data on the costs of treatment. Review of all oncological services conducted by AHTAT in order to adjust their evaluation to actual costs incurred when implementing oncological protocols is justified. The results of the agency's works should be submitted to the Ministry of Health, together with proposals for corrective actions and the evaluation of their implementation.

Responsibility

MH in cooperation with NHF and AHTA

Timing

1st Quarter 2018

Measure 24.2. Periodic revision and verification of oncological services reimbursement

Every two years, representatives of the public payer and of the institution coordinating and regulating cancer control in Poland (Measure 1.1.) should review the tariffs and reimbursement rules for oncological services. Such assessment should include the appropriateness of service provision in relation to evidence-based diagnostic and treatment guidelines and standards and their impact on the functioning of the cancer treatment system as a whole. The works of AHTAT should aim at comprehensive evaluation of oncological services (*case management*) and not individual procedures, as it has been so far.

The institution described in Measure 1.1. shall present proposals for corrective actions together with an evaluation of their impact to AHTAT.

Responsibility

MH in cooperation with NHF and AHTAT

Timing

Periodically (every two years) starting from the 4th Quarter of 2017

Measure 24.3. Inclusion of cancer care into the category of unlimited guaranteed services

In Poland, a very small number of health services are included in the guaranteed services category whereby financing is not subject to the limits imposed by the public payer. This

category includes, among others, some transplantology services, invasive cardiology, neurosurgery, obstetrics and neonatology, and since 2015, after the introduction of the so-called “oncological package” also some parts of services related to cancer diagnostics and treatment. This solution, however, requires extension as it does not concern, for example, the necessary diagnostic tests performed during and after treatment or palliative radiotherapy.

Responsibility

NHF in cooperation with MH

Timing

partially implemented from 1st Quarter 2015, ultimately 1st Quarter 2017

Objective 25: Improvement in treatment and quality standards of ionising radiation therapy in Poland

An estimated 50-60% of cancer patients undergo some form of ionising radiation therapy. Radiotherapy can be used as a stand-alone radical treatment of cancer or in combination with other methods (surgery, systemic treatment). Radiotherapy can also be used in palliative therapy - for controlling pain and other symptoms resulting from disease progression. High-energy radiation is generated and applied using specialist medical equipment such as linear accelerators or through radionuclides emitting radiation in the process of radioactive decay.

All procedures relating to the use of ionising radiation for diagnostic or therapeutic purposes in Poland are subject to strict safety and quality assurance standards under the Atomic Energy Act and its applicable decrees. It covers, among others, issues of the quality assurance policy, periodic reviews of the quality management systems and external and internal audits. Poland achieved significant progress in this area in the last decade. It has also been achieved due to the multi-annual programme of modernisation of equipment in radiotherapy centres launched in 2006 and financed under the NCCP. Some new radiotherapy centres were established, while several new devices for EBRT and brachytherapy were installed in existing centres. The map of radiotherapy centres in Poland is also changing due to new investment projects financed by private investors. These centres operate either as stand-alone centres or within the framework of public-private partnerships established with existing public hospitals, and complement the existing network of public cancer care units.

Measure 25.1. Setting up new radiation therapy centres in selected regions of Poland

Access to radiation therapy in Poland is still quite differentiated. In many regions EBRT is provided by only one centre. The Strategy's objectives require that a map of demand and support for new investment projects be promoted in regions with the lowest patient access. Alternatively, new satellite units of large cancer care centres currently in operation could be established. New radiotherapy centres should be established in units providing comprehensive oncological treatment.

Responsibility

MH in cooperation with NHF

Timing

On a continuous basis

Measure 25.2. Modernisation of the existing radiotherapy facilities and equipment

Modernisation of the existing radiotherapy centres should aim to modernise the installed equipment base (the average useful life of such equipment is 10-12 years) whilst at the same time improving treatment through application of modern technologies.

Use of these techniques requires apparatus equipped with additional hardware and software options. A long-term purchasing and investment programme should be based on *Maps of Healthcare Needs* taking into account the technological and material obsolescence of the apparatus as well as progress and trends in the available and recommended methods of ionising radiation therapies.

Responsibility

MH in cooperation with NHF

Timing

On a continuous basis

Objective 26: Development and promotion of guideline protocols and standards for oncological treatment

Protocol standardisation for the most common cancer streams and typical clinical cases, is an effective tool that ensures comparable and appropriate treatment for all patients. In Poland, guidelines for diagnostic and treatment procedures have been under development for almost a decade. These guidelines have been prepared by the oncology associations in accordance with EBM rules on the basis of most recent data and international publications. They have been adapted to the circumstances in Poland and should constitute the basis for diagnostic and therapeutic protocols. However these guidelines do not have the status of binding standards. Uniform protocols based on written standards are most advanced in the areas of haematology and paediatric haemato-oncology. The national inspection authorities responsible for oncology do not assess adherence to published guidelines since they lack organisational possibilities and formal remit.

Measure 26.1. Obtaining opinion of the oncological community on the usefulness, transparency and utilisation rate of current recommendations

Any developed recommendations should function as a tool supporting the work of oncology specialists. If they are to perform this function, they should be unified in their form, maximally simplified, useful and be user-friendly. The best method in achieving a high-level of acceptance among specialists should be their feedback on the content and form of the guidelines currently published. It should, in particular, contain the most desirable and user-friendly elements as well as point to the existing gaps and drawbacks. Such a survey should be the first action preceding any further steps in the development and introduction of new protocols.

Responsibility

MH in cooperation with PCPD, scientific associations

Timing

3rd Quarter 2017

Measure 26.2. Continuous updating of the recommendations for cancer treatment protocols

The current guidelines prevalent in Poland are revised and updated simultaneously every two-three years in all oncology areas and are then re-published as a subsequent edition in book format. It seems justified to provide such updates in selected cancer areas on an on-going basis since this would allow for more rapid implementation of the advances in cancer treatment. Recommendations should be available on electronic data carriers and online, or in the form of a user-friendly and simple application.

