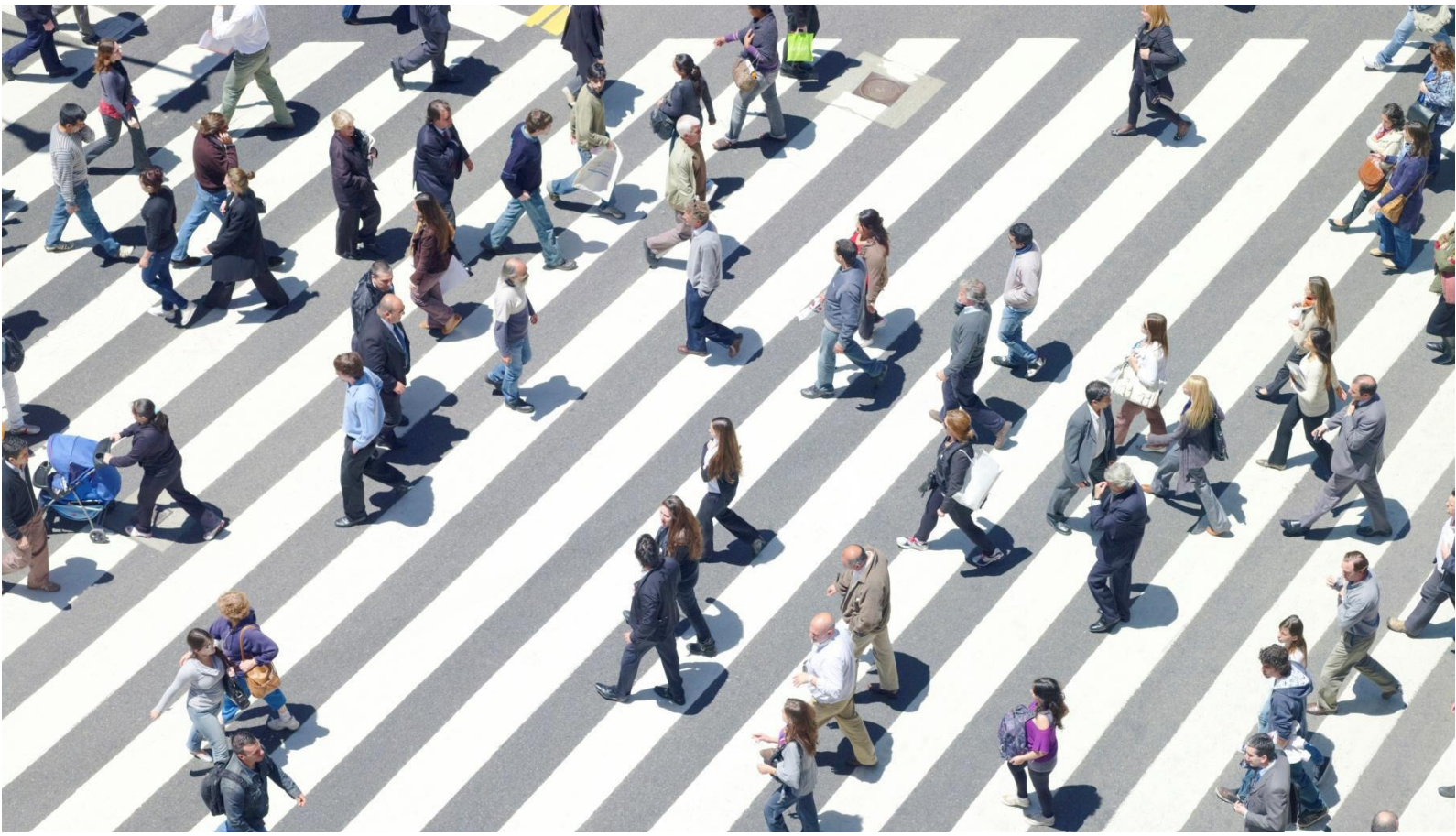
CANCER CONTROL STRATEGY FOR POLAND 2015-2024

10 June 2014



Project Coordinator

Office of the Project

„ we should think big, act small, dare to fail, stop talking … and start acting NOW”

Lucien Engelen

Contents

Main Objective of the Strategy

Decrease in cancer incidence, improvement in cancer survival, and better quality of life for cancer patients.

Introduction

Malignant tumours are currently the second leading cause of death in Poland, with approximately 100 thousand people dying of cancer each year. Approximately 150 thousand new cancer cases are reported annually and, according to NCR estimates, this number is likely to increase to 185 thousand in the next ten years. It is therefore expected that cancer will become the leading cause of death in Poland. As a result, our country is facing an epidemiological crisis caused by the increase in cancer incidence and mortality in addition to the growing number of patients living with cancer. The 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 to become a key priority in both healthcare and national public health.

Cancer Strategy for Poland 2015-2024 (Strategy) 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 and provide better quality of life for cancer patients. Experiences of other countries demonstrate that consistent implementation of similar programmes can achieve the goals set therein; recommendations that will improve the effectiveness of cancer care in Poland.

Executive Summary

This paper provides a comprehensive and multi-sectorial description of the processes required to achieve long-term goals and measures in cancer control in Poland. It is based on experiences of other European countries and international guidelines on how to plan and implement such programmesas well as taking into account Polish economic, social and cultural specificities. The solutions proposed in key areas should improve the 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, the improvement in the quality of medical and paramedical education and the reinforcement of research and development in oncology.

Well-documented and known risk factors for various cancers include bad diet, obesity, smoking, alcohol abuse, certain infections and 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. Unfortunately, public awareness is still insufficient and therefore the possibility of effective prevention is underestimated. It is therefore crucial to continue long-term public education in this field.

In addition to the public health measures, care of every cancer patient in both medical and non-medical aspects of the disease should be improved. In addition to improving the effectiveness of cancer diagnosis and treatment and reducing inequalities in access to cancer care, special attention should be paid to maintaining the quality of life during and after treatment, fighting against social exclusion and facilitating 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. State help, where necessary, should be provided in case of temporary or permanent deterioration of 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 efficacy of screening programmes for breast, cervical and colorectal cancer. These programmes should be regularly reviewed and modified to ascertain their cost-

effectiveness and should include known and newly identified risk factors.

Early diagnosis of cancer seems to be the biggest challenge in cancer care in Poland today. Therefore a major objective in cancer control should be a system-wide reform designed to strengthen the role of General Practitioners. The organisational changes should endeavour to shorten and improve the cancer diagnosis process and promote the earliest possible initiation of treatment based on a treatment plan drawn up by a multidisciplinary team of specialists.

Low levels of compliance with evidence-based standards for diagnosis and treatment of cancer constitutes another major drawback in Poland. Unification of procedures should start with the most common cancers i.e. breast, colorectal, lung and prostate cancer and should thereafter be gradually expanded to other, less common sites.

The recommended model of cancer care takes into account the existing resources and the current public financing system for the three levels of care: primary care, ambulatory specialist and diagnostic care and inpatient treatment carried out in institutes, clinical or specialized hospitals and oncology wards in multidisciplinary hospitals. Under the existing system, institutes, clinical hospitals and specialist cancer hospitals should act as centres of excellence. In these institutions, as well as in specialised hospitals, cancer care should be devolved to organisationally separate units functioning as “cancer stream” centres for the most common cancers. It is necessary to maximise utilisation of existing resources in Poland by moving from the currently dominant inpatient-based care to more modern forms of ambulatory care whilst continuing to maintain their public financing. Achieving these goals will also require a new system of rapid cancer diagnosis and the new role of treatment coordinator, who will provide patients with personalised help to ensure a smooth transition through all the stages of diagnosis and treatment.

Cancer control should focus on elements that can be identified and successfully redesigned and where the efficacy of changes can be adequately measured. 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 process of data collection on the quality, outcomes and costs of cancer care.

Data analysis, coordination and monitoring of the 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. In the future, an institution established for this purpose should replace this team.

I.

Organisation and management of cancer care system

I. Organisation and management of the cancer care system

Several models of healthcare systems exist in Europe, ranging from systems based on state and/or budget financing 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 for 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 benefits and it includes preventive health programmes, diagnostics, treatment, rehabilitation, palliative care and drug reimbursement. Cancer care services are provided free at the point of care and are financed from the general statutory health insurance. The provision of 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 (0-18 years) tumours: approximately 90% of cancer cases in Poland are solid tumours in adults, 9% are haematological cancers in adults and 1% are paediatric tumours.

Cancer care system for solid adult tumours is based on a largely centralized system, historically centred around the Maria Skłodowska-Curie Institute of Oncology (with three regional branches in Warsaw, Gliwice and Cracow), the Institute of Oncology is a special purpose entity under the remit of the Ministry of Health. There are also oncological centres in the majority of regions, which function either as autonomous stand-alone hospitals or as a part of a multidisciplinary hospital. Clinical hospitals play a vital role in cancer care, but only two (in Gdansk and in Katowice) have full-profile multidisciplinary cancer service provision. In some regions, cancer care is also provided by smaller satellite centres or through oncology departments located in hospitals of various size and specialisation levels. The access to publicly financed cancer services is to a large extent determined by the funding limits set by the regional branches of the NHF. In addition to the public providers, a significant and increasing proportion of preventive, diagnostic and treatment services in oncology are now available through private providers.

