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"From Basic to Translational Research in Oncology"

Deliverable D2.10

Guidelines and Policy Recommendation for engagement of translational research in stimulating secondary prevention and new methods of cancer diagnostics and treatment

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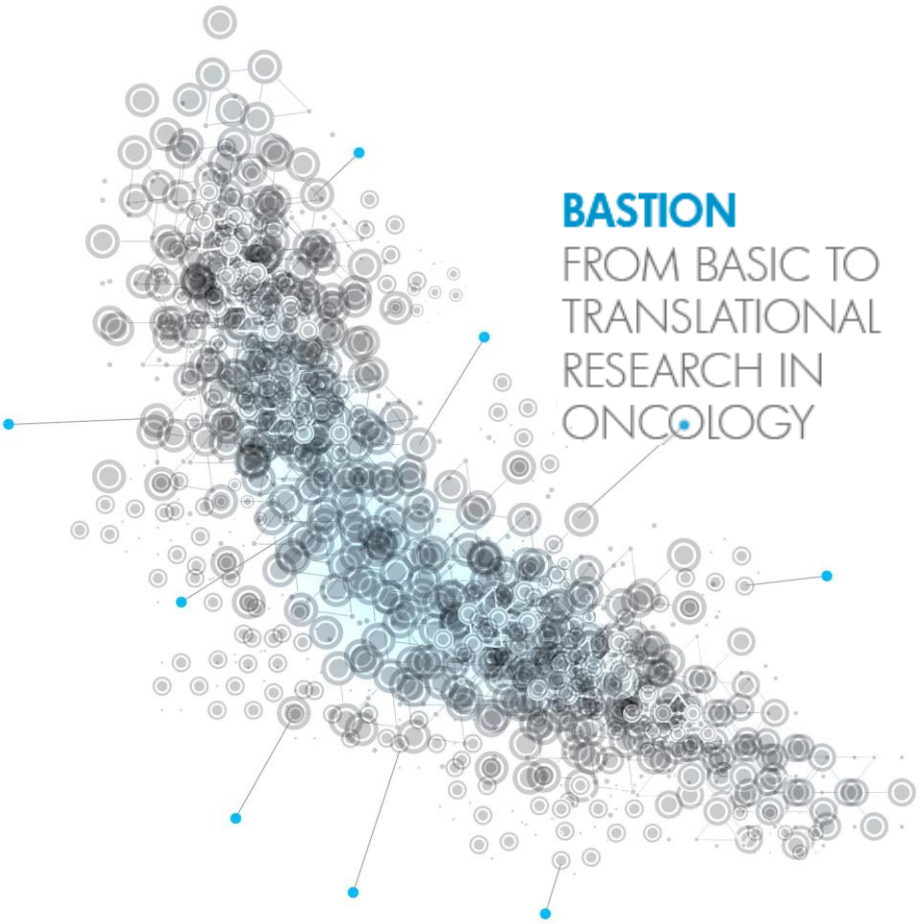
Introduction

Deliverable D2.10 corresponds to the task T2 (T2.6) in WP2, that was delivered in time.

It consists of a Policy Paper with guidelines and recommendations for Ministry of Health, the National Health Fund and health providers (hospitals and clinics). The aim is to propose a set of actions to improve cancer prevention and engage in translational research in order to close the gap between EU-15 and convergence regions of CEE.

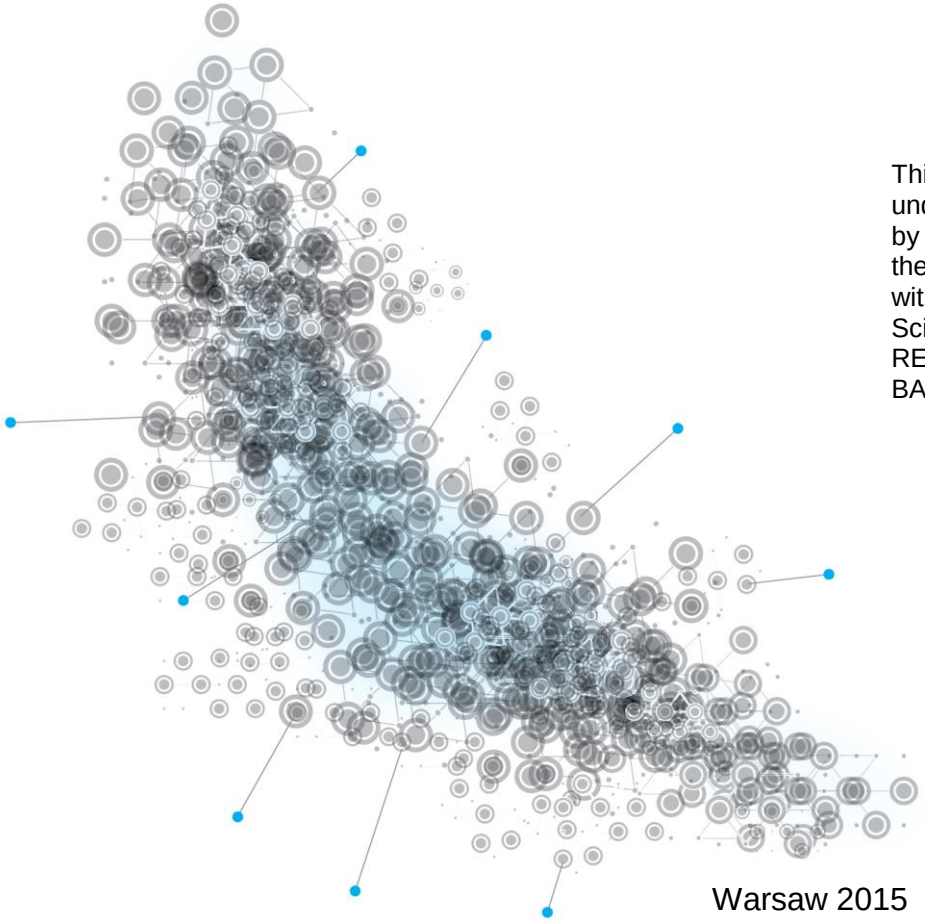
Policy Paper

Complete Policy Paper is provided below:



BASTION
FROM BASIC TO TRANSLATIONAL RESEARCH IN ONCOLOGY

POLICY PAPER FOR A NEW STATE POLICY CONCERNING PERSONALIZED CANCER PREVENTION IN POLAND



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Warsaw 2015

Table of contents

Summary

The incidence of cancer-related diseases is on the rise and they are the main cause of premature death in people below 65 years of age. Chance of patient recovery is significantly increased in the case of cancers detected at an early stage. However, since early symptoms of most cancers are non-specific and often ignored by patients and primary health care physicians, it is vital to conduct well-targeted screening and to adapt diagnostic methods to the needs of individual patients and particular diseases.

Cancers are caused by changes in the genes. It is estimated that every 5th patient is affected because of being born with a disease-causing mutation (change in a gene), which significantly increases the risk of developing the cancer. This particularly includes breast, colon and prostate cancer, where the mutation in specific genes increases the risk up to 13-fold.

In Western countries, emphasis is being increasingly placed on performing proper screenings. Apart from common diagnostic imaging, genetic diagnostics is also used, which, through analysing gene sequences associated with cancer make it possible to determine the risk of the patient developing the cancer, thus allowing proper adjustment of the frequency of tests. Tests such as mammograms, breast magnetic resonance imaging or colonoscopy in the case of the colorectal cancer, should be performed significantly more often in the increased risk group. Proper adjustment of diagnostic methods makes it possible to prevent the disease or to detect cancer at a very early stage, which significantly increases the chances of patient recovery. Such measures not only are part of the state health care policy, but they also have a significant impact on economic growth, as good public health is its major determinant. Poor public health generates significant costs not only at the individual, but also at the national level. It is estimated that cancer patients generate approx. 9% of the lost productivity cost, which in Poland amounted to almost PLN 50 billion in 2010. Therefore, introduction of a new cancer prevention policy seems essential to raise the quality of life in Poland; it requires, however, changing the public approach to new methods applied in medicine.

The purpose of this document is to present a new policy for cancer prevention, targeted, among others, at making diagnostic cancer tests that are essential for implementing personalized prevention programme of each patient, commonly

accessible in Poland. Personalized prevention is closely related to the individual, specifically defined risk of particular patients developing particular cancers. The document presents assumptions of oncology-related programmes currently operating in Poland, an analysis has been conducted of gaining potential savings generated by the introduction of genetic diagnostics to oncology and the results have been presented of social study, carried out for the purposes of this document, concerning Polish awareness in terms of cancer prevention and genetic tests.

The study found that the major source of information on cancer (40% of responses) are websites followed by the popular press (13%). Only 11% of respondents indicated a physician, and 10% the specialist press. Later, media appear again: online forums (9.5%), TV (7%) and blogs (5%). These data are quite disturbing, as they indicate that only 1 in 10 persons acquire this kind of knowledge from a physician, while, on the other hand, indicating information channels that should be used to reach the majority of the population. Importantly, the study found that the vast majority (96%) of respondents believe that it is possible to carry out genetic tests in Poland, while 99% of respondents are in favour of conducting this type of tests. At the same time, however, the majority of respondents are not aware of how such a test may be conducted nor what its purpose is. As regards the motivation to undergo the test, what prevails are answers citing the experience of illness in the immediate vicinity of the respondent (36%). More than a quarter declare their willingness to perform the test, if only there was such a possibility, while 14% said their motivation resulted from experiencing the disease in the extended family. Every twentieth person would not undergo such a test, mainly for fear of awareness of the risk influencing their own lives, and due to the inability to finance the test. The less educated and the older the person, the greater the percentage of declarations of not undergoing the test. It seems, therefore, that these persons represent an important target group in all social campaigns planned.