Since July 2017, a provision which gives the Minister of Health the power to announce guidelines for diagnostic and therapeutic procedures developed by relevant scientific societies will come into force.

It is reasonable to monitor the degree of compliance with these recommendations based on specific quality indicators.

Responsibility

MH in cooperation with scientific associations

Timing

Periodically (on an annual basis)

Measure 26.3. Development, implementation and dissemination of IT tools supporting the treatment planning process

Treatment plan developed by a multidisciplinary team consisting of specialists in surgery, clinical oncology, radiation therapy and, where needed, with the participation of other specialists, should be structured based on the adopted template. The implementation of protocol standards whilst preparing a treatment plan should encourage the use of IT tools, which may be useful in providing a standard form of a document approved for use at various stages of treatment and that can be easily adapted and edited.

Responsibility

MH in cooperation with CHCIS

Timing

2nd Quarter 2019

Objective 27: Improving tools and incentives for a more effective treatment process coordination

The concept of disease management and coordination of treatment processes does not focus on the product resulting from intervention but on the patient who participates in the entire diagnostic and therapeutic process. The chain of specific actions is driven by setting clear objectives, allocating tasks and coordinating them. On the basis of these rules, organisational solutions have been developed for many years aimed at the increasing effectiveness of the healthcare system.

The common element of these solutions is coordination of healthcare together with its functional or organisational integration. In the context of cancer control, the issue of fundamental importance is to provide appropriate medical care by the most appropriate providers and at the most appropriate time. The elements of managed healthcare include:

- Cooperation of service providers.
- Organisation of healthcare services and managing access to it.
- Creating the function of and appointing the care coordinator.
- Effective collaboration within a team of various specialists.
- Exhaustive, easy to understand and timely information to the patient.

Specific concepts of managed healthcare in oncology differ with the approach to such issues as focusing on selected types of cancer or on certain populations at-risk, competencies and the roles of healthcare coordinators. Also, cooperation of service providers needs to be promoted so that the patient is directed to a specialist centre appropriate for their case, as soon as possible.

The coordination model should include, at the first stage, the most common cancer types such as breast cancer, colorectal cancer, lung cancer and prostate cancer and as regards other cancers, in particular haematological and paediatric cancers, the managed care model should take into account their specificity.

One important phase of managed care is a multidisciplinary approach throughout the patient pathway starting at the earliest possible point so that a co-ordinated team of specialists agrees and plans the optimum sequence of actions.

Measure 27.1. Promoting multidisciplinary treatment plan before initiation of treatment

Treatment plan preparation by a multidisciplinary team of physicians should be a formal procedure that includes discussion of the available and possible therapeutic options and proposals for treatment sequence. The recommended treatment plan should have the form of an official document compatible with future approved models and structures that will be used irrespective of the provider who commences the specific phase of therapy (Measure 25.4.). All patients to be treated with radical intention, excluding haematological cancer patients, should be provided with a multidisciplinary consultation before the initiation of treatment performed by a team of at least 4 specialists, i.e. a surgeon, clinical oncologist or paediatric oncologist, radiotherapist and radiology diagnostics specialist. In the case of paediatric cancer such team should include and haematologist and paediatric oncologist.

Responsibility

NIC in cooperation with MH, NHF, scientific associations

Timing

4th Quarter 2017

Measure 27.2. Development and implementation of the managed care model for selected cancer types

The model of managed cancer care should include the highest possible number of patients. The development of this model and its implementation will be driven to a large extent by definition of the function of cancer care diagnostics and treatment coordinator and assigning appropriate personnel. Such posts should be held by properly trained healthcare professionals or graduates of other majors (e.g. Public Health). Ultimately, appropriate training of cancer care co-ordinators needs to be sought, with training based on a specially designed programme by a group of experts drawn from multiple disciplines such as medical, social, psych-oncological and legal.

Responsibility

MH in cooperation with NHF, CHCIS, scientific associations

Timing

4th Quarter 2017

Objective 28: Ensuring broader and equal access to standard and novel treatment methods

The primary drawback of the current system is that access to cancer treatment is limited by the amount of reimbursement from limited funds available for healthcare. The current system can be inflexible in situations where the most effective therapy for a specific patient is non-standard therapy.

Measure 28.1. Simplification of procedures to establish high value drug programmes

Drug programmes are specific legally defined mechanisms that allow the reimbursement of innovative and expensive therapies under strictly defined qualification criteria. Under current legislation the establishment of drug programmes is currently driven by the drug manufacturer i.e. unless the manufacturer applies to the Minister of Health for reimbursement of this drug under such a programme, the drug cannot be reimbursed. In addition any changes to such programmes can be initiated by the drug manufacturers, and if the Ministry of Health proposes any changes consent of the drug manufacturer is required. It therefore seems important to create a separate path for the initiation of drug programmes by third parties and not only by drug manufacturers. It is necessary, on the one hand, to create mechanisms that motivate entrepreneurs to cooperate in making new substances available in the programmes but, on the other hand, oblige them to support in making the product available for therapies which are of particular importance from the perspective of the public interest. In 2016, the Ministry of Health started working on the amendment of the Pharmaceutical Law and the act on the amendment of the act on publicly-funded healthcare services and some other acts that partially respond to the above-mentioned postulates.

Responsibility

MH in cooperation with AHTAT, NHF, scientific associations

Timing

3rd Quarter 2017

Measure 28.2. Creating mechanisms for rapid modification of existing drug programme provisions.

Currently, all changes in drug programmes are very time consuming – timelines stemming from the Reimbursement Act prevent any flexibility in drug programmes resulting from progress in clinical knowledge. It is therefore important to consider the introduction of appropriate procedures for amending reimbursement decisions in a more appropriate and timely fashion.