However, these private providers are still financed predominantly from public funds through contracts with the NHF. In addition to specialist clinics, the private sector is also active in ambulatory or daycare chemotherapy centres, inpatient clinical oncology departments, diagnostic imaging centres (CT, MRI, PET) and radiotherapy centres.

In 2012, the NHF contracts for chemotherapy were allocated as follows: 158 service providers of inpatient chemotherapy, 163 providers of day care chemotherapy and 172 providers of ambulatory chemotherapy. The majority of chemotherapy service providers had contracts for 2 or 3 chemotherapy service modalities. There are significant regional differences in the number of chemotherapy service providers; ranging from 2 providers in Świętokrzyskie to 34 in Śląskie.

Paediatric cancers in Poland are managed by 17 regional reference centres based in clinical hospitals or specialised paediatric hospitals. All the providers belong to a closely co-ordinated network that covers all of Polish territory.

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

The surgical treatment of cancer is provided in stream specific specialised cancer units located mainly in the branches of the Institute of Oncology. Treatment is also provided in regional oncology centres and/or multidisciplinary hospitals in various surgical departments such as oncological surgery, general surgery, neurosurgery, thoracic surgery, ENT surgery, urology and gynaecology. Surgical treatment for children is carried out in specialist paediatric surgery units. It is estimated that a significant proportion of surgical procedures for gastrointestinal cancers, endocrine cancers as well as urological and gynaecological cancers are performed in the departments of general surgery, urology or gynaecology in various hospitals. The number of patients with cancer who had elective surgery in 2010 is estimated at 70–80 thousand. The most common cancer in women, breast cancer, is mostly treated in oncological surgery departments (86%), whilst the surgical treatment of colorectal tumours (with an incidence rate close to that of breast cancer) is equally split between oncological and general surgery departments.

In 2013, 31 providers offered radiotherapy and other ionising radiation treatments, with the highest number of service providers present in the Śląskie, Malopolskie and Mazowieckie regions (4, 4 and 3, respectively). In other regions radiotherapy is more centralized with only 1 or 2 centres per region.

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 that offer comprehensive complex cancer care that includes surgical, systemic and radiotherapy treatments. The establishment of new cancer centres is neither coordinated nor preceded by the epidemiological demand analysis; one of the reasons is the lack of a central institution that has a clear mandate to coordinate and implement the key requirements for effective and efficient cancer control programme in Poland.

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. Haematology units also treat non-cancer blood conditions such as haemophilia. There are 30 providers of care for these non-solid tumours: the Institute of Haematology and Blood Transfusion in Warsaw, leading clinical hospitals and 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 in the National Paediatric Centre and the Institute for Maternal and Child Health in Warsaw.

Bone marrow transplants in Poland are performed in 18 specialist centres: 5 paediatric and 13 for adults; 2 new centres are planned to be opened.

The responsibility for collecting and analysing epidemiological data on cancers and for preparing forecasts lies with the National Cancer Registry (NCR) located at the Maria Skłodowska-Curie Institute of Oncology in Warsaw. The Registry processes statistical data on the basis of cancer case notification forms filed by physicians. The Central Statistical Office (CSO) collects additional statistical data derived from death certificates. The average completeness of the Cancer Registry in Poland has been continuously improving and is currently estimated to be 94%. This being said, significant regional differences still persist with completeness ranging from an estimated 80% in Zachodniopomorskie, Podlaskie and Mazowieckie voivodeships to 100% in Lubelskie, Opolskie, Podkarpackie, Pomorskie, Swietokrzyskie and Wielkopolskie regions. More importantly, registration of cancer stage at the time of diagnosis is unfortunately lower, with an estimated completeness level of 60-80% depending on tumour location.

Since 2013, the Registry has provided physicians with the possibility of filing case notification reports online as well as the possibility to edit and update reports with additional information collected during treatment.

Data on the costs of cancer treatment in Poland are collected solely by the NHF, whereas information on treatment outcomes is collected and made available by the NCR only at the most basic level i.e. five-year survival rates regionally and nationally.

The medical professionals involved in cancer care in Poland include surgeons of different specialties, medical and radiation oncologists, haematologists and transplant specialists, paediatric haematologists and oncologists as well as specialists in nuclear and palliative medicine. According to the records of the Polish Chamber of Physicians and Dentists, the number of specialists in surgical oncology, medical oncology and radiation oncology exceeded 1800 at the end of 2013 and had increased by approximately 50% since 2006, with the largest increase in the medical oncology specialty (over 70%). There were 369 haematologists in Poland and 152 paediatric haematology and oncology specialists 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 optimisation of the patient pathway in the care system, the standardisation and management of the diagnostic and treatment processes as well as planning and monitoring of the efficacy of interventions. The 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 Rapid Cancer Diagnosis units
- A large number of easily accessible specialist cancer centres that have appropriate expertise and resources for treating the most common cancers such as lung cancer, breast cancer, colorectal cancer and prostate cancer
- Specialist centres for CNS, head and neck, urological and gynaecological tumours
- A network of centres of excellence providing, in addition to above, treatment of complex clinical cases and rare cancers, as well as scientific and clinical research and personnel training.

The proposed changes should affect all tiers of the healthcare system, thus ensuring better cooperation between them. There is evidence that the 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. The starting point should be an accurate analysis of resources currently available as well as their likely requirements for the future.

To ensure that 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. Such an agency should be supported by external experts drawn from oncology scientific societies, medical and paramedical delegates from the existing oncology providers (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. Monitoring and coordination of the key aspects of cancer control programme in Poland

A properly empowered agency should play a key role in achieving the objectives of the strategy in a timely and successful manner. In the first instance a specially designated department within the Ministry of Health should undertake this role. 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. The department should be supported by Cancer Advisory Board 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-sectorial character and include a wide range of issues such as co-ordination of defining and maintaining up to date all the diagnostic and therapeutic standards for all cancer types, modification of oncology related services that need to be included in the NHF, occupational training of healthcare professionals, promotion of scientific research, public health promotion as well as intiating actions in cancer prevention and cancer control. This multi-factorial approach means that the future co-ordinating function, in order to be effective, will need to encompass the competencies of several ministries and administrative bodies. A newly created institution could well fulfil such a role.

This new co-ordinating body of cancer control in order to function effectively needs to secure the following:

- A statutory remit and access to data;
- A collective and transparent decision-making process supported by expert circles that include a broad representation of various entities and institutions involved in cancer control programme as well as patient organisations;

An appropriate budget

Responsibility

MH

Timing

3rd Quarter of 2014

Measure 1.2. Preparing a map of oncology needs and resource requirements in Poland

The starting point for implementing the Strategy should be an up-to-date knowledge about the status of infrastructure and equipment as well as the staff resources available in cancer control institutions in Poland. The demand should be based on the current level of cancer incidence (approximately 150 thousand new cases per year) and the predicted incidence of 185 thousand new cases by 2025. Such a map of resources and needs should be the basic tool in the planning of organisational and structural changes (investments, training) and it should be prepared at the earliest possible stage of Strategy implementation.

Responsibility

MH, NHF

Timing

2nd Quarter 2015

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

Monitoring the quality of healthcare in Poland is a significant, system-wide problem. It is currently based on the control of resource inputs and costs by the NHF, 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, with a broader range and function 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. It is advisable to confer this task on the newly created coordinating institution referred to in Measure 1.1.

Responsibility

MH in cooperation with CQM, NHF and CHCIS

Timing

3rd Quarter of 2015

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 the European Parliament resolution outlining the key features of BUs and the need to propagate this cancer care model in EU countries.

The idea of specialisation results from earlier studies describing key success factors in breast cancer control in selected European countries and the current status of a 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 start 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.

One of the main criteria for the nominaton of such units should be an appropriate reference level derived from documented experience and activity level, implementation of and adherence to external best practice standards including internally prepared protocols and patient pathways. Implementation of a quality control system for the diagnostic and therapeutic process including outcome measures as well as appropriate staffing and infrastructure should also be considered.

Given the appropriate legal and administrative environment, the BU network in Poland should be composed of approximately 60-80 existing centres each covering a population of approximately 350-650 thousand inhabitants. Therefore, based on the annual breast cancer incidence rate of approximately 15 thousand, each centre should have sufficient scale. This process 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 due course and based on similar principles, specialist units in treating colorectal cancer and other more common cancers (lung, prostate) will be set up.

Responsibility

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

Timing

Stage I – pilot BU – 2015 – 2017

Stage II – BU target status – 2020

Measure 1.5. Selection of centres of excellence for 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 the 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 (the majority of 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 five to six centres at most. These centres should also provide treatment for complicated clinical cases 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 centres of excellence in the earliest possible stage of the disease. All haematological cancers meet the criteria for rare cancers while the haematology units meet the criteria for reference centres for these tumours.

Responsibility

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

Timing

4th Quarter of 2015

Measure 1.6. Setting up local points of oncological information

Patients with suspected or diagnosed cancer and their immediate family members often feel frightened, uncertain and lost. Local points providing information on the available methods of treatment, nearby diagnostic and treatment centres and the most frequent side effects of therapy, as well as providing 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 treatment 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 in addition two to three other locations per region; they should be financed from the local health promotion budgets.