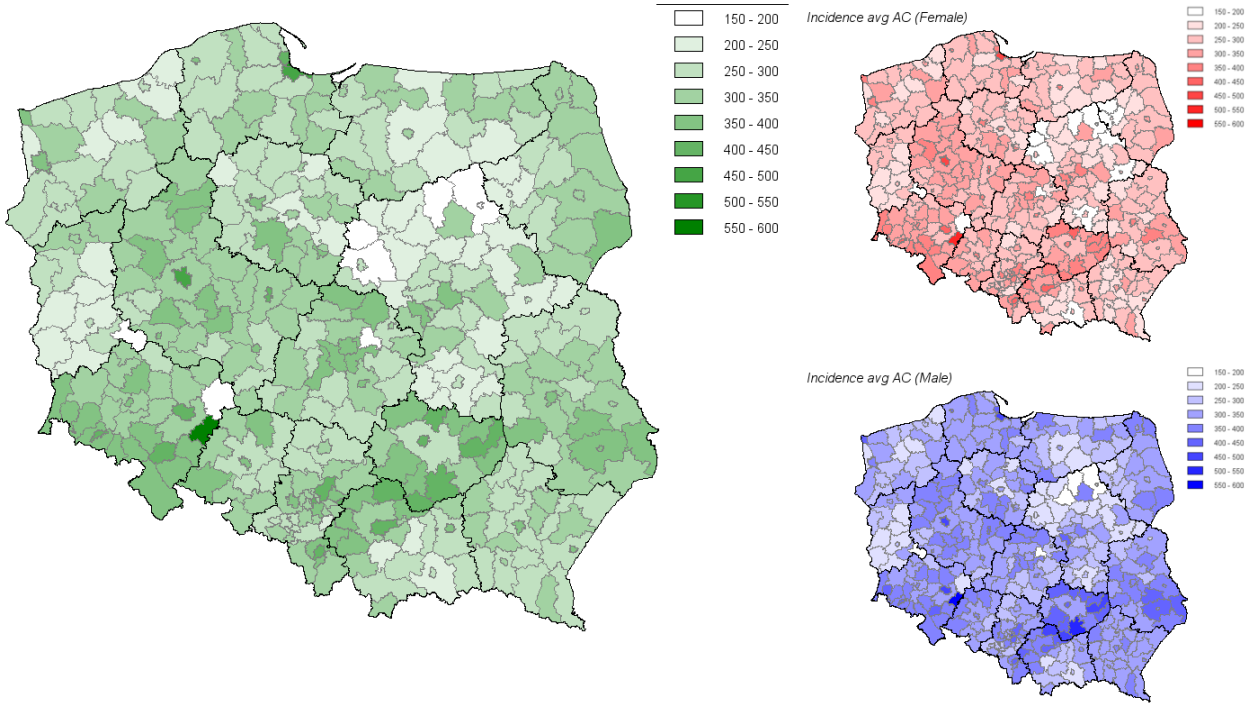
The last part of the paper proposes a scheme of a social campaign targeted at informing the public about the need of carrying out proper preventive tests. The primary objective of the campaign is to raise public awareness in order to reduce the number of patients reporting to a physician at an advanced stage of cancer. The campaign should mainly focus on raising awareness of the consequences of late cancer diagnoses, i.e. on negative effects for the patient and their significant ones, as well as on presenting all kinds of benefits of preventive screening combined with

informing about the possibilities of undergoing a particular test. The campaign introduces 6 target groups for whom separate, tailor-made modes of communication were developed, and major sources of receiving information.

Introduction – Preventive Oncology in Poland

According to WHO, in the twenty-first century malignant tumours will become the major killer of people worldwide. In Poland, the number of cancer cases more than doubled over the past three decades, reaching more than 140.5 thousand cases in 2010, of which approximately 70 thousand in men and 70.5 thousand in women. The forecasts presented by the Polish Oncological Society predict a significant increase of more than 25% in the incidence by 2025.

Figure 1 Incidence of cancer in Poland by country region and sex of the patient



According to specialists from the Polish Union of Oncology, most patients ignore first symptoms of cancer, and, even worse, they are not recognized by physicians who do not deal in oncology. In Poland, recovery or five-year survival occur in less than 30% of cancer patients, with significant variations in particular regions of the country. The percentage differs from the rapidly improving situation in northern and western Europe, where more than 40% recover and in the US, with 50% of recoveries. The main reason for the unfavourable situation in Poland is a too low percentage of early diagnosis of malignant tumours, especially in the case of the cervix, breast, colon and prostate cancers, resulting from, among others, insufficient preparation among family

doctors and other primary specialities as well as inadequate popularisation of early detection methods. Another very important reason is the public insufficiently using common screening tests and low social awareness regarding preventive tests. It is expected that in 2025 approximately 163 thousand persons will develop malignant tumours in Poland and 122 thousand patients will die in the same year. We know that based on current knowledge and medical tests in 1/3 cases we are able to prevent cancer development, to cure 1/3 if detected at an early stage and we are able to substantially improve the standard of living in 1/3 of patients.

In 2005, Poland ranked last in Europe in terms of cancer treatment availability. To change this, it was necessary to change the method of financing diagnosis and cancer treatment. In 2005 the Polish Sejm recognised this necessity by adopting the National Programme for Combating Cancer for the years 2005-2015. The ten highest priorities of the programme include the implementation of early common (cancer) detection programs, in particular cervix, breast and colorectal cancer, and selected cancers in children. For this purpose, the legislator allocated a budget specially chosen from the entire programme, which may not be less than PLN 25 million per year (Art.7.1.3.). In 2015 Poland saw the launch of a legislation package colloquially known as the Cancer Package. Under the package the patient has a guarantee of a rapid diagnosis and, if needed, treatment. Also under this package, cancer patients receive comprehensive medical care at every stage of treatment. Unfortunately, the package does not include screening. However, one of the main advantages of introducing these solutions is the extended debate on the diagnosis of malignant tumours among the GPs. One of the recommendations of the Fight Against Cancer Code concerns screening to assess the risk of the most common cancers: cervical, breast and colorectal cancer.

Recently Poland saw a decline in cervical cancer mortality, although its level is still among the highest in the European Union. Since 2006 Poland has been operating a screening programme of this type for persons aged 25-59. Unfortunately, its range is still unsatisfactory, as it covers approx. 22% of women in the target group. As a result, over almost ten years of the programme, by 31 April 2015, 2.1 million women were tested, while there were approx. 10 million women in this age group in 2013.

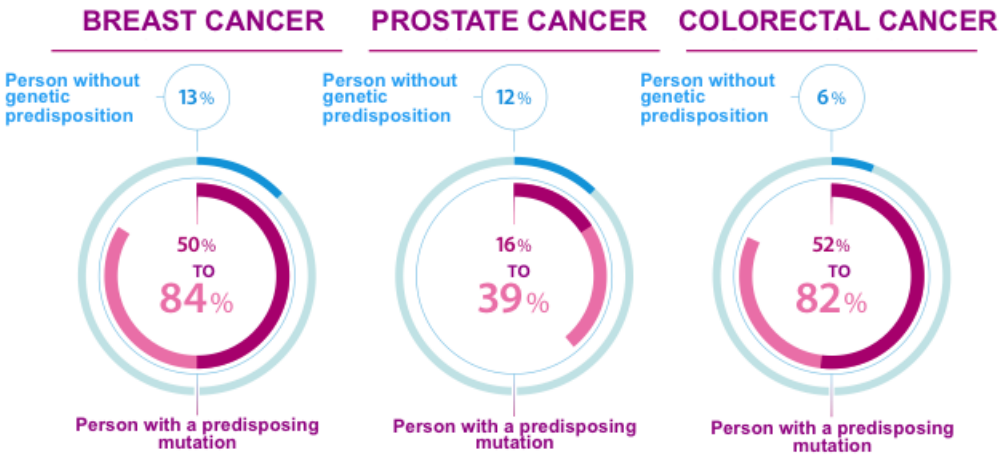
Screening for breast cancer (introduced in 2006) is a very important part of the aforementioned National Programme for Combating Cancer. Mammograms are offered to women aged 50-69 who are invited to take the test every two years. Only

approx. 44% of women in the target group are covered under the programme. By 31 April 2015, 2.4 million women were tested, while there were approx. 5.2 million women in this age group in 2013. Colorectal cancer is one of the most common malignant tumours found in the European population. Despite the growing body of evidence on the effectiveness of screening for colorectal cancer, most inhabitants of developed countries were not covered by such tests. This means a missed opportunity to prevent about 25% of 138 thousand colorectal cancer deaths per year reported in the European Union countries. Currently, it is recommended to perform screening for occult blood every 2 years, although the test profitability was also demonstrated if performed once a year. Since 2000, a pilot screening programme dedicated for persons aged 50-65 has been operating in Poland.

The programme provides for colonoscopy performed once every 10 years. It operates in more than 80 centres throughout the country and it is funded by the Ministry of Health. 318 thousand tests were performed during thirteen years of its operation (by 2012).

In order to successfully take advantage of these programmes it is necessary to raise patient awareness regarding cancer prevention and to increase the availability of tests, including prevention and screening genetic tests that will enable earlier identification of patients at increased risk. Such tests are especially recommended for patients with cancer history in their family, indicating the potential risk of inheriting the mutation predisposing to cancer development. As illustrated in the figure below, the risk of developing cancer is increased up to 13-fold with a particular mutation.