Responsibility

MH in cooperation with AHTAT, NHF, scientific associations

Timing

2nd Quarter 2018

Measure 28.3. Feasibility study to establish a "fast path" for reimbursement of novel cancer therapies or new diagnostic methods

Under current legislation every innovative medicinal product follows the same path starting from registration, through to submission of an application for reimbursement and ending with an administrative decision. Polish regulations do not provide an option for "conditional reimbursement" of novel therapies supported by the outcomes of clinical studies, and which therefore cannot be made rapidly available due to the lengthy administrative process. Selected critically important therapies could be made available under a newly created conditional procedure. In case of those circumstances specified above, the decision making processes should be treated with high priority.

Responsibility

MH in cooperation with AHTA, NHF, scientific asociations

Timing

4th Quarter 2017

Measure 28.4. Facilitating access to targeted therapies through the development of molecular diagnostics

More and more frequently treatment of a selected disease is based on the determination of molecular predictive factors in the cancer cells. Application of innovative oncological therapies is strictly linked with access to adequate and fast genetic diagnostics, which is appropriately financed by the public payer and not by drug manufacturers. It is therefore necessary to develop with the public payer appropriate methods for financing such diagnostics both within and beyond drug programmes.

Responsibility

MH in cooperation with NHF, AHTAT, PSP, PSG, PSHG, PSLD

Timing

1st Quarter 2018

Measure 28.5. Preparation and implementation of oncological treatment financing methods based on treatment efficacy ("fee for performance")

The concept of remunerating service providers on the basis of treatment efficacy assumes the presence of financial incentives for providers that meet or exceed the set quality or efficacy ratios.

Such a system can also be modified to include bonus payments for the improvement of predefined treatment aspects, resulting in better therapeutic effects. The basic function of such a system of remuneration is to put in place appropriate economic incentives to drive desired system changes.

Responsibility

MH in cooperation with NHF

Timing

4th Quarter 2018

Measure 28.6. Creation of a transparent system of individual access to cancer drugs not included in the list of reimbursed drugs

A programme ensuring individual access to cancer drugs should deliver novel drug therapy to patients in cases when this is going to bring best therapeutic benefits, also when there is no final reimbursement decision made, yet. Medical standards do not allow the foreseeing of all possible clinical scenarios, in particular situations where the administration of a drug outside of the reimbursement list is justified by the expected benefit to the patient. It is therefore desirable to create a systematic solution which through an algorithm for assessing the added value of a drug compared to the currently refunded standard of conduct takes into account the increase in survival and improvement in patients' quality of life, the safety profile, the economic aspects of treatment and the quality of scientific evidence. This tool should be used in the early access mechanism, shortening patient waiting time for drugs with the highest added value, and facilitate decision-making regarding reimbursement of these drugs in the process of their assessment by the Agency for Health Technology Assessment and Tariffs (AHTAT) maintaining transparency, objectivity and repeatability of the assessment process. In order to ensure patient safety and the high costs of such therapies this should be restricted to the nominated centres with the highest levels of reference. A registry of patients treated on this basis should be established, so that the assessment of long-term outcomes of such therapies is feasible. One of the possible concepts to solve this problem is the so-called emergency access to drug technologies which is to be regulated in the new legislation that is being developed.