Responsibility

Regional governments in co-operation with oncological centres and regional NHF offices

Timing

2nd Quarter of 2015

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

Access to comprehensive, reliable and up-to-date data on types of cancer and their characteristics, as well as the 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 Cancer Control Strategy in Poland. Such 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 advent of the National Cancer Registry – there are numeours barriers that prevent further progress. These barriers include, but are not limited to, lack of data linkage between institutions having access to cancer data, the fragmentary nature of information collected, insufficient IT infrastructure of healthcare system participants and insufficient levels of knowledge about the quality of cancer care in Poland. Elimination of these barriers and improvement in the availability of information will enable the implementation of many 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 framework 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%. The NCR is, at present, the central database for 16 regional Cancer Registry offices as well as for the national registration office. Other sources of oncological data include data collected by the NHF (including those from the ISPM system), hospital databases and hospital morbidity database held by the Institute of Public Health or the information on deaths published by the CSO. While some of the information in these databases is identical to the information from the NCR, some of it is complementary. Creating the technical conditions and legal basis for data linkage (in particular, import of data from the NHF to the NCR) will improve the comprehensiveness and accuracy of cancer information in Poland.

Responsibility

MH in cooperation with CHCIS, NHF, NCR, CSO, MAD, IGPDP

Timing

2nd Quarter of 2015

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, for example, does not include rolling forecasts, audit of epidemiological forecasts, prevalence analyses or cyclical survival analyses (including benchmarking of healthcare providers). Expanding the scale of NCR's activity and broadening the scope of analyses and their publication will contribute to 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, the patient perception of the quality of cancer treatment in Poland has not been the subject of analyses or evaluation studies. The development of benchmarks for assessing the quality of treatment and of the patient's life as well as further development of tools and benchmarking basis for quality assessment (including instruments for assessing cancer care centres, like "Onkomapa") will enable 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.

Responsibility

MH in cooperation with CQM, NHF, NGOs

Timing

Periodically (every two years) starting from the 4th Quarter of 2015

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

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 each region available in the NCR). The low reporting of cancer stage to the NCR hampers the measurement of outcome indicators. 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.

Responsibility

MH in cooperation with NHF, NCR

Timing

4th Quarter of 2015

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

At present, the Cancer Notification Form, which is the main source of cancer epidemiology in Poland, is a statistical report form. Including this form in the category of medical documentation will improve completeness of the data collected on cancers in Poland.

Responsibility

MH

Timing

4th Quarter of 2014

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 current databases but also the development of new information sources. Currently, Poland lacks homogeneous histopathological databases, leading to an absence of necessary information before the initiation of treatment. Standardisation of histopathological reports, informatisation of all histopathological laboratories, system-wide collection and analysis of these data, development of authorised web portals on oncology for patients and professionals, information relating to 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.

Responsibility

MH in cooperation with NCR and scientific societies

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 systematic analyses of treatment efficacy by region or provider. According to the data available for breast and colorectal cancer, there are significant regional differences between the 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 the funds spent. (Measure 27.5.).

Responsibility

MH in cooperation with NHF, AHTA and NCR

Timing

4th Quarter of 2016

Objective 3: Legislative changes required to effectively implement the Strategy

Some legislative solutions in the area of health system lag behind the dynamically changing reality. As a result, the application and interpretation of the legal provisions can be subjective. Such imprecisions are 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. The law's 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, high value drug programmes or the decrees describing the guaranteed public health services.

Measure 3.1. Analysis of the current legal status in the context of achieving the objectives and tasks of the Strategy

The analysis of the current legal status is necessary to identify and list all legal acts and regulations that can affect, directly or indirectly, the area of cancer control. In the framework of detailed verification of legal provisions, their prioritisation will also be required in order 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 the modifications of numerous legal acts, including those without clear and direct relationship, will be required. Such a comprehensive analysis of the Polish legal system and holistic approach should lead to the elimination of the major mechanisms responsible for the fragmentation of the current system of cancer control in Poland.

Responsibility

MH in cooperation with appropriate experts

Timing

2nd Quarter of 2015

Measure 3.2. Identification of necessary changes in the 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 the legislative "white paper" indicating the list of areas requiring legislative changes or identifying the missing provisions.

Responsibility

MH in cooperation with appropriate experts

Timing

2nd Quarter of 2015

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

The modalities of access to cancer treatment include, but are not limited to, the provisions of the Pharmaceutical law or laws, as well as laws and decrees relating to the financing of healthcare services from public funds. Creation of coherent solutions in the framework of the existing legal order that simultaneously eliminate the current legal discrepancies and/or provisions that can be subject to interpretation, whilst introducing new quality requirements 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 appropriate experts

Timing

3rd Quarter of 2015

Objective 4: Provision of adequate staffing according to the 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 will be fulfilled by 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 to participate in the implementation of the proposed changes in the pre-defined timeframes. There is a need to identify professions and specialties that are under-resourced, modify 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 the regional and national level

The baseline analysis should be carried out in specialities such as clinical oncology, haematology, paediatric haematology and oncology, radiation oncology, oncological surgery, pathology, nuclear medicine, palliative medicine, psycho-oncology and other medical specialiaties involved in cancer care. Such analysis should include the number of active specialists, the regional staffing patterns, the projected needs based on demographic trends, as well as the staffing requirements of the public payor.

Responsibility

MH in cooperation with NHF, PCPD, other professional associations

Timing

2nd Quarter of 2015

Measure 4.2. Development of rolling forecasts of medical staffing demand by specialty and the plan of 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 the medical staff, as well as 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

Timing

3rd Quarter of2015

Measure 4.3. Developing the training system for cancer carel coordinators

In order to deliver new quality of care, the Polish healthcare system should strengthen coordination at each stage of cancer control. To fulfil this objective, institutional and organisational changes are necessary. This task should be conferred on newly appointed persons acting as cancer care coordinators (Measure 26.2). The competencies required will include basic medical, legal, administrative, psychological and social assistance knowledge. Therefore, such complementary training should be initially 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

4th Quarter of 2015

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 size of a given entity (number of research staff) and on the parametric assessment;
- A competitive system of 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, particularly for those from the budget for 2014-2020, which overlaps the period of the Strategy. In the world of knowledge and science, the boundaries between the resources of individual countries are disappearing and progress is increasingly achieved as a result of the co-operation of international research teams. The 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 3 or 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. Few research groups, mainly in the area of haematological oncology, lead academic clinical trials.

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 biobanks. At present, the establishment of 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 material, the majority of which will not be 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 the 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, multidisciplinary research project teams including international ones;
- The number of grants applied for and won for scientific research projects;
- Publication of research results in peer-reviewed periodicals and the number of citations;
- The number of patents granted and their implementation.

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

The driving force behind the greater number of Polish researchers participating in international projects should be an open, 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 the 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 realisation 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 smaller 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 the 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 projects on cancer control 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 for oncology. The current NSC/NCRD system does not have the possibility of financing projects of particular importance from the social or medical point of view, and which are neither related to basic sciences nor 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 the Polish science and research centres in international projects

Polish centres may participate in numerous international studies. Regrettably, such projects are rarely co-ordinated 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 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 2014

Measure 5.5. Promotion of the 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 the 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 the existing regulations to clearly distinguish the non-commercial clinical studies from industry-sponsored trials (differentiation of fees and financial and administrative requirements, such as risk pricing and rules for the sponsor insurance of non-commercial studies).

Responsibility

MSHE in cooperation with MH and NHF

Timing

On a continuous basis

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

Given the challenges faced by modern Polish oncology, it is necessary to increase the role of medical schools and the 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. Only in 2 out of 12 medical universities is the realisation of this programme based on the school's fully owned and operated clinical and didactic infrastructure. In the remaining schools, this programme is partly or wholly based on contracted clinical units (mainly in the area of radiation therapy). In some schools this is also the case for haematological oncology. The university centres seem to be best prepared for the multidisciplinary approach in oncology; including co-existing medical conditions and the related research, given that their existing education in oncology is provided in parallel to other areas of medicine. The elimination of the postgraduate internship of physicians and the need to strengthen the 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 the oncology education programmess between medical schools should be considered. Undergraduate teaching of oncology should be a part of not only all-medical and dental faculties, but also those of pharmacology 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.

The teaching of the oncology programme should end with a common examination conducted according to uniform rules and criteria. This will allow for an inter-school comparison of results and the identification of problem areas so that an appropriate modification of curricula can be implemented.

Responsibility

MH in cooperation with CRAMS

Timing

1st Quarter of 2016

Measure 6.2. The establishment of oncological centres in medical schools

Based on the demand analysis, Polish medical schools should develop an integrated educational base infrastructure covering all oncological specialities (surgery, radiation therapy and systemic treatment) in their own clinical hospitals. This should allow the completion of the entire programme of oncology, the promotion of research in this area and the increase in the number of students entering oncological specialty training at the post-graduate level. At the same time, oncology centres based at clinical hospitals should increase the multi-disciplinary approach to medical care; in particular for co-existing non-cancer morbidities and those related to the ageing of the population. Such investment projects can be supported by state funding or by public-private partnership. Such new centres could complement the existing network of service providers with the highest quality of care.