Figure 2 Cancer development risk depending on the presence of a predisposing mutation



Introduction – Preventive Oncology in the world

While only 20% of cancer patients in Poland are gradually being treated at the early stages of the disease, in other European Union countries and in the US the figure is as high as 80%. According to the WHO, in the twenty-first century cancer will become the major killer of people around the world, which makes Western countries attach increasing importance to appropriate cancer prevention programmes. They allocate large funds for research into cancer prevention, diagnosis and treatment, as well as for social campaigns promoting healthy lifestyles and early diagnosis.

Early diagnosis more and more often includes genetic tests for determining the risk of developing particular cancers. In the US, the National Institute of Health recommendations indicate the need to perform a genetic test in every person with a family history of breast or colorectal cancer, if there were multiple tumour cases in one family.

Preventive oncology as an element of personalized medicine – analysis of savings in the health care system

Personalized medicine and broadly defined prevention are the future of economic assumptions of global health care policy. The ability to assess genetic data, in particular mutations related to the onset of the disease, currently allow stratification of patients, i.e. defining subgroups with specific characteristics, while treating these sub-groups only with specially selected therapies can increase treatment effectiveness, including the reduction of its cost. This method, though characterised by improvement in diagnosis and conventional treatment, has limitations related to the number of mutations defined in patients. Assessing one or even several mutations often does not allow a comprehensive assessment of efficacy, as it does not take into account metabolic or environmental data that are unique to each patient. Personalized medicine, considered to be the future and the challenge of the nowadays medicine, is an extension of the patient stratification methods and is focused on tailoring the treatment to the unique parameters of each patient.

Costs of cancer treatment are among the highest and fastest growing health

expenses. Economic models used to estimate cost reduction and potential savings are constructed based on cost categories broken down by incurred cost and avoidable cost, as shown in the table below.

Table 1 Types of costs in modelling health care spending

Types of Economic Evaluation in Health Care				
Study Design	**Costs Measured?**	**Outcomes Measured?**	**Strengths**	**Weaknesses**
Cost-minimization	Yes	Not necessary	Easy to perform	Useful only if outcomes are the same for both interventions
Cost-benefit	Yes	Yes, in monetary terms	Good theoretical foundation; can be used within health care and across sectors of the economy	Less commonly accepted by health care decision makers; evaluation of benefits methodologically challenging
Cost-effectiveness	Yes	Yes, in clinical terms (events, life years)	Relevant for clinicians; Easily understandable	Cannot compare interventions across disease areas when using disease specific endpoints.
Cost-utility	Yes	Yes, in quality-adjusted life-years (QALY)	Incorporates quality of life; Comparable across disease areas and interventions; Standard	Requires evaluation of patient preferences; Can be difficult to interpret

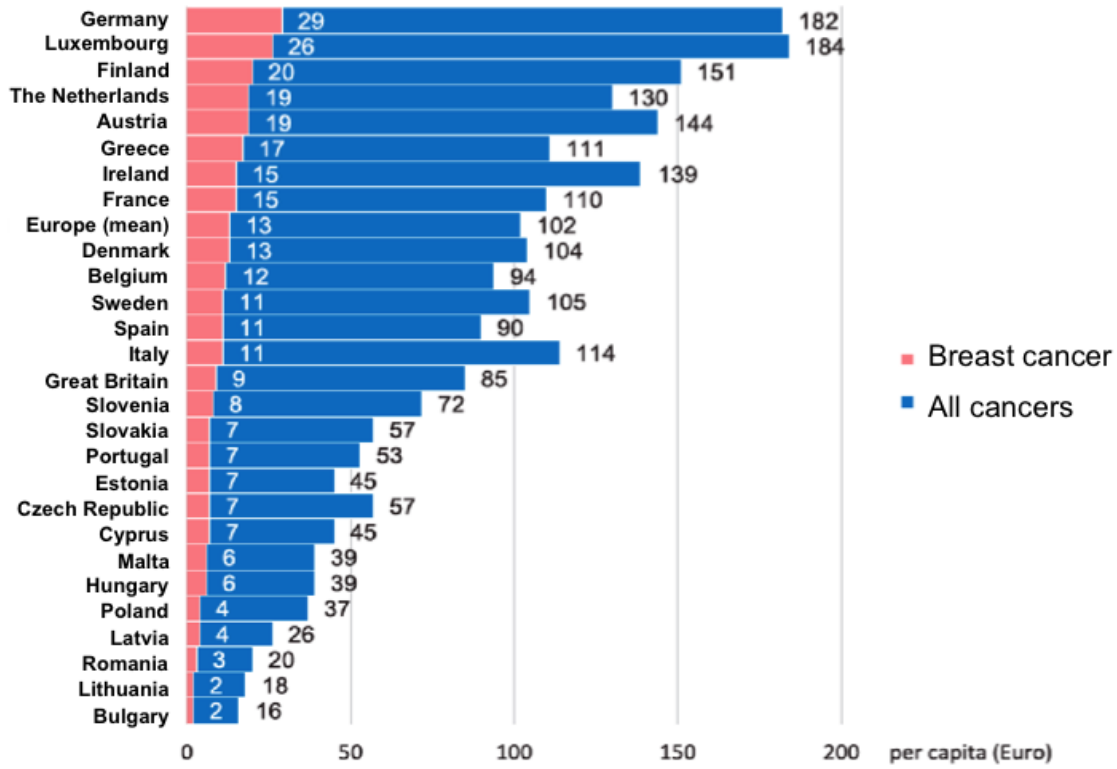
Source: Assessing the Economics of Genomic Medicine Catherine Wicklund, MS, CGC, Northwestern University, Feinberg School of Medicine Center for Genetic Medicine, 2012

Given the cost-effectiveness of popularizing the use of genetic cancer testing, there arises a simple inference of a significant reduction in costs incurred for clinical treatment in the long term. However, there is no cogent and detailed known data on the potential economic benefits for the health care system, neither at national nor community scale.

To illustrate potential savings that may result from supplementing cancer prevention, the example was used of the tumour covered by the most widely-ranging screening in Poland, i.e, breast cancer. The spendings for treating patients with breast cancer in Poland amount to 4 euros per capita, while the same value for the European Union is more than three times greater, i.e. 13 euros. The loss of revenue due to the inability to work of a woman suffering from advanced breast cancer was also

estimated. Inability to work is causing an average loss of GDP of approx. 35 thousand PLN per case, and for women aged less than 45 the amount increases to as much as approx. PLN 70 thousand. This group involves particularly high costs due to temporary incapacity to work. In the event of premature death of women suffering from breast cancer, overall costs of lost productivity are estimated at over 800 million PLN per annum. In a report published in 2013, the total cost of lost productivity due to premature death of 1713 patients suffering from breast cancer who died in 2012 was estimated at over 884 million PLN, of which 152 million PLN in those aged 40-44, 212 million PLN in those aged 45-49, 228 million PLN in those aged 50-54, and 123 million PLN in those aged 55-59.

Figure 3 Average spending on cancer-related medical services highlighting the costs of treatment



Source: Report "Breast cancer in Poland – treating means investing", Warsaw, October 2014, p. 36

An important portion of the expenditures are those incurred by the social security system. Women who have been or are being treated for breast cancer require sickness, disability or rehabilitation benefits paid by the Social Insurance Institution

(ZUS). In 2012, 232 million PLN were paid for the benefits related to work disability resulting from developing a malignant breast cancer. 61% of this amount (i.e. 142 million PLN) were pensions.

Figure 4 Annual social costs of breast cancer, not including the costs of prevention and drug reimbursement

Treatment costs
Expenses for diagnostics and treatment National Health Fund 733 million PLN Patients up to 20 thousand PLN per person

Losses due to breast cancer		
Public finances	**Future costs =**	**Intangible losses**
Social Insurance Institution 733 million PLN Patients up to 70 thousand PLN per person (income loss)	Loss productivity cost / 884 million PLN per annum	Related to mental state, losing a job or a partner, reduced or lost fertility etc.

The estimation described above documents that additional spending on awareness campaign and increasing publicly available cancer prevention packages will have a significant impact on the budget of the health care system in Poland. Notwithstanding the above, as stated in the White Paper "Together for Health: A Strategic Approach for the EU 2008-2013": "Health spendings are not only a cost, but also an investment. These spendings can be considered to be an economic burden, but what is the real cost to society are direct and indirect costs related to ill-health and lack of sufficient investment in relevant health care areas."