Responsibility

NHF in cooperation with MH

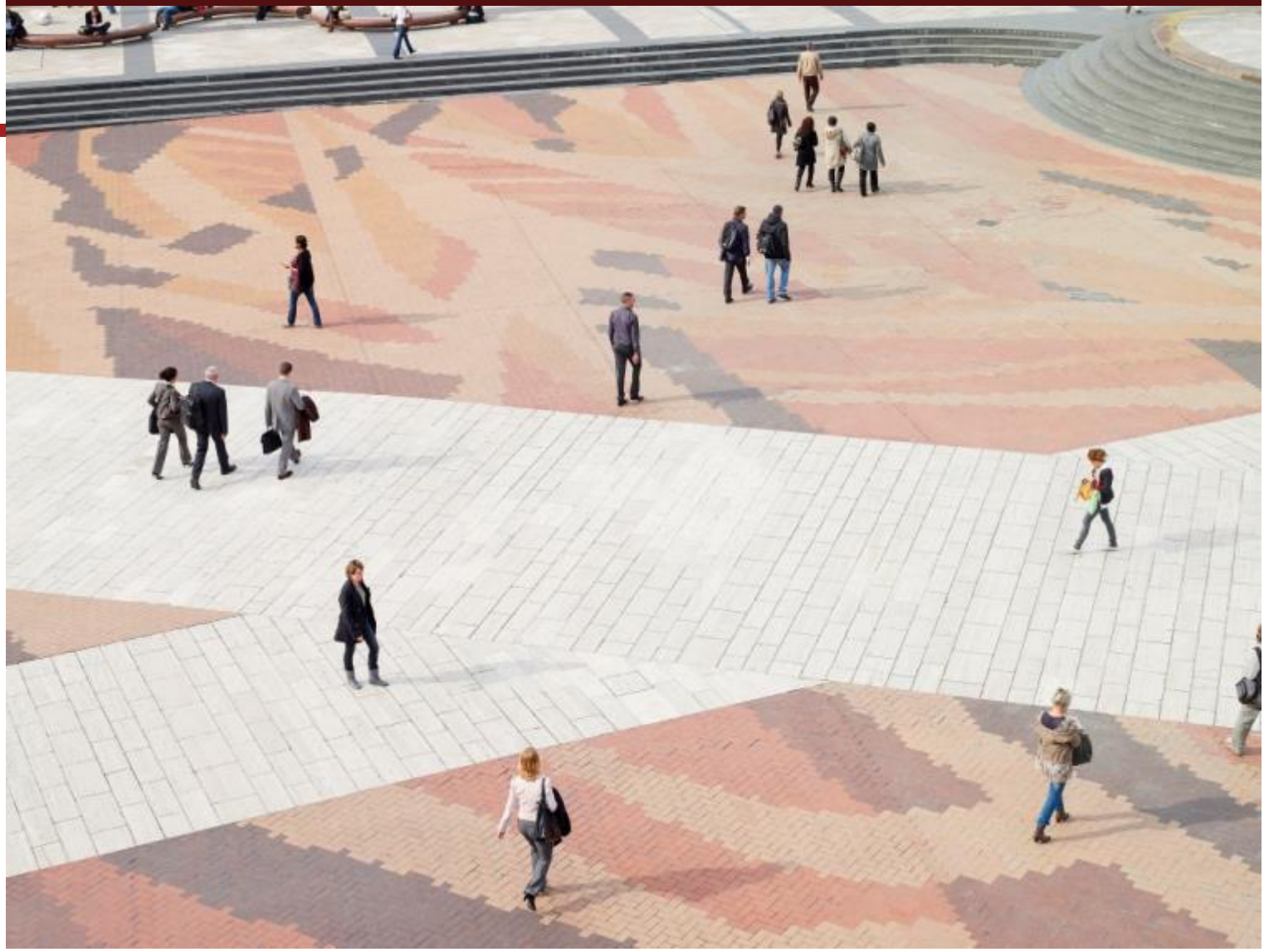
Timing

4th Quarter 2017

V

Quality of life

during and after treatment



V. Quality of life during and after treatment

Advances in cancer treatment have brought an important change in the definition of its objectives. At present, this includes not only the efficacy of the treatment itself, but also ensuring that appropriate comfort and quality of life are available for the patients. As a result of the increasing number of tumours that can be successfully cured or maintained for many years in the chronic and controllable phase, in terms of public health cancer is being increasingly perceived as a chronic but not necessarily fatal disease, and a growing number of cancer patients die of other diseases. In this context, ensuring quality of life and not only achieving the maximum survival takes on particular importance. Such quality of life is determined by the following factors:

- social stigma and exclusion,
- physical rehabilitation and psychological support,
- return to full social and occupational activity,
- continuation of education.

Where the disease progresses in spite of treatment, it is particularly important to provide assistance to the patient and his or her immediate family with the greatest possible reduction of suffering and ensuring a sense of security. It is estimated that approximately 80% of patients in advanced stages of cancer are in need of various forms of palliative care; in over 75% cases, this should be provided within the framework of home-based or community care and only in 25% cases should require inpatient care. In order to achieve this, it is necessary to provide maximum medical, psychological and social support to families and caregivers of the patient, who bear most of the burden of patient care in the last stretch of the disease.

Such support should be ensured by the following:

- community and chronic care nurses acting within the scope of their qualifications,
- social care workers, in the area of non-medical (social) needs,
- volunteers, neighbour and community help, helping with other needs (including emotional needs),
- educational package for families and other caregivers of the patient.

While making use of each aforementioned form of care, patients and their caregivers should be aware that wherever necessary they can also ask for the assistance of specialists in oncology and palliative medicine, over and above easily accessible help from family doctors and their teams.

Objective 29: Restoring patient fitness

Striving for the longest possible survival of patients, both during and after oncological treatment, as well as for the best possible quality of life, requires taking into account the problems of a psychological and physical nature that can occur during various phases of the disease. Comprehensive care starting at the earliest possible opportunity allows a patient to return to full physical and social fitness in the shortest possible time. In addition to the positive impact on patients and their families, this is also beneficial for society. At present, access to oncological rehabilitation, psychological support and reconstruction surgery in Poland is limited and is currently not included as standard of care. In addition, with the increasing number of cancer survivors, need in this area will grow, meaning it is necessary to develop adequate systemic solutions and to provide support to NGOs active in the area of rehabilitation and psychological support.

Measure 29.1. Ensuring psychological support during and after the treatment

Cancer diagnosis and treatment may cause significant emotional consequences for patients and their families. Treatment of emotional distress (negative stress) must be perceived as an integral part of care that comprises quality of life and comprehensive approach to oncological care. According to a meta-analysis conducted in 10,000 cancer patients subjected to radical treatment, 16.3% had diagnosis of clinical depression, 19.4% of adjustment disorders and 10% of anxiety disorders. Mixed diagnoses included, among others, depressions of various types (20%), depressions and adjustment disorders (31%) and mood disorders of any type (38%). In some cancer care centres psycho-oncological outpatient clinics financed by the NHF have been established within psychological outpatient centres. Increased availability of this form of psychological care in large oncological centres and at oncological outpatient clinics should ensure that the possibility of psychological support is available at the earliest possible phase of diagnosis and treatment. Implementation of a “distress meter” in both the outpatient and inpatient settings that measures physical, emotional and practical problems as well as stress level in the form of a questionnaire should enable the identification of patients in need of support and the determination of an appropriate scope of support.

Support should also be offered to oncologists and other members of medical staff who look after cancer patients including training in basic psycho-oncology as part of the under-graduate and post-graduate medical and nursing curriculum, competent and easy access to professional counselling as well as an electronically assisted network of psycho-oncological cooperation and

consulting. Active collaboration of the oncological centres with the NGOs that organise support groups for patients during and after the cancer should be promoted.