Responsibility

MH in cooperation with MSHE, NHF

Timing

2020

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. The clinical trials, in addition to their scientific value, result in a number of benefits that contribute to both social and economic development. In order to increase the number of clinical studies in Poland, and to increase the 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. The 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 with the international community, thereby allowing the introduction of the most novel medical achievements.

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

All stakeholders should aim to ensure the 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 general healthcare standards, with noticeable benefits for patients. An indispensable element of the cancer research development in Poland is streamlining the collaboration of clinical centres with the industry. This should be part of the coordination of the scope and themes of research programmes. Simplifcation of legal framework and rapid 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 a reduction in their time of registration (the current average being several months). Another significant factor will be providing wider patient access to information on recruiting for 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).

The 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 a 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 a 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 and bigger role of centres of reference in molecular and clinical genetics, immunology and pathomorphology

The centres of reference should have an additional role in advanced diagnostics of rare tumours, which, due to high costs and small number of cases, cannot be financed as a commercial activity. These centres should also be involved in quality supervision and provide a second opinion on questionable results. In addition, the centres of reference could create biobanks of unique biological materials. The appropriate legal provisions should regulate the establishment and funding of such centres.

Responsibility

MH in cooperation with PSP, NCLD, PSG, PSHG

Timing

4th Quarter of 2016

Measure 8.2. Establishment of the central registry of biospecimen banks

The central registry of biospecimens should be established. This should be preceded by the stock-taking and listing of all existing and scattered biospecimens. The central registry will be, firstly, a 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 of 2017

Measure 8.3. Introduction of the framework rules for researchers' access to biospecimens

At present, the 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. The preparation of regulations relating to this issue should become a stimulus for resource sharing among the research teams, which in turn should facilitate their collaboration and reduce the costs of access to biological materials required in scientific and research projects.

Responsibility

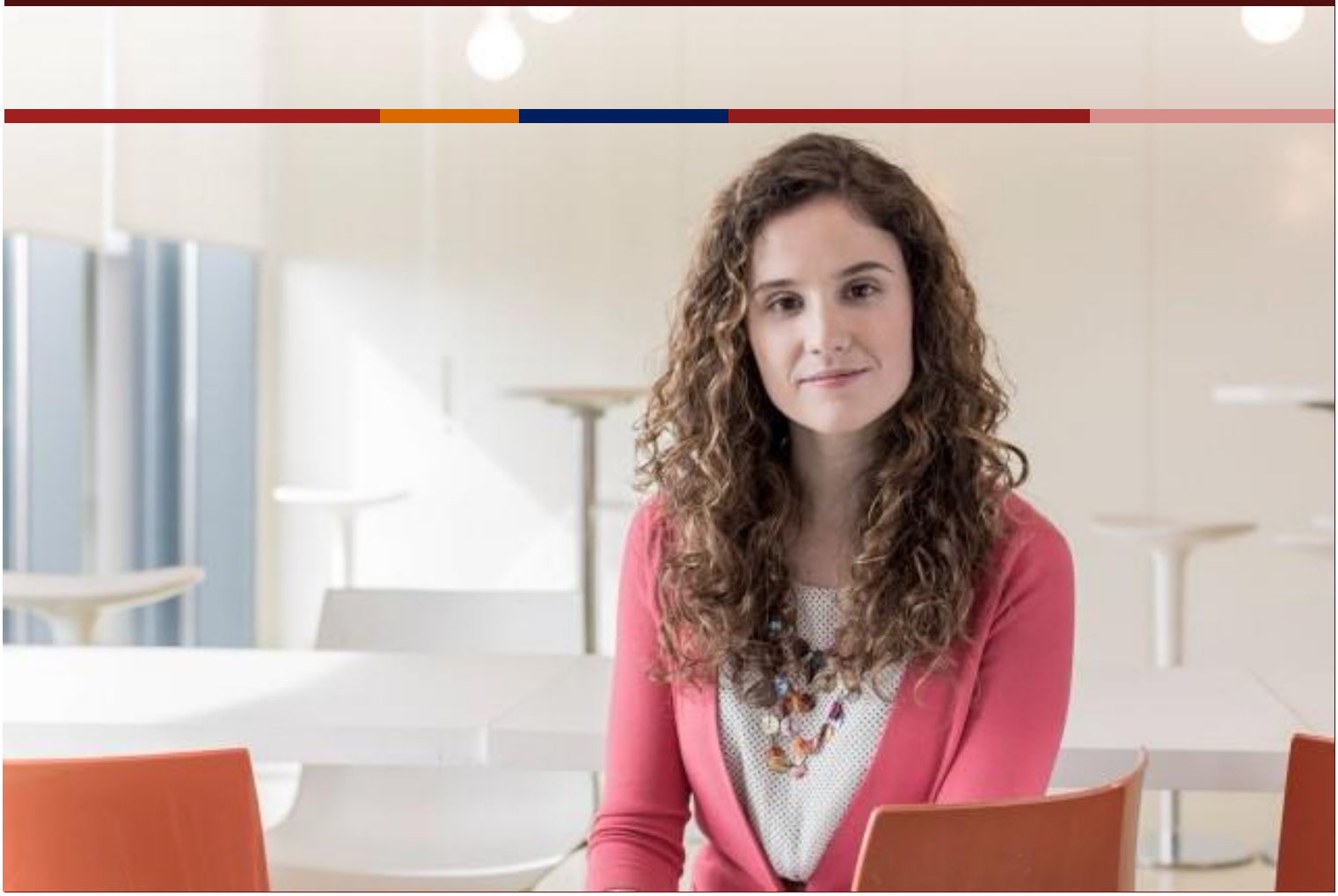
MSHE in cooperation with MH and IGPDP

Timing

1st Quarter of 2017

III.

Primary and secondary prevention



III. Primary and secondary prevention

IIIa Primary prevention

Preventable or potentially curable cancer is one 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), as well as 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 to them should cause 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 and 2003. At present, its fourth, revised version is being prepared for publication as a response to new challenges and tendencies observed and monitored in the European population.

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 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 misuse,
- Poor eating habits,
- Low physical activity,
- Excess weight and obesity,
- Environmental and occupational carcinogenic risk factors (passive smoking, chemical and physical pollutants),
- Biological carcinogenic factors (infections with HBV and HPV).

A significant portion of the above-mentioned factors contribute to causing many other diseases as well; therefore their reduction will not only have a beneficial impact on cancer but also on the general health of the population.

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

Increasing public awareness about the role of cancer risk factors – 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 behaviour is realised 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 and 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 of cancer and oncology. This relates to both the risk factors of cancer and to behaviours and lifestyle changes capable of decreasing such risks. These measures should be implemented at both the national and local level to maximise potential benefits.

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

- Launch 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;

- Collaboration with public broadcasters to make use of their '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. These include information on epidemiology, prevention, prophylaxis, diagnostics and treatment of cancer. In addition, a free online educational platform for healthcare professionals and a free oncological info-line were launched. We need to ensure that these programmes are continued and that cooperation with NGOs is initiated at both the national and local level for further public education.

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, the risk factors for cancer development include unhealthy diet (including but not limited to alcohol misuse, 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 the 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 to 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 that 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 and steps reducing the exposure to risk factors. Together, these 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 the 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 each group and have a diversified character.

Responsibility

MH in cooperation with CCIO, NFNI, PCPD, PSD, MNE

Timing

3rd Quarter of 2015

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 modern 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 realised 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 2011), 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 the high-risk age group. For many years, limiting tobacco smoking has been, and still is, one of the fundamental objectives in the area of primary prevention. The continuation of the 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 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 second hand smoke – in particular at home and in public places.

One of the methods of limiting smoking includes public awareness campaigns about its negative consequences. The 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. 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 the following 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 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 clinical medicine.

All doctors need to take an active role in order for the health consequences of tobacco

smoking to 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. Increased access and support for smokers who want to quit, start outpatient treatment or use telephone assistance should be implemented.

Responsibility

MH in cooperation with NHF

Timing

On a continuous basis

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

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 based on the evidence-based medical standards; they should have access to proven tools for smoking cessation and be supported by medical and professional associations and bodies.

Responsibility

MH in cooperation with PCPD, CNM, CFP, PSFM

Timing

On a continuous basis

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 factors responsible for cancer: vaccine against HBV, which causes liver cancer and vaccine against HPV, which causes cervical cancer, cancer of the oral cavity, throat cancer and anal cancer. WHO explicitly defines the role of both screening tests and vaccinations against HPV in national strategies for cervical cancer prevention. Whereas smear tests are still considered the main method of prevention, the vaccination is becoming 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 in 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 only been administered free of charge in areas where they were financed by local government. In 2010, approximately 150 entities decided to allocate the funds for this purpose, which financed 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, 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 Poland in the local government programmes

At present, Poland does not have a system for collecting data about vaccinations against HPV. It is, therefore, currently not possible to objectively evaluate health outcomes of the implemented measures. Registering the 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 of 2015

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 that are 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 the 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 the appropriate level of education for employers and employees on the risks linked with the presence of carcinogens in the workplace would help identify and take appropriate steps towards reducing their impact. This goal could be achieved by the training of 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 a correct estimation of the number of persons exposed.