Preventive oncology as an element of personalized medicine – analysis of social attitude

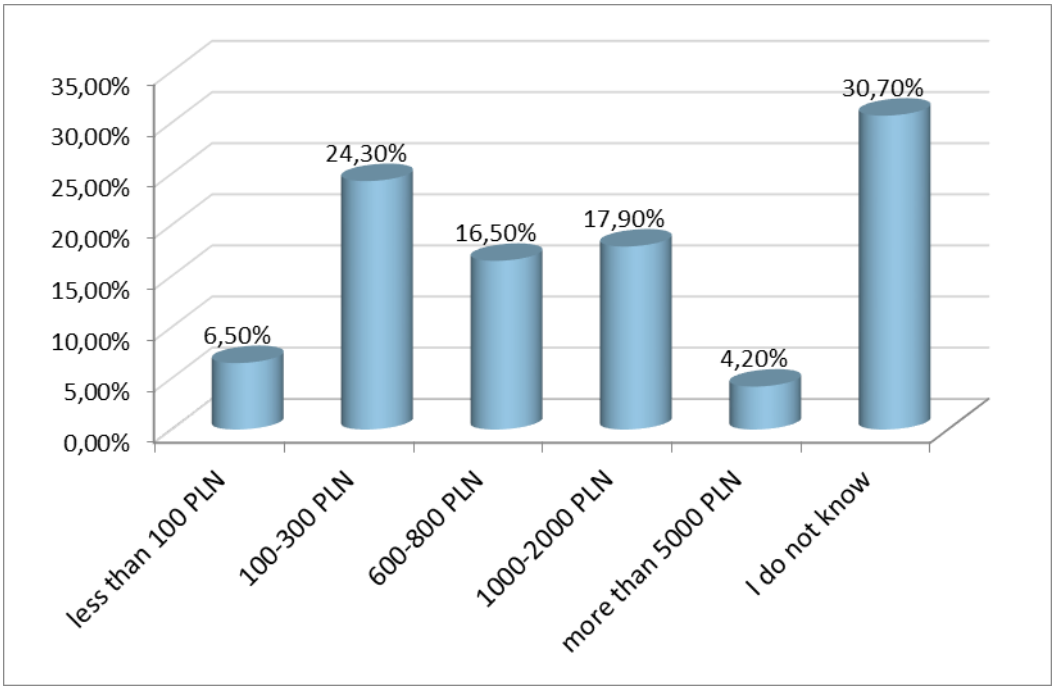
In order to determine the social attitude towards genetic research and cancer prevention, a social survey on a random sample of 349 adult residents of Poland has been conducted as part of this project. To increase the reliability of the survey, random fixed and mobile phone numbers have been combined. The study lasted from 23 March to 2 April. 26% of people contacted by phone by the pollsters agreed to participate in the survey. The average duration of a conversation with the

respondent amounted to 6.03 minutes. A sample that was representative in terms of age and education for the nationwide population in the age group 18-89 has been acquired. Due to the over-representation of women in the sample, a post-stratification weight has been applied. The maximum proportional standard error for the sample size used is 2.6% (assuming 2.5% for the gross sample of 400, so that the difference with the net sample amounted to 0.1%).

Awareness of genetic tests and the manner of their performance

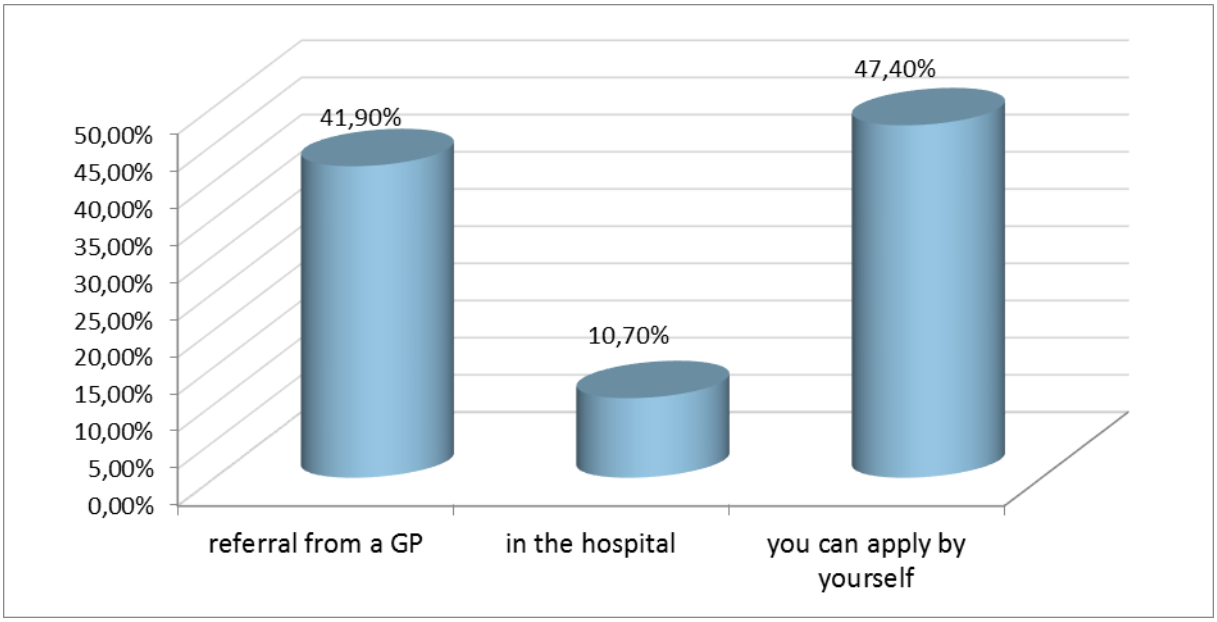
The vast majority (96%) of respondents believe it is possible to perform genetic testing in Poland. These declarations are not significantly related to sex, education nor the size of the place of residence of the respondent. According to the respondents, the material for the tests is mostly collected from blood (36% indicating this category), any part of the body (20%) and bone marrow (19.5%). The least frequent answer (2.6%) was “from skin”. Nearly half (47%) of respondents believe that the cost of genetic testing does not exceed 800 PLN. The most commonly cited answer (24% of valid answers) were values ranging between 100 and 300 PLN. 18% of respondents indicated the cost of the order of 1-2 thousand PLN, slightly more than 4% – an amount over 5 thousand PLN. Importantly, almost one third admitted lack of knowledge.

Figure 5 Awareness of the cost of genetic testing – answers of the respondents to the question about the cost of testing



The largest proportion of respondents (47%) believe that it is possible to apply for genetic testing on one's own. Slightly fewer (42%) indicate that a referral from a GP is necessary. 11% answered that the test could be performed at a hospital.

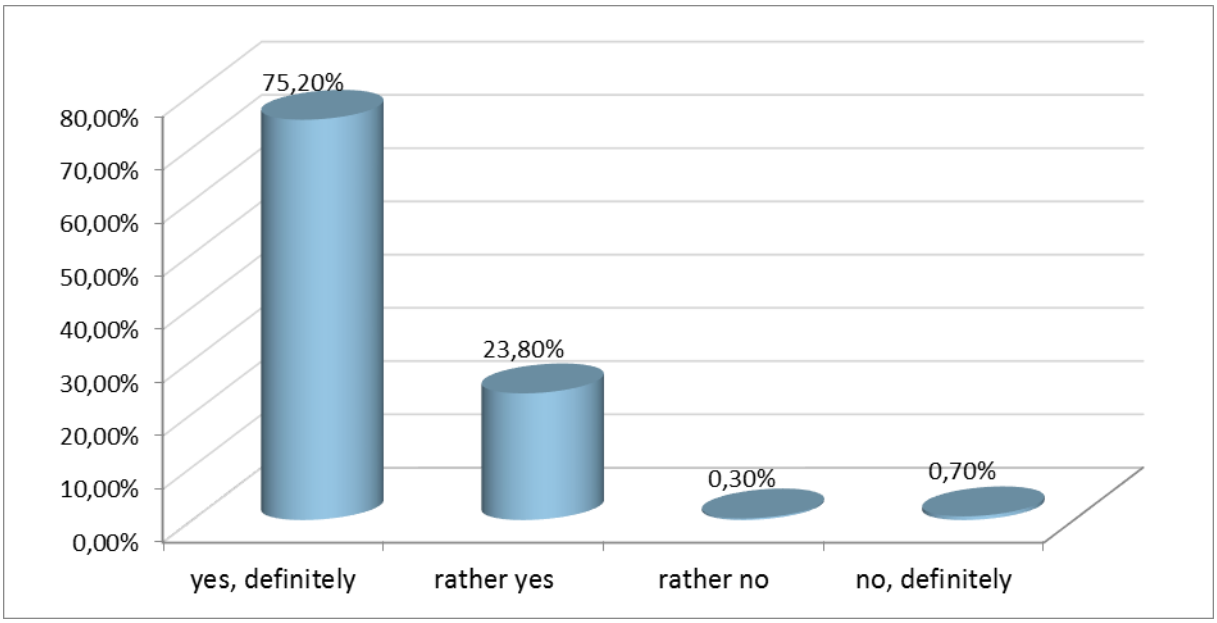
Figure 6 Awareness of the mode of referring to genetic testing – answers of the respondents to the question about the ways of performing the tests



Attitude towards modern genetic diagnostics for cancer depending on selected characteristics of individuals

Almost all respondents (99%) believe that genetic tests for diagnosing cancer should be performed in Poland.

Figure 7 Public attitude towards genetic testing – answers of the respondents to the question of whether genetic tests should be performed in Poland



These views – as one might expect with such a distribution of responses – are independent ($p<0.05$) of gender, age, education, size of place of residence or religion of respondents.

Factors affecting the decision to undergo diagnostic tests

As regards the motivation to undergo the test, what prevails are answers citing the experience of illness in the immediate vicinity of the respondent (36%). Over 25% declare their willingness to perform the test, if only there was such a possibility. 14% indicated as motivation experiencing the disease among the extended family, 8% indicated financial barriers, and 6% – an intervention of their closest. Every twentieth person would not undergo tests, and for less than 3% what was motivating, was a story of a well-known person suffering from cancer. A similar percentage of respondents were not able to answer this question.

Table 2 Motivations to perform a genetic test.
Multiple-choice question; answers do not add up to 100%

Motivations to undergo the tests	Answers	
	N	Per-centage
If I knew that someone in my immediate family has or has had cancer.	192	35.8%
As prevention, if I knew that there is such a possibility.	136	25.3%
If I knew that someone in my extended family has or has had cancer.	75	14.0%
As soon as I was able to afford it.	45	8.3%
If my nearest and dearest really asked me to do it.	34	6.3%
I would not undergo such tests.	29	5.3%
If I learnt that someone well-known suffers from or has died of cancer.	14	2.6%
I do not know.	13	2.3%

The reasons for refusing the test were varied. Those who responded to the question raised concerns about the impact of becoming aware of the risk to the respondent's quality of life and ability to finance the tests. What was also indicated, was the lack of faith in the effectiveness of treatment and the credibility of the tests. Two respondents indicated that they would not start treatment, what was also feared were the consequences of performing the tests for one's health.