Responsibility

MH in cooperation with NHF, scientific associations

Timing

On a continuous basis

Measure 29.2. Establishing oncology rehabilitation centres

Cancer treatment can be a process lasting many years. Rehabilitation is an integral part of oncological treatment that aims at reducing both physical and psychological distress. Patient's participation in the rehabilitation process affects their psychological status as it demonstrates the possibility of improving their physical condition, further convinces them about the need to take active part in the rehabilitation process and proves that improvement of their health status can affect their psychological status and vice versa. At present, only selected oncology centres provide access to NHF-financed rehabilitation services as part of general rehabilitation and physiotherapy services. Owing to the social stigma of cancer patients and insufficient knowledge of medical staff about rehabilitation during and after cancer, there are limited possibilities of access to such services in many rehabilitation centres located outside the cancer care centres. The establishment of the NHF-financed oncological rehabilitation centres at large oncological centres will enhance patient access to such services. The creation of a new "Oncological Rehabilitation" NHF product will ensure that rehabilitation of oncological patients can be financed, will set the appropriate service requirements, guarantee the quality of provided services and allow the rehabilitation centres and service providers located outside the large cancer care centres to gain specialisation and expertise.

Responsibility

MH in cooperation with NHF, scientific associations

Timing

3rd Quarter 2018

Measure 29.3. Ensuring broader access to modern surgical techniques

Approximately 30% of breast cancer patients in Poland undergo a from of breast conserving surgery. In the best national centres this rate reaches 50%, whereas in the leading European countries it exceeds 70%. The proportion of breast cancer patients undergoing sentinel lymph node biopsy (which in turn allows reduction in the number of LN dissections) is even lower. Simultaneous breast reconstruction is performed in a negligible percentage of women undergoing radical mastectomy (estimated 1-2%). Within the next five years Poland should endeavour to reach rates comparable to its leading European peers, and more broadly should promote the development of minimally invasive surgery and training therein.

Standard surgical treatment of advanced head and neck cancers as well as of certain other cancers includes complex interventions with immediate tissue reconstruction. Therefore support for multi-disciplinary collaboration of large surgical teams is required, in particular to offer the best standard of care for patients with advanced cancer.

In order to provide effective high quality surgical care steps must be undertaken to ensure better access to intra-operative histopathology as well as faster post-operative histopathological reporting.

Responsibility

MH in cooperation with NHF, PSOS

Timing

2020

Objective 30: Preventing social exclusion

In addition to the medical and psychological dimension, cancer is often a life-changing event that means many organisational changes in the lives of patients and their families. These changes often require additional financial expenditure on travel to the place of treatment, childcare or drugs and nutritional supplements that may exceed financial capabilities of patients and their families. In 2011 over 15% of the Polish households were at risk of poverty, and the situation of such families is particularly difficult in cases of cancer. Another aspect that significantly affects the quality of life is the possibility to continue work or education during and after cancer treatment. It is often difficult to return to previously performed duties after the disease yet this phenomenon is not systematically monitored nor analysed in Poland. There also seems to be a group of individuals who do not wish to continue receiving cancer treatment. Measuring the scale of this phenomenon and understating the motivation, problems and needs of these patients should help reduce its scale.

Measure 30.1. Development of community care and social care for patients and their families

At present analysis concerning the quality of life of patients during and after cancer is very limited in Poland. The increased use of instruments measuring quality of life such as health-related quality of life [HRQL] should allow the identification of potential long-term consequences connected with recent cancer. Some patients have limited access to healthcare or fail to use available resources appropriately due to poor financial standing. The development of social support structures and education and support of the main caregivers as well as dependents (e.g. children) will strengthen the sense of patient security and will contribute to the development of outpatient care.

Responsibility

MH in cooperation with MFLSP, NHF

Timing

On a continuous basis

Measure 30.2. Facilitating return to occupational activity

Information campaigns (supported by NGOs and others) relating to employment rights of people with cancer should be started. Collaboration of NGOs with local cancer information points (Measure 1.6.) should assist the return of cancer patients to their previous profession or help them gain new skills and qualifications.

Patients who had to discontinue their education during treatment should have a more personalised, flexible curricula created to allow for continuous education.

The Patient Ombudsman could be equipped with competencies to facilitate help for patients encountering problems as described above.

Responsibility

MFLSP in cooperation with MH, MNE, MSHE

Timing

On a continuous basis

Objective 31: Improving patient and family care in the advanced stage of cancer

Palliative care is a measure that improves the quality of life of patients and their families facing progressive, incurable disease. Such measures include prevention and reduction of suffering through early identification and treatment of pain and other complaints as well as support for somatic, psychological, social and spiritual problems. According to a study conducted by Worldwide Palliative Care Alliance, Poland belongs to the group of countries who have the best-developed systems of palliative care in the world. Still a number of issues have been identified that prevent broad access to uniformly high quality palliative care in Poland. These include, but are not limited to, an insufficient number of palliative outpatient clinics, noticeable regional differences in access to palliative services, lack of integration between oncology and palliative medicine as well as limited access to pain control medications. Various NGOs, churches and religious associations play a significant role in terminal care, as they frequently take over patient care in the advanced stages of cancer. Nonetheless immediate caregivers continue to play a key role and they should receive the greatest possible assistance in each phase of the disease and especially in its terminal stage.

Palliative care in Poland is provided in three basic forms: inpatient services in stand-alone hospices or in the hospital departments of palliative medicine, outpatient services such as hospice-at-home and outpatient services provided by the palliative medicine clinics.

For haematological cancers palliative care is provided by haematology units and partly through other hospital departments. The total expenditure on palliative care in 2013 exceeded PLN 350 million, and approximately 100,000 patients benefited from palliative and hospice care. But there is unmet demand in this area. Limited access is particularly noticeable in inpatient care and outpatient palliative medicine clinics. There are significant regional differences in financing and therefore access to services: the differences in regional per capita expenditure on palliative care range from approximately PLN 5 to over PLN 12 per year, which leads to “regional blank spots” where such provision is non-existent.

Measure 31.1. Development of a network of palliative care centres

Further development of inpatient and outpatient care units as well as extending the scope of services provided to include some adjuvant treatments should improve access for patients in the advanced stages of cancer. Establishing palliative medicine consultation teams, both in oncological centres and in large multidisciplinary hospitals, will improve the

comprehensiveness of services for cancer patients and ensure the earliest possible integration of oncological and palliative care if required.