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

Responsibility

MLSP in cooperation with NIOM, 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 to ensure better supervision of work establishments where exposure to carcinogens is 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. These data provide 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 NIOM 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 the number of those with other skin cancers was over 11 thousand. The 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 the risk of skin cancer 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

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 his or her 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 to limit access to sunbeds and solaria for the 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

3rd Quarter of 2015

IIIb Secondary prevention

Screening tests for defined groups of 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 the 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, the implementation of a broad programme for early cancer diagnosis may have a significant impact on both the reduction of high mortality rate as well as on the costs of treatment.

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

- Females aged 25-59 years – cervical cancer screening tests based on cervical cytology performed every three years – in place nationally since 2005;
- Females aged 50-69 years – breast cancer screening based on mammography performed every two years – in place nationally since 2005;
- Females and males aged 55-64 years – 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 15: 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 and effective involvement of local governments. A separate issue involves the organisation of the 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. The first group 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 second group, under the auspices of NHF, signs contracts with providers and finances the screening programmes. Both these structures operate separately, which divides the responsibility for ensuring the quality and efficacy of these screening programmes. For the 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 are 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 15.1. 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 measurement of regional differences. 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 are strongly recommended.

Responsibility

MH in cooperation with NHF

Timing

4th Quarter of 2015 and continuing

Measure 15.2. Establishment of a coordinated integrated model for the organisation and financing of the screening programmes

Experiences from the current programmes have demonstrated that there is potential to improve the model of organising and financing the 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.

Responsibility

MH in cooperation with the NHF

Timing

1st Quarter of 2016

Measure 15.3 Creation of a common source library on prevention programmes for local governmental bodies

The 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 the sufficient knowledge to realise such health programmes so as to ensure measurable benefits. 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 societies

Timing

4th Quarter of 2016

Measure 15.4. Enhancement of the role of primary healthcare physicians in encouraging participation in screening tests

GPs are the first point of contact for patients and should therefore play an important role in the promotion of screening tests. According to ISPM data, only a small percentage of women attending mammography and cytology screening 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

2nd Quarter of 2016

Measure 15.5. Implementation of training for participants in screening programmes

In the first years of 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, as well as in clinical standards, such training should take place on a continuous basis.

Responsibility

MH

Timing

2nd Quarter of 2016 and continuing

Measure 15.6. Promotion of the screening tests

Screening tests have been promoted thus far through various marketing and educational campaigns. Such initiatives include 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. However, the impact of these individual measures on the uptake of the screening programmes had not been analysed. The measures listed above should be continued along with an evaluation of their effectiveness. In addition, target groups should be determined and

appropriate methods and means of communication adapted.

Responsibility

MH

Timing

On a continuous basis

Objective 16: Improving the efficacy of the 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 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.

Approximately 36% of the target population had cytology tests in 2012 (including tests performed under the screening programme in outpatient services), with significant regional differences ranging from approximately 31% in the Lodzkie region to approximately 44% in the 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 risk level, are indispensable to improve the effectiveness of the population-based cervical cancer screening programme.

Measure 16.1. Revision of the current population screening programmes to ensure appropriate cost-effectiveness and adaptation to the risk level

Measures designed to implement the standardisation and recording of all cytological tests in a common registration system should be undertaken. Pilot screening tests based on the detection of HPV virus should also be commenced.

Responsibility

MH in cooperation with NHF

Timing

4th Quarter of 2015

Measure 16.2. Quality control of the cytology and virology tests

A high quality 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, NCR, CHCIS

Timing

On a continuous basis

Objective 17: Improvement of the efficacy of breast cancer screening tests

The Breast Cancer Early Detection Programme is realised 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 mammography in 2013 in Poland, with significant regional differences noted, ranging from 37% in the Malopolskie region to 55% in the 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 starting treatment in Poland is currently far from optimal and ranges from 65 to 100 days.

Measure 17.1. Increased participation rate of women in screening mammography

At present, less than half of the target female population in Poland makes use of the screening mammography. As is the case of cytological testing, the group with lowest attendance level are poorly educated women living in smaller localities. In order to increase the participation of women in the screening tests, a detailed analysis of the causes of non-attendance is required. This 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 tests and its efficacy, are crucial and should be continued. Mammography should also be encouraged by the medical staff, including GPs. (Measure 15.4.).

Responsibility

MH in cooperation with NHF

Timing

3rd Quarter of 2017

Measure 17.2. Continuous improvement in quality control of mammography

There is a potential to further improve the quality control model including but not limited to the possibility of comparing 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 18: 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 the NCCP funds. There is no evidence-based recommendation indicating which is the optimal screening test for the detection of colorectal cancer. 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, one stage colonoscopy was the method selected. Increasing the participation in colonoscopy screening and improving its quality are essential to increase the programme's effectiveness.

Measure 18.1. Education of the target population on risks of developing colorectal cancer and on efficacy of screening tests

Colorectal cancer screening has been conducted through opportunistic system and through targeted invitation system. Depending on the identified risk factors, the respective appropriate target groups were determined. In the opportunistic system the screening was offered to people aged 50-65 years irrespective of the family history, and to persons aged 40-65 years or 25-65 years with the family history of colorectal cancer. In the invitation system the target group includes individuals aged 55-64 years and those with the 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 18.2. 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 an increase in the number of centres performing such tests. The improvement of attendance rate at the screening tests depends to a large extent on the level of knowledge of the target group on the risks of developing colorectal cancer and the efficacy of screening programmes. The participation rate in the screening is therefore a 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 first 2 years of operation of the NCCP-financed invitation system for colonoscopy screening 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 of 2018

Measure 18.3. Improvement in the quality indicators of screening colonoscopy

The system for evaluation and quality improvement of preventive colonoscopy screening in 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, as well as 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 process of cancer diagnosis 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.

The 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:

- delays in the process,
- duplication of interventions,
- 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 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, this target should be two weeks due to their rapid progression.

A treatment plan that takes into account all the available treatment options should be drawn up by a multidisciplinary team of specialists, with patient participation if possible, and should commence the therapeutic process. The first and subsequent treatments depend on the stage and 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 periodic checks for cancer relapse or late side effects of the treatments.

The improvement of the cancer diagnostics and treatment processes in Poland should include the following measures:

1. Enhancing the role of GPs in the phase of initial diagnosis and follow-up through provision of appropriate tools and competencies;
2. Establishing the function of the cancer care coordinator in 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 more common cancers that will be binding and enforceable;
5. Moving from the current inpatient model of cancer treatment to a more cost-effective ambulatory cancer care.

Improvement in healthcare pathways requires the systematic monitoring of output measures. The 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 be analysed at the national, regional and provider levels so that any variation in the access to treatment and outcomes can be identified.

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

Objective 19: 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 Lubuskie, Wielkopolskie, Kujawsko-Pomorskie and Pomorskie regions, while the highest mortality rates in women are seen in the Kujawsko-Pomorskie, Pomorskie and Zachodniopomorskie regions. Variation in patients' quality of life during and after treatment has been observed and is also reflected in varying patient satisfaction levels at the 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, 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 19.1. Identification of factors affecting equal access to treatment

Differences in access to treatment are multi-factorial and include 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 and CSO

Timing

1st Quarter of 2016

Measure 19.2. 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 adequate 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 of 2020

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

Objective 20: 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 and ensuring the continuity of medical care for patients and their families. These tasks are equally important in the cancer care system. Four areas where primary healthcare might perform a key role are:

- Health promotion and public education on the reduction of cancer risks;
- Risk factor assessment, cancer prevention and early detection;
- Coordination of the diagnostic process and follow up after the completion of treatment;
- Long term follow up of patients deemed cured of cancer and care of patients in the terminal 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 both from patient reluctance to leave the specialist care and equally from a lack of motivation to take over the patient care from other service providers.

Measure 20.1. 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. The development of comprehensive and simple modules relating to common problems and clinical situations may be helpful. Organisation and delivery of training should by partially supported from public funds, and participants should assess the standards and quality of such training. These training schemes should be combined with the system of collecting educational points by physicians.

Responsibility

MH in cooperation with, CFP, PSFM and PCPD

Timing

On a continuous basis

Measure 20.2. 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 the basic diagnostic standard, jointly by the oncological community and family physicians, should lead to faster smoother process and prevent unnecessary duplication of diagnostic tests.

Responsibility

MH in cooperation with NHF, CFP, PSFM and PCPD

Timing

4th Quarter of 2015

Measure 20.3. Establishing mechanisms to increase the role of GPs in long-term follow up of cancer patients, including the 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 when this is no longer necessary. The 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 information obtained from patients themselves or from patients' medical documentation.

An important element would be the development of a standard information template for transfer of key information from the oncologist to the GP after the completion of treatment, 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 direct specialist-GP consultation in case of questions would encourage GPs to take over most of the follow up care of patients with a history of cancer.