Table 3 Motivations not to perform the test.
Multiple-choice question; answers do not add up to 100%

Reasons for not admitting to the test	Answers	
	N	Percentage
I do not want to know in advance that I am in the increased risk group	5	26.0%
This is not an expense I would like to pay by myself	5	22.6%
Being aware of the increased risk would not change anything, as the health care will not provide me with proper care	3	13.0%
I do not believe in the efficacy of such testing	3	13.9%
Being aware of the increased risk would not change anything, as I will not undertake further diagnostics nor treatment	2	8.7%
I do not know	2	10.5%

I am afraid that the tests might harm me	1	5.3%

Interestingly, refusing to perform the test is significantly related to education and age of the subject. The less educated and the older the persons, the greater the percentage of declarations of not undergoing the test. It seems, therefore, that these persons represent an important target group in all social campaigns planned. There was no significant variation ($p<0.05$) depending on gender, size of the place of residence or religious beliefs.

Table 4 Education versus refusal to perform the test

Education		I would not undergo such tests		Total
		not checked	checked	
Incomplete elementary	N	0	1	1
	%	0.0%	100.0%	100.0%
Basic	N	15	5	20
	%	75.0%	25.0%	100.0%
Basic vocational and incomplete basic vocational	N	73	5	78
	%	93.6%	6.4%	100.0%
Gimnazjum level	N	1	0	1
	%	100.0%	0.0%	100.0%
Incomplete technical/general high school	N	6	1	7
	%	85.7%	14.3%	100.0%
Completed technical/general high school	N	111	6	117
	%	94.9%	5.1%	100.0%
Incomplete higher	N	10	0	10
	%	100.0%	0.0%	100.0%
Higher (BA)	N	14	1	15
	%	93.3%	6.7%	100.0%
Higher (MA or Eng, including PhD)	N	77	8	85
	%	90.6%	9.4%	100.0%
Total	N	307	27	334
	%	91.9%	8.1%	100.0%

Table 5 Age versus refusal to perform the test

Age group		I would not undergo such tests		Total
		not checked	checked	
<= 25.00	N	29	0	29
	%	100.0%	0.0%	100.0%
26.00 – 35.00	N	46	4	50
	%	92.0%	8.0%	100.0%
36.00 – 45.00	N	66	2	68
	%	97.1%	2.9%	100.0%
46.00 – 55.00	N	68	6	74
	%	91.9%	8.1%	100.0%
56.00 – 65.00	N	6	1	7
	%	85.7%	14.3%	100.0%
66.00 – 75.00	N	20	5	25
	%	80.0%	20.0%	100.0%
76.00 – 85.00	N	10	2	12
	%	83.3%	16.7%	100.0%
86.00+	N	1	1	2
	%	50.0%	50.0%	100.0%
Total	N	301	27	328
	%	91.8%	8.2%	100.0%

Knowledge and sources of information among patients concerning cancer

More than 40% of respondents have sought information on cancer-related diseases. People who are significantly ($p<0.05$) more likely to seek it include women, those with better education and those who suffered from cancer themselves or who had a person with cancer in their environment.

The most common motivation for seeking information was the disease developed by someone from their immediate family (nearly two-thirds of responses in this category). Almost every twentieth respondent indicated experiencing the disease in their environment outside the family, less than 12% indicated being informed by the doctor that they belonged to the risk group, and 7% – a story of a well-known person.

Table 6 Reasons for seeking information on cancer-related diseases
Multiple-choice question; answers do not add up to 100%

Reasons for seeking information on cancer-related diseases	Answers	
	N	Percentage
Because of the disease of someone in the immediate family	61	62.7%
Because of the disease of someone from my environment, e.g. a colleague	18	18.8%
Because the doctor told me I could be at risk	11	11.6%
Because I learnt that someone well-known suffered from or had died of cancer	7	6.9%

The major source of information (40% of responses) are websites followed by the popular press (13%). Almost 11% of respondents indicated a physician, and 10% the specialist press. Later, media appear again: online forums (9.5%), TV (7%) and blogs (5%). 3% indicated people from the respondent's environment, with friends and family amounting to a similar percentage.

Table 7 Sources of information on cancer.
Multiple-choice question; answers do not add up to 100%

Sources of information on cancer	Answers	
	N	Per-centage
Internet websites	110	39.4%
Press: dailies, weeklies, etc.	36	12.9%
A physician	30	10.7%
Specialist (medical) press	28	9.9%
Internet forums dedicated to the issue	26	9.5%
TV	20	7.1%
Blogs	13	4.6%
Friends	9	3.1%
Family	8	2.8%

Inhabitants of small towns (up to 50 thousand inhabitants) are more willing to seek help among friends, while their place of residence does not affect the likelihood of seeking information on the Internet. Older persons use the traditional media more often, while the younger use rather the Internet. More than two-thirds of respondents did not seek information on cancer prevention. The factor that affects the probability of seeking information is the gender of the respondent – indicating such an activity was more prevalent in women by 10 percentage points ($p<0.05$).

The most commonly cited reason for seeking information on **prevention** is experiencing the disease in one's environment (51% indicating the family and 31% – further environment). 13% of respondents have started such an activity after a physician told them that they were at a higher risk. Less than 6% were inspired by an experience of a public person. Women are twice as likely to seek information in popular press, four times – in specialized pressed, three times – on forums, and finally more than one-third – on websites ($p<0.05$). Those better educated are significantly ($p<0.05$) more likely to use press and websites for this purpose. Experiencing the disease among close relatives translates into more frequent seeking for information from physicians and specialist press. These activities are not related to age, place of residence or religious beliefs.

The vast majority, i.e. nine out of ten respondents, did not seek information on methods for diagnosing the risk of specific cancers. The probability of seeking such information is greater among those with higher education and those who experienced the disease in their immediate family ($p<0.05$). Only 10.3% of respondents sought information on the methods for determining the risk of cancer. This is associated with motivations. The most commonly cited reason for seeking information is a disease of a close relative (57%) or someone from further environment (28%). Nearly 12% of respondents indicated a physician, and less than 4% – the disease of someone they knew.

Table 8 Reasons for seeking information on cancer diagnostics.
Multiple-choice question; answers do not add up to 100%

Reasons for seeking information on cancer diagnostics	Answers	
	N	Percentage
Because of the disease of someone in the immediate family	14	56.9%
Because of the disease of someone from my environment, e.g. a colleague	7	27.8%
Because the doctor told me I could be at risk	3	11.7%
Because I learnt that someone well-known suffered from or had died of cancer	1	3.6%

As in the case of general information on cancer, and, more particularly, prevention, the most important sources of information for this group are also websites (33%) and press (15%). 14% of respondents cited a physician, 11% – specialist press. Every tenth person went to Internet forums, and individuals used information from TV, blogs, family and friends.

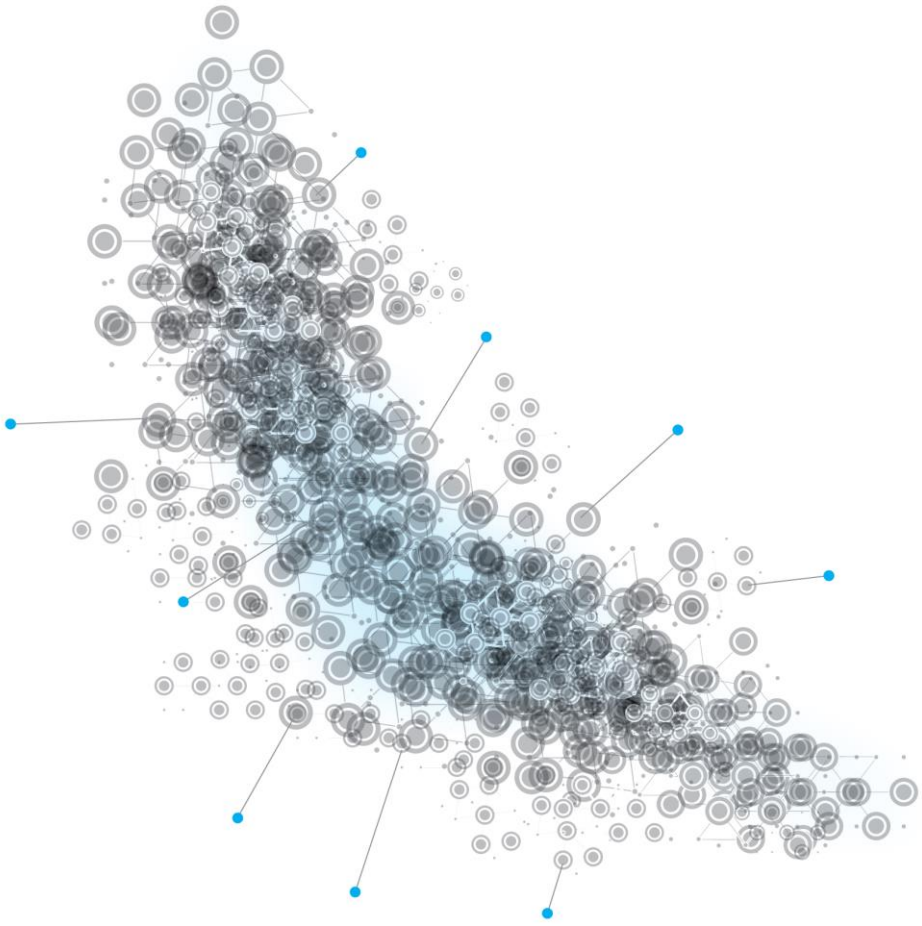
To sum up, the study cited above indicates that almost all respondents (99%) believe that genetic tests for diagnosing cancer should be performed in Poland. In the vast majority, these declarations are not significantly related to sex, education nor the size of the place of residence of the respondent. At the same time, however, the study showed that the public is poorly aware of cancer and cancer prevention, and that patients seek information on the disease mainly on the Internet and among friends.