Development of the network of palliative care should be preceded by the development of a map of needs indicating those areas with significant shortages.

Responsibility

MH in cooperation with MFLSP, NHF, PCPD, CFP, PSFM, NGOs

Timing

On a continuous basis

Measure 31.2. Enhancing the role of home and hospice care

It is estimated that less than 20% of patients in the terminal stage of cancer require specialist palliative care whilst approximately 80% could use the relatively simple and less expensive care provided in the primary healthcare, home or community care settings. These modalities of care are increasingly provided by NGOs, churches and religious associations. Ensuring uniform care for patients in the terminal stage of cancer requires formal financial and institutional support for home and hospice care, especially in the context of the predicted growth in cancer incidence in Poland.

Responsibility

MH in cooperation with LGUs, NHF

Timing

4th Quarter 2017

Measure 31.3. Pain management

Pain affects patients in various phases of cancer and significantly reduces quality of life. Pain can be managed in 70-90% of patients In Poland, however, pain-relief is often unsatisfactory. Consumption of opioid pain medications per capita (expressed in morphine equivalent), which is one of the measures in the evaluation of the quality of pain management, is more than three times lower than the European average. Both patients and physicians often have insufficient information and knowledge about opioid pain medications. Development of a network of cancer pain management clinics and access to pain-relief therapies (including palliative medicine outpatient clinics) should improve the quality of life of patients, both in the terminal stage of cancer and during long-term treatment.

Responsibility

MH in cooperation with NHF, LGUs, scientific associations

Timing

On a continuous basis

Measure 31.4. Development of voluntary care for disabled and chronically ill patients

An important element in the improvement of the quality of life for cancer patients is taking into account of the care required after completion of the treatment. It is even more important for patients who have become disabled as a result of treatment or whose disease has a progressive character. For such patients additional assistance beyond clinical care should be available and include emotional and psychological aspects. NGOs, foundations and groups of support again play an important role in this area. Their activity is to a large extent based on volunteers who offer help to people with chronic conditions and disability.

It is important that the concept of volunteering is supported, promoted and developed further since it brings benefits to both patients and the society as a whole; and it also serves as a measure of maturity in civil society and the ability to shape positive attitudes. Equally important is proper preparation and training of volunteers. NGOs have a vital role to play in

this process; their support in the form of expertise should be available for all people interested in volunteering.

Responsibility

MH in cooperation with MLSP, NGOs

Timing

On a continuous basis

Monitoring implementation of the Strategy

a) Key factors in a successful implementation of the Strategy for Cancer Control in Poland in the years 2015 - 2024

Implementation of the measures contained in this Strategy is a multidimensional process concerning many areas and requiring the involvement of numerous stakeholders. The fastest possible commencement of measures written down in this Strategy requires a broad consensus of oncological, scientific and patient communities, and, in the first place, the commitment of the central level authorities and the NHF. An essential role in the coordination and management of the process of implementation of the Strategy for Cancer Control in Poland should be played by an appropriately empowered institution. This role could be played along with Cancer Advisory Board by the institution indicated in measure 1.1. Its establishment and securing adequate resources for its operation in the earliest possible phase of the Strategy implementation is one of the key factors for its success. The publication of an annual report presenting the Strategy implementation level prepared for the Ministry of Health and made available to the public, will be one of the tools for monitoring the actual advances in cancer control in Poland.

A number of solutions included in the Strategy constitute a new quality standard and require sources of financing currently exceeding available funds allocated for oncology in Poland. Their implementation will require additional funds from the continuation of the National Cancer Control Programme implemented for the years 2015-2024.

b) Monitoring indicators for implementing the Strategy for Cancer Control in Poland 2015-2024

Basic epidemiological indicators

(Standardised) Morbidity rates for specific cancers

(Standardised) Mortality rates for specific cancers

1-year survival rates for specific cancers

5-year survival rates for specific cancers

10-year survival rates for specific cancers

I. Organisation and management of the cancer care system

Establishment of the institution coordinating and monitoring the implementation of the Cancer Control Strategy nationally (see: Measure 1.1).

Appointment of the National Institute of Oncology

Creation of the National Oncological Network and the implementation of reference levels

Occurrence of organ-specific units in regions (number of inhabitants per centre).

Proportion of patients treated in and beyond the organ-specific units for breast cancer and colorectal cancer (and other cancers)

Number of monitored cancer care quality indicators

Accessibility of centres of excellence (number of inhabitants per centre)
Proportion of patients treated in centres of excellence
Number of appointed points of oncological information
Completeness of cancer incidence registration in individual regions
Completeness of cancer stage registration
Completeness of histopathological diagnosis registration
Compliance of histopathological tests with synoptic reports recommended by PSP
Number of monitored patient satisfaction assessment indicators
Number of entities covered by systematic monitoring of the quality of treatment in the region
Number of oncology specialists in Poland by age groups and cancer types broken down by region
Number of established positions for cancer care coordinators
Proportion of patients receiving help from a coordinator

II. Cancer science and research

Number of applications for research projects in oncology
Number of studies conducted in the area of oncology (accepted applications)

Number of commercial clinical studies
Number of non-commercial clinical studies
Number of centres conducting commercial and non-commercial clinical studies
Number of patients participating in clinical studies
Proportion of funds for oncological studies in the framework of all grants from NSC and NCRD
Number of announcements on calls for applications for research projects in the area of oncology in NSC and NCRD
Number of patents in the area of oncology
Number of publications in the area of oncology with regard to IF
Number of quotations of publications in the area of oncology with regard to the Hirsch-index
Number of biobanks included in the central register
Number of specimens included in the central register
Number of international projects in the area of oncology coordinated by Polish research teams
Number of international projects in the area of oncology conducted with the participation of Polish research teams
Number of new clinical oncological centres in medical schools