Responsibility

MH in cooperation with NHF, CFP, PSFM and PCPD

Timing

4th Quarter of 2015

Objective 21: Development of cancer treatment in the ambulatory and day care setting

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 quality; only the potential capacity for patient hospitalisation. The experience of other countries has shown that there is no correlation between the number of inpatient beds and the effectiveness of cancer control. 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 contrast, the number of inpatient oncology beds in Poland has been constantly increasing from 3751 in 2002 to 5030 in 2012, according to CHCIS data. There are also significant regional differences in the number of oncological beds per capita that can exceed 100%.

In 2012, NHF expenditure for inpatient treatment (excluding substance costs) in oncology or clinical oncology wards for chemotherapy was two times higher than the expenditure for day case chemotherapy, while ambulatory chemotherapy accounted for only 9% of the entire chemotherapy expenditure. The proportion of inpatient spending on chemotherapy in 2012 ranged from 39% in the Pomorskie region to 82% in the Łodzkie 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. The NHF expenditure for radiotherapy hospitalisation as proportion of costs of radiotherapy treatments ranged from 0.21 in the Śląskie region to 1.03 in the Podlaskie region, with a national average of 0.35 for 2012. 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 the ambulatory setting. This high proportion of inpatient care in oncology can be partly explained by the higher poverty index of the Polish population that may lead to the use of acute hospitalisation in lieu of chronic long-term and nursing care.

Measure 21.1. Establishing a system of economic support for patients in difficult financial situation

For some patients the treatment of cancer means a significant additional financial burden (for transport, adjuvant treatments and diet). This issue is neither sufficiently measured nor taken into consideration in the current social care system. The indirect consequence of this extra burden is the shift of such costs to the acute healthcare system in the form of hospital admissions that are not medically justified. The development of special subsidies in the framework of the social care system for patients with the lowest income levels and active cancer could help cover costs of travel to the place of treatment or other disease-related expenses.

Responsibility

MLSP in cooperation with MH and NHF

Timing

1st Quarter of 2015

Measure 21.2. Improving access to ambulatory and day care setting through creation of alternative accommodation possibilities for non-residents

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.

Responsibility

MH in cooperation with LGUs and NHF

Timing

2nd Quarter of 2015

Measure 21.3. Revision of financing rules for inpatient versus ambulatory setting

The present system of oncological financing encourages service providers to provide inpatient treatment. A verification of the mechanism of service reimbursement and of the tariffs applied is required so that hospitalisations are limited solely to clinically justified cases. The treatment in an ambulatory setting should cover all costs, which should act as an incentive for new investments and development of the ambulatory sector.

Responsibility

NHF in cooperation with MH

Timing

3rd Quarter of 2015

Objective 22: Improving the access to and quality of cancer diagnostics

One of the most pressing problems of the Polish cancer care system is the slow and fragmented diagnostic process that leads to the confirmation or the exclusion of cancer 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.

The 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 search for the "best" unit, make appointments in several centres and visit many physicians in subsequent phases of the diagnostic process. Not surprisingly, the diagnostic process in these circumstances has the following shortcomings:

- It is slow, badly coordinated and interrupted by periods of waiting for subsequent phases;
- It is often chaotic, meaning that unnecessary tests are performed and that there can be duplication of services as well as 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 centres of reference providing specialist diagnostic tests or second opinion in cases of doubt. These centres should also be in charge of the development and implementation of the quality control systems in cancer diagnostics.

Measure 22.1. Creating a rapid diagnostic path for patients with suspected cancer

Rapid 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 the full diagnostic process 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 processes must be based on uniform and controlled standards and protocols of patient care that have been "quality branded". The centres should be evenly distributed across an area of approximately 20-30 km, according to population size, reaching 200-300 nationally within five years.

Responsibility

MH in cooperation with NHF

Timing

3rd Quarter of 2016

Measure 22.2. Creating the 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. The external quality assessment allows the laboratories to control test accuracy and benchmark themselves against other laboratories. In Poland the accreditation body for the laboratories, as well as various other economic entities, is the Polish Centre for Accreditation, with professional supervision ensured by the National Chamber of Laboratory Diagnosticians. Setting standards for and implementing the quality of the 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, PSHG

Timing

2nd Quarter of 2018

Measure 22.3. 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 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, PSHG

Timing

4th Quarter of 2015

Measure 22.4. 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 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 societies

Timing

4th Quarter of 2015

Measure 22.5. 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 and reporting. 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. The planned development of the 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 MAD, PSP

Timing

2nd Quarter of 2017

Objective 23: Improving access to cancer treatment

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

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

These factors are of course interrelated and can affect the migration of patients and specialists, new investments in certain domains of medicine and the ensuing excess supply and demand for such services or, conversely, a decrease in the number of service providers and therefore restricted access. Market mechanisms have become the prevailing 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 the administrative tools. The task of the public payer is to create incentives and solutions that support continuous and balanced growth of 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 23.1. Identification of healthcare services that are inappropriately financed

A problem-solving team, with participants drawn from the public payer NHF pool, of experts and representatives from a new tarification agency (part of AHTA), needs to be set up with the remit to list and analyse medical services that seem to have inappropriate reimbursement tariffs or rules compared to the costs of inputs. This applies to both over- and underestimated services.

The results of this task group should be submitted to the Ministry of Health together with proposals for corrective actions and an evaluation of their implementation.

Responsibility

MH in cooperation with NHF

Timing

3rd Quarter of 2015

Measure 23.2. Periodic revision and verification of the oncological services reimbursement

Every two years, the 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 the oncological services. Such assessment should include the appropriateness of provision of such services in relation to the evidence-based diagnostic and treatment guidelines and standards and their impact on the functioning of the cancer treatment system as a whole.

The institution described in Measure 1.1 shall present proposals for corrective actions agreed with the payer, together with an evaluation of their impact to the new tarification agency.

Responsibility

MH in cooperation with NHF

Timing

Periodically (every two years) starting from the 3rd Quarter of 2016

Measure 23.3. Inclusion of cancer care in the category of guaranteed health services not subject to financing limits

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

Such services include transplantation programmes, certain acute neurosurgical and invasive cardiology procedures and obstetrics and neonatology. Since the financing limits are one of the factors reducing the access to oncology services and therefore adversely affecting treatment outcomes, procedures in cancer diagnosis and treatment should be included in the category of non-limited services with simultaneous development of solutions designed to minimise the potential negative effects and threats related to the introduction of such no-limit rules.

Responsibility

NHF in cooperation with MH

Timing

2nd Quarter of 2015

Objective 24: Improvement in the 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 application decrees. It covers, among others, the 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, partly due to the multi-annual programme of modernisation of the equipment of 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 the 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 the existing public hospitals, and complement the existing network of public cancer care units.

Measure 24.1. 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 the currently existing large cancer care centres could be established.

Responsibility

MH in cooperation with NHF

Timing

On a continuous basis

Measure 24.2. Modernisation of the existing radiotherapy facilities and their the equipment

The capital replacement programme 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. Such modern radiation techniques usually require additional hardware and software to be installed on the linac. A long-term capital investment programme should take into account the technological and material obsolescence of the linacs as well as the technical progress and the changes in the recommended methods of radiation therapies.

Responsibility

MH in cooperation with NHF

Timing

On a continuous basis

Objective 25: 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 a comparable and the most 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 Polish circumstances and should constitute the basis for diagnostic and therapeutic protocols. However these guidelines are solely recommendations and do not have binding standards. Uniform protocols based on written standards are the most advanced in the areas of haematology and paediatric haemato-oncology. The national inspection authorities responsible for oncology do not assess adherence to the published guidelines since they lack organisational possibilities and formal remit.

Measure 25.1. Obtaining opinion of the oncological community on the usefulness, transparency and utilisation rate of current recommendations

Any guidelines should also function as a tool for the oncology specialists. If they are to perform this function, they should be formulated with maximum simplicity, usefulness and be user-friendly. The best method to achieve a high-level of acceptance among specialists should be their feedback on the content and form of the currently published guidelines. Such feedback information should highlight the most useful and user-friendly elements, as well as point out 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 societies

Timing

1st Quarter of 2015

Measure 25.2. Continuous revision of recommendations for cancer treatment protocols

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

Responsibility

MH in cooperation with scientific societies

Timing

Periodically (on an annual basis)

Measure 25.3. Development of standard treatment protocols for selected cancer types

The current protocols should become binding standards enforced through an appropriate communication from the Ministry of Health and should be the basis for internal, more detailed patient pathways at the provider level. Any deviation from protocol should be recorded and justified in the patient's medical files. The public payer should systematically monitor the adherence to these standards and the specialist inspection body should carry out periodic analysis and ad-hoc audits of service providers. In the first instance, such audits should focus on the most prevalent cancer types.

The public payer should consider the potential introduction of a bonus system for the service providers who show the highest compliance with the mandatory guidelines.

Responsibility

MH in cooperation with NHF, national specialist inspection and scientific societies

Timing

4th Quarter of 2015

Measure 25.4. Development, implementation and dissemination of IT tools supporting the treatment planning process

The treatment plan developed by a multidisciplinary team consisting of specialists in surgery, clinical oncology, radiation therapy and, where needed, the participation of other specialists, should be structured based on the adopted template. The implementation of the 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 of 2016

Objective 26: Improving the 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 as a result of intervention, but on the patient who participates in the entire diagnostic and therapeutic process. Setting clear objectives and allocating and coordinating tasks drives the chain of specific actions. On the basis of these rules, organisational solutions aimed at the increasing effectiveness of the healthcare system have been developed over many years. The common element of these solutions is the coordination of healthcare, as well as its functional and 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:

- organising healthcare services and managing access to it;
- creating the function of and appointing the care coordinator;
- effectively collaborating within a team of various specialists;
- providing the patient with exhaustive, easyily understood and timely information.