Poles believe that the main barriers to undergo prevention tests are as follows:

- the requirement to obtain a referral to tests from a doctor,
- fear of any conditions relating to specific irregularities emerging, and as regards the family – a serious obstacle in motivating a close relative to undergo the tests and to go to a medical consultation is posed by the close relative's fear of a potential disease (cancerophobia),
- mental attitude ("This doesn't concern me") and the belief that a particular type of cancer is characteristic only for a specific age group,
- fear of pain that could appear during the tests (e.g. a biopsy),

- conviction that it would be necessary to wait for a long time for both the test and the result (if under the Polish National Health Fund) combined with the anxiety regarding the result.

Thus, it is vital to conduct an awareness campaign to increase public awareness of the necessity of undergoing diagnostic tests and their availability in Poland.



Social awareness campaign aimed at raising public awareness on preventive tests in the field of cancer prevention

The aim of the informational campaign proposed below is to raise public awareness of prevention testing in the field of cancer prevention, as well as to motivate the public (the target groups) to take action targeted at countering late diagnosis of cancer (do away with the resistance, motivate to undergo diagnostic tests).

The essential goal of the project is to support a change in the Polish behaviour as regards preventive tests / screening performed in cancer detection. The communication concept presented below includes an action plan, available communication tools and a preliminary campaign schedule. The communication plan involves identifying the target groups of the campaign and adapting appropriate action strategies accordingly. At the same time, the campaign provides for launching an interactive website to provide personalized information on the types of tests that each person should perform in the future. The link that connects the communication and the initial results regarding suggested tests from the website is the physician.

The activities scheduled assume a common long-term communication process occurring on many levels of reasoning, across multiple channels, and reaching various target groups.

Model good practices

A good example of a successful awareness campaign are the anti-smoking social actions supported by legal regulations. Since the 1990s, one can see a pronounced reduction in the incidence of lung cancer in men aged 39-65. In 1990 there were approximately 160 recorded cases in 100 thousand persons, in 2010 – approx. 120, and 80 cases are expected in this age group in 2025. This result has been achieved through many years of informational and legal measures that led to a behavioural change: from fashionable smoking to appearing in public with a cigarette perceived as something pejorative.

The above example shows that getting results of a similar dimension requires many years of long-term actions addressed to broad audiences. Even triggering alone the process of change in the approach to screening will partially lead to achieving the objective. As in the case of lung tumour, it will only be after some time of the

campaign that a real reduction in the number of late diagnoses at the highest stages of cancer will show.

Goal of the awareness campaign

The primary objective of the campaign is to raise public awareness in order to reduce the number of patients reporting to a physician at an advanced stage of cancer.

Raising awareness (especially to change behaviour, fight stereotypes and eliminate bad habits) in broad social groups, due to its inherent difficulty, requires long-term, consistent, multi-channel information activities and flexible application of various tools matched to the profile of the audience. It is a complicated and tedious process that requires virtually all forms and possibilities to get the information across to people – through direct contact, media and other information channels.

The common denominator in the communication is provided by two key elements:

- building awareness of the consequences of late cancer diagnosis – negative consequences for the patient and their closest ones,
- demonstrating various benefits of preventive screening combined with informing about the possibilities to undergo particular tests.

A properly conducted campaign will bring results in the social, demographic and economic dimensions. The essential results include the following:

- systematic reduction in the number of patients seeking diagnosis at a late stage of cancer,
- systematic reduction in mortality of cancer patients,
- steady increase in early detection of malignant tumours,
- steady increase in cancer curability,
- systematic increase in the awareness of opportunities and necessity of regular preventive tests across all social groups; the public is more motivated to undertake diagnostic tests, and at the same time better prepared – people know what to do to get a diagnosis,
- reduced costs and non-financial charges associated with invasive cancer treatment and its side effects, such as payment of benefits and pensions, not working, job loss, separation from loved ones, destabilisation of professional and private life,
- reducing the overall cost of cancer treatment,
- developing good practices (screening scenarios) for early detection of cancer and developing prevention measures other than tests.

Figure 8 Objectives of the communication project

Determinants of communication – psychological barriers

Measures aimed at raising public awareness of the need for preventive tests – apart from the very lack of the awareness – meet with resistance that is partly due to stereotypes, partly to human nature. We identify the following conditions, stereotypes and other factors of resistance:

- comfort of ignorance *(there are two groups of people 50/50, one prefers not to know, and the other wants to know,)*
- it does not hurt, there are no symptoms, which means that all is well and no tests are needed,
- the test is unpleasant (e.g. painful),
- shame of undergoing the test,
- lack of time resulting from work and the daily rhythm of life,
- assumed poor availability of physicians,
- assumed poor availability of tests (including poor understanding of the needs of the patient who wants to undergo preventive tests).

Determinants of communication – arguments for overcoming the barriers

Due to the variety of target groups, the campaign should be communicated using both negative and positive arguments:

- building awareness of the negative health and life consequences if the disease is diagnosed too late; death is a highly abstract concept for people, so the arguments and communication should rather focus on the fact that cancer is treatable, but if diagnosed late they mean a long treatment and a break in the previous life activity, often including inability to work, spend time with family, and often disability,
- building awareness of social costs incurred in the case of a late diagnosis (working on numbers, data, lists, expert opinions, data from Poland compared with other countries, comparing data from various regions in Poland, etc.),
- building awareness of the simplest ways to prevent a late diagnosis, of the patient's opportunities, of the extent of support offered by the physician,
- promoting positive examples of eliminating malignant tumours detected at an early stage of development (working with campaign ambassadors / authorities).

The process of shaping the awareness of prevention might be compared to the decisions that we make when we insure our life or our health against accidents. We take insurances as our imagination shows us the events that may occur. We act before something bad happens. Therefore, the campaign should on the one hand stimulate the imagination, and on the other hand inform exactly what one can and should do to have a proper insurance. Major arguments to be used in order to fight the stereotypes, stimulate the imagination, motivate and eliminate mental resistance include the following:

- preventive tests will significantly reduce the probability of developing the disease,
- if the cancer is painful, it is already too late,
- late diagnosis means a long and painful process of treatment and very severe side effects,
- the economic dimension of individuals and families: negative financial consequences of long absence at work, risk of job loss, risk of poverty,
- disability,
- separation from loved ones (especially from children) forced by a stay in hospital,

- social exclusion, being forced to reduce previous life activity as regards recreation and sports.

Target groups of the awareness campaign

A total of 6 target groups may be distinguished within the campaign: 2 professional and 4 social. Professional groups include the media (media representatives, journalists) and physicians. Social groups have been divided based on age and education. Best ways of communication were designed for each group and specifically adapted to the needs of the group.

Group 1: Media

This group includes those working in the media, both traditional and based on new technologies; such as journalists dealing in varied topics, primarily: “news” and “lifestyle” journalists, dealing with health, science, sports, columnists, working for dailies, weeklies and monthlies, TV and radio journalists, website editors and bloggers.

Group 2: Doctors

This group includes mainly primary health care physicians and directors of these institutions, as well as employees of primary health care clinics as well as specialist clinics and hospitals.

Group 3: Persons aged 35-55 1st criterion

This group includes the inhabitants of large cities, with secondary and higher education, with average and high income. We assume that these persons use the Internet on an everyday basis and have daily access to newspapers and magazines, radio and TV as well as daily contact with outdoor advertising media.

Group 4: Persons aged 35-55 2nd criterion

This group includes persons with secondary and lower education, with low or average income; white-collar or physical workers without free access to the Internet, but with daily access to TV, radio and newspapers as well as having daily contact with outdoor advertising media.

Group 5: Children and young adults aged 10-18

This group includes the following:

- children aged 10-12 (grades 4-6 of the primary school)

- adolescents aged 13-16 (gimnazjum)
- adolescents aged 16-19 (high school)

The communication has two objectives: i) short-term objective, consisting in stimulating parental actions and ii) long-term objective, to educate a new generation of citizens aware of the need for preventive health care.

Group 6: Persons aged 60-75

This group includes the inhabitants of large cities, with secondary and higher education, with average and high income. These persons use the Internet on an everyday basis and have daily access to newspapers and magazines, radio and TV as well as daily contact with outdoor advertising media.

Organizing the circulation of information in the campaign

An important process link in the communication will be provided by the Patient Information System (PIS) – it will be a website indicated by most social messages.