III. Primary and secondary prevention

Proportion of cigarette smokers

Proportion of cigarette smokers under the age of 18

Cigarette sales volume (in pcs) regionally

Cigarette sales volume (value) regionally

Average alcohol consumption per capita regionally

Proportion of population with BMI ≥ 25 and 29 regionally

Proportion of children with overweight and obesity regionally

Number of persons exposed to carcinogenic factors in the workplace

Proportion of persons who stopped smoking in a given year regionally

Number of performed tests for HPV infection

Number of girls vaccinated against HPV regionally

Number of tests for HPV infection with positive result regionally

Number of inhabitants per the number of the accredited molecular genetics laboratories regionally

Proportion of patients with identified molecular changes predisposing to specific treatment regionally

Proportion of persons attending tests under the population-based programme for early detection of breast cancer regionally

Proportion of persons attending tests under the population-based programme for early detection of cervical cancer regionally
Proportion of persons attending tests under the population-based programme for early detection of colorectal cancer regionally
Proportion of colonoscopy tests conducted beyond the programme of early diagnosis regionally
Proportion of persons with cancer diagnosed in the early stage according to the TNM classification regionally
Proportion of breast and cervical cancers detected in the in situ stage regionally
Coefficient of variation in mammography screening test attendance regionally
Coefficient of variation in cytology screening test attendance regionally
Coefficient of variation in colonoscopy screening test attendance regionally
Number of developed prevention programmes for the LGUs
Number of prevention programmes implemented by the LGUs
Number of persons participating in the prevention programmes implemented by the LGUs
Proportion of false positive diagnoses under prevention programmes
Proportion of persons taking preventive tests as a result of discussion with a primary healthcare physician
Proportion of interval cancers
Proportion of persons referred to further diagnostic testing *(recall rate)*

IV. Diagnosis and treatment

Period of waiting for diagnostic tests in individual regions

Expenditure on oncological treatment per capita in individual regions with regard to migration and morbidity and division into basic scopes: diagnostics, chemotherapy, oncological surgery, radiotherapy

Proportion of patients with the suspicion of cancer determined in primary healthcare regionally

Proportion of patients with diagnostic processes completed in less than seven weeks since suspicion regionally

Number of centres providing comprehensive diagnostics

Proportion of patients diagnosed in centres providing comprehensive diagnostics

Proportion of deaths within thirty days of surgery in patients with lung, colorectal, pancreatic, oesophagus, stomach cancer and in case of brain tumours and metastatic to the liver.

Number of oncological beds per 10,000 people in individual regions

Proportion of breast cancer patients treated with breast conserving surgery

Proportion of breast cancer patients who underwent sentinel lymph node biopsy

Number of patients with pancreatic, oesophagus, stomach cancer and sarcoma treated with complex surgical procedures

Proportion of cancer patients undergoing outpatient chemotherapy regionally

Proportion of cancer patients undergoing outpatient radiation therapy regionally

Number of persons with diagnosed mutations determining an increased risk of developing breast and ovarian cancer

Number of persons with diagnosed mutations determining an increased risk of developing colorectal cancer

Number of persons with diagnosed mutations determining an increased risk of developing prostate cancer

Number of persons with detected mutation who developed cancer

Proportion of diagnostic imaging interpreted with the use of image transfer technology

Proportion of histopathological tests interpreted with the use of image transfer technology

Proportion of oncological services reported and not paid by the NHF

Value of oncological services reported and not paid by the NHF

Average time of waiting for radiation therapy services regionally

Average time of waiting for chemotherapy services regionally

Average time of waiting for oncological surgery services regionally

Number of radiotherapy centres

Number of linear accelerators

Proportion of patients subjected to radical treatment with the use of the techniques of dynamic radiation therapies

Number of obligatory clinical protocol standards introduced

Proportion of patients treated in compliance with the applicable protocol standards

Proportion of patients commencing treatment after preparation of the treatment plan by a multidisciplinary consultation team

Proportion of patients with selected cancers subjected to specialist immunohistochemical or genetic testing

V. Quality of life during and after treatment

Proportion of patients using home care in the terminal stage of the disease

Proportion of patients using hospice care in the terminal stage of the disease

Proportion of patients professionally active and returning to previous workplace after completion of treatment

Consumption of opioid pain medication per capita

Number of palliative and hospice care beds in individual regions

NHF expenditure on the palliative and hospice care per capita in individual regions

Proportion of cancer patients who received psychological support

Proportion of cancer patient caregivers who received psychological support

Proportion of cancer patient caregivers who received educational support

Proportion of breast cancer patients undergoing surgical treatment and subjected to mastectomy with immediate reconstruction

Number of the centres of oncological physiotherapy

Glossary

Screening – in medicine, a strategy used in an asymptomatic population to identify disease at an early stage thus enabling earlier treatment and decreasing the risk of more severe complications later. These programmes can be population-based or targeted at high-risk individuals and/or population groups.

Chemotherapy – pharmacological systemic treatment based on the use of medications to kill cancer cells. The principle of chemotherapy is the protocol based administration of cytotoxic drugs that destroy cancer cells or impair cell division.

Prevalence – the number or percentage of the population living with a defined condition at a given time point or during a specified time period.

Diagnostic imaging – imaging tests that allow the detection of changes, their size, determination of their shape and location and the detection of metastases in distant tissues of the body. The basic diagnostic imaging methods are: ultrasonography, X-ray (including mammography), CT, MRI, PET and endoscopic examination.

Distress – a complex of psychological, emotional, social or spiritual experiences that negatively affect the person's ability to cope with disease and its treatment.

Impact factor – a proxy measure for the relative importance of a journal within its field, based on an annual average number of citations for the articles published in the journal.