The general concepts of managed healthcare are more selectively applied in oncology as they focus on selected types of cancer or on certain populations at-risk whilst the competencies and roles of healthcare coordinators in oncology may significantly differ.

In Poland, the model of managed care should in the first instance be applied to the most common cancer types such as breast, colorectal, lung and prostate cancer. For the other cancer types, in particular haematological and paediatric cancers, the managed care model should take into account their specificity.

The most important phase of managed care is a multidisciplinary approach throughout the patient pathway starting at the earliest possible point. This allows a co-ordinated team of specialists to agree and plan the optimum sequence of actions.

Measure 26.1. Promoting the multidisciplinary treatment plan before initiation of treatment

Preparation of the treatment plan by a multidisciplinary team of physicians should be a formal procedure that includes a 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 and be compatible with the future approved model and structure that will be used, irrespective of the provider who commences the specific phase of therapy (Measure 25.4). The aim is that 70% of patients should have been subject to a multidisciplinary consultation before the initiation of treatment within 3 years. Such an MDT team should include at least three specialists; i.e. a surgeon, a clinical or a paediatric oncologist and a radiotherapist. In the case of haematological or paediatric cancer, such a team should include a haematologist or a paediatric oncologist respectively.

Responsibility

MH in cooperation with NHF, scientific societies

Timing

4th Quarter of 2017

Measure 26.2. 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 the definition of the function of a cancer care coordinator and assigning appropriate personnel. Initially, such posts should be created at existing oncological centres and rolled out beyond these centres at a later stage. These posts should be held by properly trained healthcare professionals or public health graduates. The training of cancer care co-ordinators should be based on a specially designed programme by a group of experts drawn form multiple disciplines such as medical, social, psych-oncological and legal.

Responsibility

MH in cooperation with NHF, CHCIS, scientific societies

Timing

2nd Quarter of 2016

Objective 27: 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 the 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.

Measure 27.1. 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. The drug manufacturer currently drives the process of establishing a drug programme; therefore, unless the manufacturer applies to the Minister of Health for reimbursement of this drug under such a programme, the drug cannot be reimbursed. The drug manufacturers must initiate any changes to these programmes, and if the Ministry of Health proposes any changes, the consent from 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. Incentives to provide access to novel therapies must be put in place at the same time as a framework for providing obligatory access to products that are of particular importance from the perspective of the public interest.

Responsibility

MH in cooperation with AHTA, NHF, scientific societies

Timing

3rd Quarter of 2015

Measure 27.2. Creating mechanisms for rapid modification of the provisions of the existing drug programmes

All changes in the drug programmes are very time consuming – the timelines that are the result of the Reimbursement Act prevent any flexibility in drug programmes that should take into account 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 AHTA, NHF, , scientific societies

Timing

2nd Quarter of 2015

Measure 27.3. Feasibility study to establish a 'fast path' for reimbursement of novel cancer therapies or new diagnostic methods

Under the current legislation every innovative medicinal product follows the same path; starting with registration through the submission of an application for reimbursement and ending with an administrative decision. The current Polish regulations do not provide an option for the 'conditional reimbursement' of novel therapies supported by the outcomes of clinical studies, and these therefore cannot be made rapidly available due to the lengthy administrative process.

An option of such conditional procedures should be created for selected therapies of critical importance for health. .

Responsibility

MH in cooperation with AHTA, NHF, scientific societies

Timing

4th Quarter of 2015

Measure 27.4. Facilitating access to targeted therapies through the development of molecular diagnostics

Increasingly frequently, selected diseases are treated with targeted therapies based on the determination of molecular predictive factors in cancer cells. As such, access to targeted therapies is strictly linked with access to adequate genetic diagnostics. This should be available based on clinical indications and reimbursed from public funds, rather than paid for by the drug manufacturers, as is currently the case. It is therefore necessary develop appropriate methods for financing such diagnostics both within and beyond the drug programmes with the public payer.

Responsibility

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

Timing

1st Quarter of 2016

Measure 27.5. Preparation and implementation of 'fee for performance' methods

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. This 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 the desired system changes.

Responsibility

MH in cooperation with NHF

Timing

4th Quarter of 2016

Measure 27.6. Named patient access programmes for cancer therapies not included in the list of reimbursed drugs

The current legislation allows funds allocated for non-standard chemotherapy (or the programme of individual access to cancer drugs provided in the draft provisions amending the Reimbursement Act) to be used only for the products registered before 1 January 2012 and that are not included in the list of reimbursed drugs. Nevertheless, current knowledge cannot predict all the potential clinical scenarios; in particular those where the administration of a non-reimbursed drug could result in a superior outcome for a given patient. It is therefore justified to establish a mechanism of named patient access to substances not included in the list of reimbursed drugs and/or to allow the use of reimbursed drugs in off-label indications beyond the reimbursement provisions. 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.

Responsibility

NHF in cooperation with MH,

Timing

4th Quarter of 2015

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 the 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, the public are increasingly perceiving cancer as a chronic but not necessarily fatal disease and a growing number of cancer patients die of other civilisation diseases. In this context, ensuring quality of life and not only achieving the maximum survival takes on particular importance. This 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.

When 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 the 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% of cases, this should be provided within the framework of home-based or community care and only 25% of 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. As they bear the brunt of patient care in the last stretch of the disease.

This standard of 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 ones);

- Educational packages for families and other caregivers of the patient.

While making use of each aforementioned form of care, the 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 28: 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 their 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's 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 the 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, the increasing number of cancer survivors means the need in this area will grow, which means that it is necessary to develop adequate systemic solutions and to provide support to NGOs active in the area of rehabilitation and psychological support.

Measure 28.1. Ensuring psychological support during and after the treatment

Cancer diagnosis and treatment may cause significant emotional consequences for patients and their families. The treatment of emotional distress must be perceived as an integral part of care that comprises quality of life and a comprehensive approach to oncological care. According to the meta-analysis conducted on 10,000 cancer patients subjected to radical treatment, 16.3% had a diagnosis of clinical depression, 19.4% had adjustment disorders and 10% had anxiety disorders. Mixed diagnoses includeddepressions of various types (20%), depressions and adjustment disorders (31%) and mood disorders of any type (38%), among others. In some cancer care centres, psycho-oncological outpatient clinics financed by the NHF have been established within the psychological outpatient centres. The increased availability of this form of psychological help 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. The implementation of a "distress meter", in both the outpatient and inpatient settings, that measures physical, emotional and practical problems, as well as the 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 for oncologists and other members of the medical staff who look after cancer patients; including training in basic psycho-oncology as part of under-graduate and post-graduate medical and nursing curriculum, easy access to professional counselling, as well as electronically assisted network of psycho-oncological cooperation and consulting. Active collaboration of the oncological centres with NGOs that organise support groups for patients during and after the cancer should also be promoted.

Responsibility

MH in cooperation with NHF, scientific societies

Timing

On a continuous basis

Measure 28.2. Setting up the 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 the physical and psychological distress. Patients' 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 the insufficient knowledge of the medical staff about rehabilitation during and after cancer, there are limited possibilities of access to such services in many rehabilitation centres located outside cancer care centres. The establishment of NHF-financed cancer 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 cancer 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 societies

Timing

3rd Quarter of 2016

Measure 28.3. Ensuring broader access to modern surgical techniques

Approximately 30% of breast cancer patients in Poland undergo a form of breast conserving surgery. In the best national centres this rate reaches 50%, whereas in 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 should promote the development of minimally invasive surgery and training therein more broadly.

The 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 taken 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 29: 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 for travel to the place of treatment, childcare or drugs and nutritional supplements that may exceed the financial capabilities of patients and their families. In 2011 over 15% of 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 neither systematically monitored nor analysed in Poland. There seems to be a group of individuals who do not wish to continue receiving cancer treatment for various reasons. Measuring the scale of this phenomenon and understating the motivation, problems and needs of these patients should help reduce its scale.

Measure 29.1. Development of community care and social care for patients and their families

At present, analyses concerning the quality of life of patients both during and after cancer are very limited in Poland. The increased use of instruments measuring the 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, education and support of the main caregivers, as well as dependents (e.g. children), will enhance the sense of patient security and allow increased use of ambulatory and outpatient care.

Responsibility

MH in cooperation with MLSP, NHF

Timing

On a continuous basis

Measure 29.2. Facilitating return to occupational activity

Information campaigns (supported by NGOs and others) relating to the 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.

For patients who had to discontinue their education during treatment, more personalised adapted curricula should be created to allow continuous education.

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

Responsibility

MLSP in cooperation with MH, MNE, MSHE

Timing

On a continuous basis

Objective 30: Improving patient and family care in the terminal stage of cancer

Palliative care improves the quality of life of both patients facing progressing, incurable disease and their families. 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 the 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 and 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 terminal 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, especially in its terminal stage.