Figure 9 Communication and information flow diagram

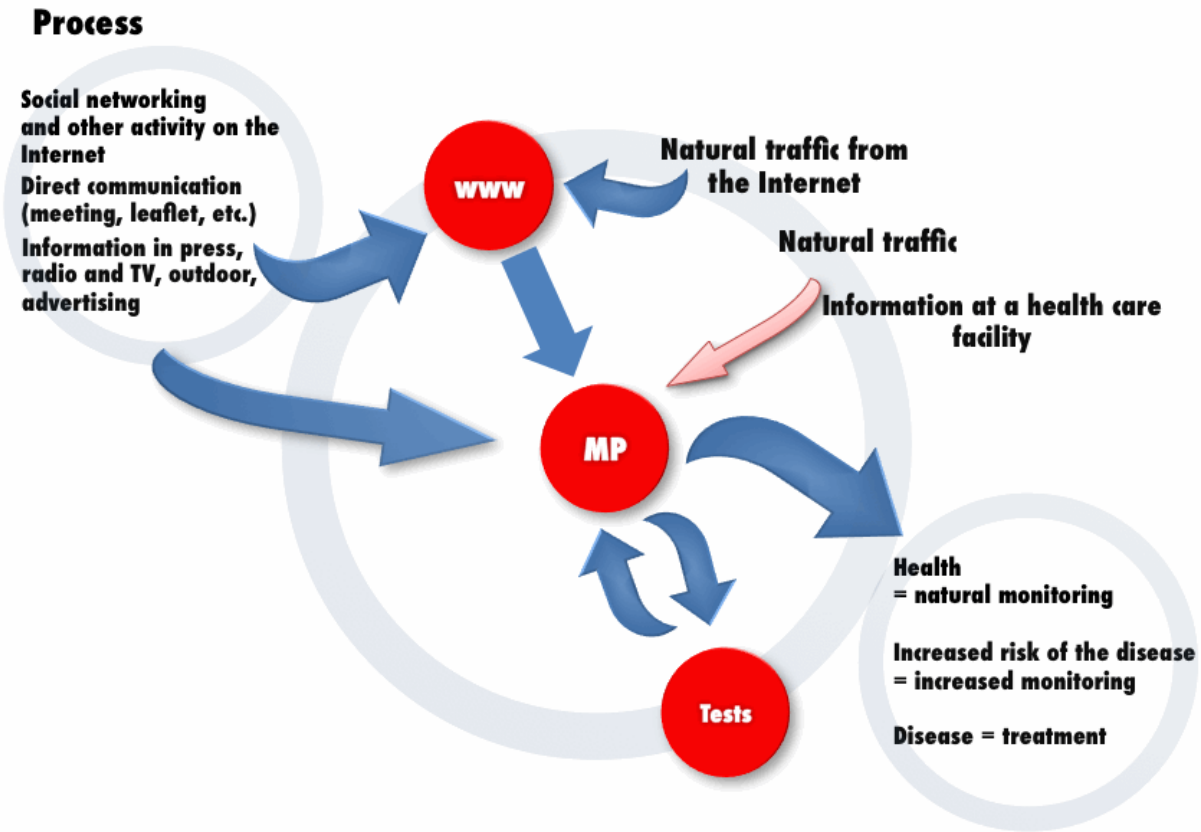
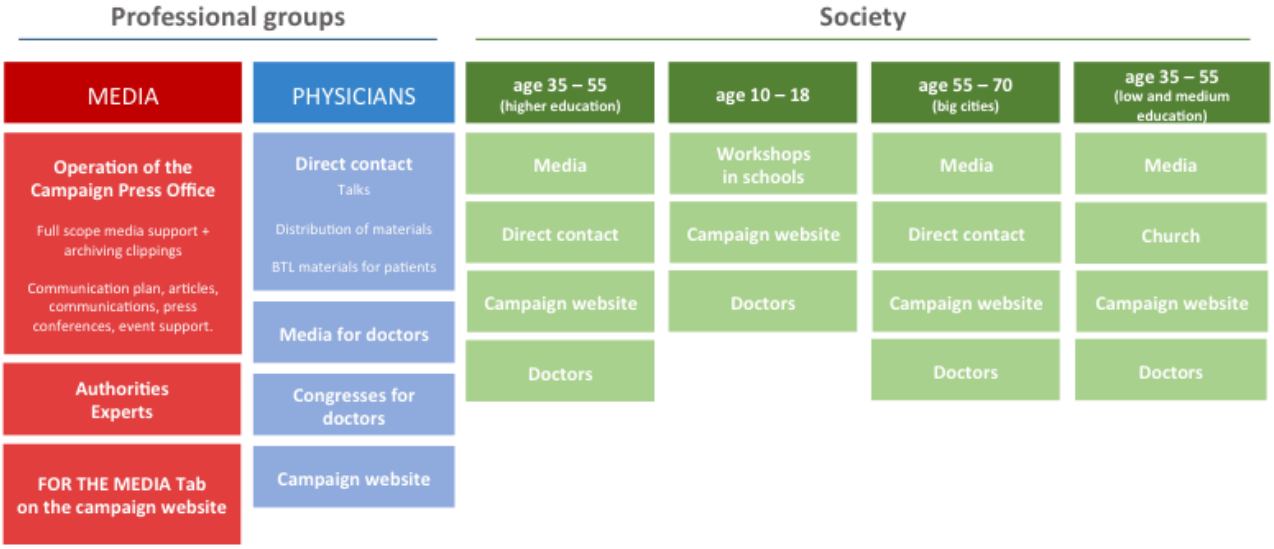


Figure 10 Methods of reaching the target groups



Communication for Group 1 (journalists)

Assumptions

The broadly defined media (television, radio, press, the Internet, including social networking sites), given the variety of their types and profiles and their abundance, should be regarded as one of the major channels for communicating information to the target groups.

It should be noted that thousands of entities (PR agencies, spokespeople, company representatives and other informants) that work with the media on an everyday basis constantly provide them with various kinds of information. There occurs a phenomenon of soliciting media attention, which, depending on the type and nature of particular media, assumes various forms and varies in intensity. Therefore, to ensure the strongest possible media effect it should be established that all media-targeted information activities need to be carried out in a professional manner, i.e. diligently and based on real data and facts, in accordance with the art of journalism, and with appropriate tools, so that the message is personalized for particular media types, relationships are skilfully built and used, and the competence is used to process information. For example, a “news” type message (e.g. launch of a website or opening of a new diagnostic panel) should be profiled separately for journalists who prepare current news in a nation-wide newspaper and separately for popular science editors or specialized media dedicated for e.g. physicians. Failure to profile communications always results in a significant loss of interest by most media.

Campaign Press Office / working methods

Media constantly seek information. To a large extent, the contents published by the media result from actions taken by external entities (public relations, externally provided data). It is

evident that in order to increase the probability of publication, a professional approach is necessary in terms of handling (the very process of cooperation with the media, promptness), in terms of quality (intrinsic value of materials) and in terms of competence (we deliver exactly what the media need).

Given the required duration of an awareness campaign and the need to build a large scope of reach, it is necessary to establish clear rules for managing media-targeted communications. In practice, in order to manage a campaign of this scale, it is required to create a specialized unit of the campaign press office, focused on providing full media support. Such an office thoroughly combines all competences, tasks and responsibilities behind the media cooperation and is responsible for the following:

- managing a database of media and journalists (to include probably more than 500 names), on two levels:
  - media segmentation and relationship building (networking, talks and direct correspondence, confirming the area of interest of particular journalists)
  - scheduling media-targeted actions (what and when to communicate to particular types of media)
- cooperation with the project ambassadors, including acquiring ambassadors, clarifying all the cooperation parameters, defining the scope and nature of the information communicated to the media, obtaining the information from each ambassador, editing speeches and comments, authorizing the materials, scheduling of dates associated with the presence of each ambassador in the project (studio visits, interviews, participation in presentations or conferences, chat rooms etc.)
- managing the so-called information capital of the campaign, i.e. all the data and information to be used (topics, contexts, figures, statistics, study results, opinions, stories, image of collaborators etc.) for efficient scheduling of activities – to prepare attractive materials to suit particular needs of the media or of a group of media,
- supporting local projects organised in the field (e.g. conferences, lectures or meetings), particularly through cooperating with local media (radio, press, local websites),
- conducting e-studies (new scientific reports, market surveys, scientific and medical research, scientific publications in public Polish and foreign media, posts on important blogs, comments of news websites users, etc.),
- managing information flow – includes planning communication activities, drawing up articles, announcements, interviews and other publications, including preparing these

materials (from scratch), through authorization to distribution and the so-called follow up, i.e. supporting contacts with journalists after sending them information,

- monitoring the media in terms of the results achieved (collecting project publications) and publishing documents (selection, list of publications and key materials, archiving),
- exercising the function of project spokesperson, which includes receiving inquiries from the media as well as calls for cooperation, official responding (requires proper, formal basis) to any questions, invitations or requests for comments from the media,
- responding in emergency situations (negative posts on forums under publications, troublesome questions from the media, other currently unforeseen).

Project communication involves reaching out to representatives of all media (press, radio, TV, internet websites, social media, bloggers).

Campaign ambassadors / authorities

The campaign should be supported with the image, knowledge and experience of the Ambassadors. They are various authorities identified by the target groups. We think it would be beneficial to use the potential of several types of authorities: those known and recognised by the public, experts and people who experienced cancer recovery.

The basic purpose of using the ambassadors is the message that the disease can affect anyone regardless of their education or occupation and that even healthy, easy lifestyle guarantees no protection against the disease (although it reduces the risk of certain tumours). The message spread by the ambassadors should be as follows: *"We are in a similar age, we breathe the same air, we eat the same food and have the same lifestyle. The risk of the disease to which we are exposed is similar for the entire group."*

Who can be the campaign ambassador?

Well-known persons – the first group includes well-known persons who have personal or indirect cancer-related experience, who operate in various fields of social life, e.g. journalists, actors, musicians, politicians, physicians, businessmen.