Phenotypic classification – classification of neoplasm according to their phenotype i.e. shape, colour, size of the cells and their structures and/or the presence of specific antigens or receptors.

Opioids – analgesic medications that inhibit the transmission of pain impulses through binding to opioid receptors. They include morphine, fentanyl, pethididine and their derivative

Genetic marker – gene or DNA sequence with a recognized location on a chromosome that can be easily identified; gene that determines easily detectable phenotypic characteristics used to distinguish individuals and/or cells.

Immunologic marker – specific biological compound, usually an antigen i.e. one that has the ability to react with an antibody that serves as an indicator for the diagnosis of disease.

Palliative care – area of medicine that focuses on care of treatment of patients in the terminal stage of the disease.

Cancer patient – person currently suffering from a malignant solid tumour or a haematological malignancy or a person who has a history of cancer and has been cured.

Primary prevention – actions designed to prevent disease from occurring before its biological symptoms occur in the first place through eliminating or diminishing exposure to risk factors.

Secondary prevention – early diagnosis of asymptomatic disease or a pre-disease state, usually based on screening programmes or incidental findings. These early stages of disease are usually diagnosed during screening tests or by accident.

Radiotherapy – treatment with ionizing radiation that works by damaging cell DNA. Ionizing radiation in minimal doses occurs in nature. X-ray machines, accelerators and nuclear reactors all produce artificial ionizing radiation. The impact of radiation on the tissues of living organisms depends on the dose, time, energy, and type of radiation.

Carcinogen – an agent with ability to do genetic damage and that can contribute to the development of cancer.

Guaranteed services – health care services that are wholly or partially financed from public funds as described by the Act on Health Care Services financed from public funds of 27 August 2004.

Telemedicine – use of telecommunication and information technologies in order to provide health services at a distance, allowing for the exchange of information relevant to the diagnosis, treatment, prevention, research and patient consultation.

Teleradiotherapy - a cancer treatment method based on the utilization of ionizing radiation (produced by an external source) on cancer cells this differs to brachytherapy, where a radiation source is introduced into the patient's body.

Survival rate – percent of people who survive a given disease such as cancer for a specified amount of time calculated from the time of diagnosis. For example the 5-year survival rate shows how many cancer patients are alive after 5 years regardless of whether they have been cured of the disease.

Cancer staging – a unified standard used to describe the extent of cancer in the body that has implications for the planning of treatment and outcome. The most often used method is the international TNM classification.

Hirsch index – (h-index) index that measures the impact and the importance of publications of a given author. This is the number of papers that have been cited at least h times. The index is used to define the impact and the significance of all the publications of a given author.

Crude mortality rate – the number of deaths per 100 000 population

Crude incidence rate – the number of cases of disease per 100 000 population.

Standardized incidence (mortality) rate – the number of cases (deaths) per 100 000 population in a tested population in a given period adjusted for a standard age structure. The most frequently used standard population is the World Standard Population. Such statistical adjustment with respect to size and age structure of population allows for comparability of the statistics in time and when comparing populations.

Incidence – Occurrence of new cases of a given disease in a given period in a specified population.

Abbreviations

AICR	American Institute for Cancer Research
OSC	Outpatient Specialist Care
AHTAT	Agency for Health Technology Assessment and Tariffs
AMA	Agricultural Market Agency
BU	Breast unit
CU	Colorectal unit
CQM	Centre for Quality Monitoring
CPME	Centre for Postgraduate Medical Education
CCIO	Centre Institute of Oncology
CHCIS	Centre of Health Care Information Systems
EBM	Evidence-based medicine
EQA	European Quality Assurance
EUSOMA	European Society of Mastology
IGPDP	Inspector General for Personal Data Protection
IGEP	Inspectorate General for Environmental Protection
CSI	Chief Sanitary Inspector
CSO	Central Statistical Office
HBV	Hepatitis B virus
HPV	Human papilloma virus
IARC	International Agency For Research On Cancer
IOM	Institute of Occupational Medicine in Łódź

CNM	Chamber of Nurses and Midwifes
IRCI	International Rare Cancers Initiative
ISO	International Organization for Standardization
FNI	Food and Nutrition Institute
LGU	Local Government Unit
NCLD	National Chamber of Laboratory Diagnosticians
CFP	College of Family Physicians
CRAMS	Conference of Rectors of Academic Medical Schools
NCR	National Cancer Registry
CAB	Cancer Advisory Board
CRF	Cancer Report Form
MIAA	Ministry of Internal Affairs and Administration
MNE	Ministry of National Education
MD	Ministry of Development
MSHE	Ministry of Science and Higher Education
MFLSP	Ministry of Family, Labour and Social Policy
MR	Magnetic resonance
MH	Ministry of Health
NCRD	National Centre for Research and Development
NSC	National Science Centre
NHF	National Health Fund (or its legal successor)
PCPD	Polish Chamber of Physicians and Dentists

NCCP	National Cancer Control Programme
RB NHF	Regional Branch of the National Health Fund
PET	Positron emission tomography
NLI	National Labour Inspectorate
PLN	Polish zloty
PHC	Primary Health Care
PSOS	Polish Society of Oncological Surgery
PSD	Polish Society of Dietetics
PSLD	Polish Society of Laboratory Diagnostics
PSG	Polish Society of Genetics
PSHG	Polish Society of Human Genetics
PSFM	Polish Society of Family Medicine
PSOPH	Polish Society of Oncology and Paediatric Haematology
PSP	Polish Society of Pathologists
NIH	National Institute of Hygiene
NBC	National Broadcasting Council
RTG	X-ray imaging
ISPM	Information System for Prevention Monitoring
CT	Computer Tomography
USG	Ultrasonography
UV	Ultraviolet radiation
WCFR	World Cancer Research Fund

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