Palliative care in Poland is provided in three basic forms: inpatient services in stand-alone hospices or in hospital departments for 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 partly by haematology units, partly through other hospital departments. The total expenditure on palliative care in 2013 exceeded PLN 350 million, and approximately 100,000 patients benefited from this palliative and hospice care. However, 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 30.1. Development of a network of palliative care centres

Further development of both the inpatient and outpatient care units, as well as widening the scope of services provided to include some adjuvant treatments, should improve access for patients in the terminal 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 as well as ensure the earliest possible integration of oncological and palliative care if required.

Responsibility

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

Timing

On a continuous basis

Measure 30.2. 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 primary healthcare, domiciliary 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 domiciliary and hospice care, especially in considering the predicted growth in cancer incidence in Poland.

Responsibility

MH in cooperation with LGUs, NHF

Timing

4th Quarter of 2017

Measure 30.3. Pain management

Pain affects patients in various phases of cancer and significantly reduces the quality of life. Pain can be managed in 70-90% of patients. In Poland, however, pain-relief is often unsatisfactory. The 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 societies

Timing

On a continuous basis

Measure 30.4. Development of voluntary care for disabled and chronically ill patients

Improving the quality of life for cancer patients should take into account care needed required after the completion of the acute treatment. It is 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 the clinical care should be available and should include both 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. It also serves as a measure of maturity and the ability to shape positive attitudes in the civil society. Equally important is the 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 the implementation of the Strategy

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

The realisation of measures included 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 needs a broad consensus of oncological, scientific and patient communities, and, in the first place, the commitment of the central level authorities and the NHF. The National Cancer Control Centre will play the essential role in the coordination and management of the process of implementation of the Strategy for Cancer Control in Poland. Its establishment and the securing of adequate resources for its operation in the earliest possible phase of Strategy implementation is one of the key factors for its success. The publication of the annual reports presenting the level of Strategy performance, prepared for the Ministry of Health and made available to the public, will be one of the tools for monitoring the real advances in cancer control in Poland.

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

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

Basic epidemiological indicators

Morbidity rates for specific cancers

Mortality rates for specific cancers

5-year survival rates for specific cancers

10-year survival rates for specific cancers

I. Organisation and management of the system for cancer control

Establishment of the National Cancer Control Coordination Centre (NCCCC)

Number of established BCUs and CCUs

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

Number of the monitored cancer care quality indicators

Number of the established centres for rare cancer treatment

Proportion of patients treated in rare cancer treatment centres

Number of the appointed points of oncological information

Completeness of the registration of cancer incidence in individual regions

Completeness of the registration of cancer stage

Completeness of the registration of histopathological diagnoses

Number of monitored patient assessment indicators

Number of new registered events in the process of diagnosis and treatment

Number of new or revised legal acts (laws, regulations, ordinances)

Number of oncology specialists in Poland by voivodeship

Number of established positions for cancer care coordinators

Proportion of patients who got help from the 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 the Polish research teams

Number of international projects in the area of oncology conducted with the participation of the Polish research teams

Number of new clinical oncological centres in medical schools

Proportion of cancer patients treated in academic centres

Number of the established reference laboratories

III. Primary and secondary prevention

Proportion of cigarette smokers

Proportion of cigarette smokers under the age of 18 years

Cigarette sales volume (in pcs)

Cigarette sales volume (value)

Average alcohol consumption per capita

Proportion of population with BMI ≥ 25 and 29

Proportion of children with overweight and obesity

Number of persons exposed to carcinogenic factors in the workplace

Number of persons exposed to carcinogenic chemical substances in the workplace

Number of intervention programmes relating to healthy eating in schools

Number of persons who stopped smoking in a given year

Number of performed tests for HPV infection

Number of girls vaccinated against HPV

Number of persons attending solaria

Number of minors attending solaria

Number of solaria

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

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

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

Proportion of mammography tests conducted beyond the programme of early diagnostics

Proportion of cytology tests conducted beyond the programme of early diagnosis

Proportion of colonoscopy tests conducted beyond the programme of early diagnosis

Proportion of persons with cancer diagnosed in stage T1 orT2

Proportion of breast and cervical cancers detected in the in situ stage

Proportion of 5-year survivals in specific cancers

Mortality rates for specific cancers

Coefficient of variation in mammography attendance in individual voivodeships

Coefficient of variation in cytology attendance in individual voivodeships

Coefficient of variation in colonoscopy attendance in individual voivodeships

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 the primary healthcare physician

Proportion of interval cancers

Satisfaction level of patients participating in preventive tests

Proportion of persons referred to further diagnostic testing (recall rate)

IV. Diagnosis and treatment

Period of waiting for diagnostic tests in individual voivodeships

Expenditure on oncological treatment per *capita* in individual voivodeships with regard to migration and morbidity

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

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

Number of centres for prompt diagnostics

Proportion of patients diagnosed in the centres for prompt diagnostics

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

Proportion of cancer patients undergoing outpatient chemotherapy

Proportion of cancer patients undergoing outpatient radiation therapy

Number of persons with detected mutations determining the increased risk of developing breast and ovarian cancer

Number of persons with detected mutations determining the increased risk of developing colorectal cancer

Number of persons with detected mutations determining the 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

Average time of waiting for chemotherapy services

Average time of waiting for oncological surgery services

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 the preparation of the treatment plan by a multidisciplinary consultation team

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

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 voivodeships

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

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

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.

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.

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

Chemotherapy – a category of systemic cancer treatment, which uses chemical substances that affect cancer cells. The principle of chemotherapy is the protocol based administration of cytotoxic drugs that destroy cancer cells or impair cell division.

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

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

Diagnostic imaging – techniques that allow the visualization of tissue changes, their size, 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 the disease and its treatment.

External beam radiotherapy (EBRT) – treatment with ionizing radiation from an external source of radiation (in contrast to brachytherapy where a radiation source is placed internally in the body next to the area requiring treatment).

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.

Guaranteed benefits – health care benefits that are wholly or partially financed from public funds as described by the Act on health care benefits financed from public funds from 27 August 2004.

Hirsch index – (h-index) index that measures the impact and the importance of publications of a given author, based on 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.

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

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.

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

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

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

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

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

Primary prevention – actions designed to prevent the disease from occurring in the first place through eliminating or diminishing risk factors.

Radiotherapy – treatment with ionizing radiation that works by damaging the DNA of cells. 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 a type of radiation.

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.

Secondary prevention – early diagnosis of asymptomatic disease, or a pre-disease state, usually based on screening programmes or incidental findings.

Standardized incidence (mortality) rate – the number of cases (deaths) per 100, 000 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 is necessary when comparing populations that differ with respect to size and age structure.

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.

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.

Abbreviations

AHTA	Agency for Health Technology Assessment
AICR	American Institute for Cancer Research
AMA	Agricultural Market Agency
BU	Breast unit
CCIO	Maria Sklodowska-Curie Memorial Cancer Center and Institute of Oncology
CCU	Colorectal cancer unit
CFP	College of Family Physicians
CHCIS	Centre of Health Care Information Systems
CNM	Chamber of Nurses and Midwives
CPME	Centre for Postgraduate Medical Education
CQM	Centre for Quality Monitoring
CRAMS	Conference of Rectors of Academic medical
CRF	Cancer Report Form
CSI	Chief Sanitary Inspector
CSO	Central Statistical Office
CT	Computer tomography
EBM	Evidence-based medicine
EQA	European Quality Assurance
EUSOMA	European Society of Mastology
HBV	Hepatitis B virus
HPV	Human Papilloma virus
IGPDP	Inspector General for Personal Data Protection
IOM	Institute of Occupational Medicine in Lódź
IRCI	International Rare Cancers Initiative
ISO	International Organization for Standarization

ISPM	Information System for Prevention Monitoring
LFNI	National Food and Nutrition Institute
LGU	Local Government Unit
MAD	Ministry of Administration and Digitisation
MF	Ministry of Finance
MH	Ministry of Health
MLSP	Ministry of Labour and Social Policy
MNE	Ministry of National Education
MR	Magnetic resonance
MSHE	Ministry of Science and Higher Education
NBC	National Broadcasting Council
NCCC	National Cancer Control Centre
NCCP	National Cancer Control Programme
NCLD	National Chamber of Laboratory Diagnosticians
NCR	National Cancer Registry
NCRD	National Centre for Research and Development
NFNI	National Food and Nutrition Institute
NHF	National Health Fund
NIH	National Institute of Hygiene
NIOM	Nofer Institute of Occupational Medicine
NLI	National Labour Inspectorate
NSC	National Science Centre
PCPD	Polish Chamber of Physicians and Dentists
PET	Positron Emission Tomography
PHC	Primary Health Care
PLN	Polish zloty
POS	Polish Oncological Society
PSD	Polish Society of Dietetics

PSFM	Polish Society of Family Medicine
PSG	Polish Society of Genetics
PSHG	Polish Society of Human Genetics
PSLD	Polish Society of Laboratory Diagnostics
PSOS	Polish Society of Oncological Surgery
PSP	Polish Society of Pathologists
RTG	X-ray imaging
USG	Ultrasonography
UV	Ultraviolet radiation
WCFR	World Cancer Research Fund

Literature

Literature

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