Ordinary people – the second group of ambassadors may include "ordinary people" who also have encountered the disease personally or among their closest ones. It is important for these persons to come from the same social group and to be roughly the same age as the target group of the communication (e.g. in the case of messages targeted at parents from large cities it should be working women and men with children or non-working women raising their children at home, couples repaying a mortgage, etc.) – persons who have a "normal life". The media communications

should make use of connotations and similarities that let the addressees of the message identify with the ambassadors.

Authorities – specialists, scientists, physicians – another group to talk about the problem should consist of specialists who professionally deal in cancer prevention and treatment and in associated research. These are the people “who are in the know”, who “have first-hand knowledge”, e.g. physicians affiliated with oncology and haematology hospitals and departments, scientists, representatives of the National Health Fund and of the Ministry of Health. The message promoted by this group of experts should focus on the benefits of prevention, on the difference between preventive tests and treatment, and it should also demonstrate real possibilities for an “ordinary Smith” to undergo the tests. The communication could be complemented with information on treatment possibilities. The arguments should, however, primarily emphasize that prevention may be done without changing one’s lifestyle, while the treatment takes at least several months (often several years) and excludes the patient (temporarily or forever) from his previous work and lifestyle.

The communication can involve appealing to the success of anti-smoking campaigns. Thirty years of efforts made possible what initially seemed unattainable. Social perception of smoking has been changed. The task of the ambassadors and experts, apart from their activity in the media, will be also to participate in events, meetings, festivals and picnics promoting preventive tests and the website itself.

Building relationship with the media and forms of materials

The basic principle when dealing with journalists is to maintain direct contact based on the currently held specific information (media pretext). The campaign press office is responsible for building relationships with journalists, based on the information capital available. An interview with a journalist (regardless of whether it is a longer or a just established relationship) involves general presentation of potential topics, issues and possibilities to use expert advice. Suggested topics are confronted with the interest and current needs of particular media. It is at this stage that the possibilities of the media using particular information can be precisely determined. Often the medium expects an intro, a thesis or rudimentary information to gain time necessary for the decision, or to have the topic approved, modified or rejected by the so-called editorial board. Often, the proposition submitted is put aside for some time, only to return at a time convenient for editors. Other media often expect ready-made materials for publication, especially in the case of articles, expert opinions or

information provided in the form of personal opinions or experiences. As a rule, the principle of exclusivity should be applied when providing ready-made materials to the media (the material provided is not made available to any other media), which ensures the publication, or at least the principle of an agreed embargo period for the material (it can be shared with others after the embargo expires). That's why the press office must act both quickly and flexibly (use of editorial resources), since it prepares multiple original forms of media depending on particular agreements.

The forms of media that support relationship building include the **editorial** (a brief introduction to the subject or a presentation of cooperation opportunities sent as a form of incentive for a journalist to take the topic), the **press release** (a short informational form relating to a specific event), the **press article** (here usually in the form of an expert opinion), the **comment** or the **statement** (usually prepared for individual needs of the medium as materials accompanying broader studies, a material "to fit the box", etc.), **polemic** (i.e. an expert text that is a reference to another publication, and which in this project may be a particularly interesting image building tool) and the **interview** (with an expert or with a campaign ambassador). It should be pointed out that many interviews are prepared in press offices or remotely, based on previously submitted questions, and the statements of the expert are only authorised by him and written by a press office employee. The following **multimedia materials**, constituting an extension of the text, are considered to be distinct forms: **photographs, infographics, videos, sound recordings.**

Press conferences

An efficient communication tool may be provided in the form of meetings with journalists at a press conference, briefing (in this case rather less used) or a press breakfast. Such events are usually organised by representatives of the press office of the campaign, often featuring a well-known character (e.g. an expert, journalist or celebrity). Campaign ambassadors should be invited to participate in conferences. Meeting with journalists may be based on the panel discussion formula, where the talk involves a narrow circle of experts, or a formula of an official presentation of materials for the media. The theme of these meetings may be as follows: launch of the social campaign, premiere of the campaign website, important changes of legal conditions regulating the access of patients to preventive tests, publication of important studies. Conferences should involve representatives of all types of media (Poland-wide, regional, radio, TV and journalists of websites).

Press conferences should be managed in terms of organisation and logistics by the press office, independently or with the assistance of an external agency. As regards logistics, it is necessary to pay special attention to select media and journalists, prepare attractive invitations, approve the guest list, man the reception desk and choose the conference venue. Journalists receive many invitations to conferences, so it is necessary to stand out, preferably by basing on previous contacts with the inviter and/or the attractiveness of both the invitation itself (graphic form) and the event (interlocutors, issue, but also the venue and materials distributed). The preparation of the speakers for the discussion is another challenge, as is the preparation of materials, presentations, as well as answers to anticipated questions (optionally including the so-called hard questions).

Media communication tools

Media communications should involve the so-called media pretexts. A media pretext is defined as any chance of providing a piece of information, material or opinion to the media that involves increasing the likelihood of publication. Technically, the form of communication depends on the context, the importance of the information and the medium to which the information is provided (see “Building relationships with the media and forms of materials”). It is important to profile the materials in terms of the specificity of each medium, as well as of the individual expectations of a particular journalist or editor – listening to the media and responding to the needs that they declare.

Examples of media pretexts relating to particular categories of media and journalists are presented below:

News journalists: publication of new studies (new data, new discoveries, any news from the world of science, statistics), a comment of a well-know person (ambassador) on the data published, introduction of new diagnostic methods, launch of a campaign that promotes screening, premiere of the website that promotes prevention (PIS).

Lifestyle journalists : how to care about health, what are the trends in Poland (regionally) and in the world, early versus late diagnosis of the same disease demonstrated on examples, illness and treatment versus sports, leading a normal life, all currently available modern genetic tests that can improve the quality of life and help avoid the deadly disease, i.e. the risk of cancer despite a healthy lifestyle, the risk of the disease regardless of the social group, any kind of counselling.

Healthcare journalists: how to care about health depending on one's age, sex, lifestyle, nature of the work performed, caring about health is equivalent to cultivating a healthy lifestyle and doing sports, cutting edge technologies in the field of genetic testing, the role of the new website promoting early diagnosis and screening (PIS), the availability and refinancing of modern screening, risk of cancer independent of healthy lifestyle, social costs of cancer treatment, opinions of physicians and ambassadors on the current health care system.

Medical and scientific research journalists: specialized presentation of the latest research findings with an in-depth commentary, a revolution in diagnostics and screening, premiere of the website promoting early diagnosis, access to modern genetic tests that improve quality of life, cancer detection in genetic testing, hereditary cancer cases versus those caused by social factors.

Columnists: what will be important for this group is the cooperation with ambassadors and experts. Preferred forms of communication include interviews, comments or speeches, as well as previously prepared specialist articles. Potentially interesting topics include the following: what does the programme of screening for cancer involve (Poland versus other European countries), estimated costs of prevention versus treatment costs (Poland versus the EU), Polish Health Fund budgeting paradigm shift (prevention versus treatment), social cost of long-term treatment, including cancer treatment, revolution in testing (genetic testing) and the availability of particular testing to citizens, refinancing rules, risk of the disease independent of the social group or lifestyle.

Beyond the media

Direct meetings with target groups – it is a way to exploit the potential of ambassadors and authorities. Planned forms of meetings include participation in local press conferences, events, picnics or visits (workshops) in schools (see *school workshops*). Each form of meeting requires a different approach in terms of organisation. Some meetings may be organised from A to Z as an exclusive part of the campaign project; in other cases it is an option only to ensure that the authority participates in the events (e.g. in a panel discussion or a specialist conference)

organised by third parties (as partner or technical collaboration, e.g. at congresses for physicians).

The communication carried out during meetings is based on the experiences of the ambassadors (their own stories), or on the knowledge (study results, methods of screening, available options, national statistics).

The schedule of meetings is organised by the press office of the campaign or in consultation with it. It is necessary as any such event (organised exclusively or as collaboration) has the informational potential for the media (the so-called media pretext) and this potential should be optimally used when dealing with the media (inviting journalists to the event or preparing a release on the event – afterwards and/or beforehand depending on the form of the meeting).

Use of advertising media: outdoor, Internet, press, radio

Advertising media should be treated as complementary channels for information communication carried out through the media and forms of direct contact. Due to the nature of the campaign, the breadth of the target groups and a very large reach, it is essential to use advertising media in this campaign according to the following rules:

- creation and message for outdoor campaign (billboards) and for advertising space in the media have two main tasks as follows:
  - eliminating individual internal resistance from going to the prophylactic tests that is primarily due to shame and the comfort of ignorance,
  - building awareness of opportunities and availability of undergoing the tests (“it’s your right, you can have the tests done”),
- spending on advertising is optimized both in terms of economy (obtaining maximum discounts, seeking partnership with advertising space operators), and maximizing feedback from other communication channels (media, meetings, conferences) as well as reaching to the target groups to the greatest possible extent. Due to the relatively high cost of advertising media assistance it is advisable in selecting and scheduling the activities in this area, to obtain the assistance of an external body – a media house which is assumed to be able to obtain maximum discounts and has the best possibilities to get the message across to specific target groups,
- creations for the campaign are to be consistent both in terms of image and information communication. Still, this should not exclude differentiating messages and creations depending on the target groups (e.g. a different message targeted at young people),

- since the campaign provides for launching an interactive website to promote the screening method, it is advisable for online advertising campaigns to redirect users directly to the website (which will be the so-called *landing page*). This will increase the probability that some users who click on the ad will be motivated to start screening procedures.

The budget should provide for placing announcements (in graphic and text form) in the following: radio, everyday press, specialized and thematic press (magazines), Internet portals, selected blogs and social networking sites. Commercial forms of participation in national television should also be taken into consideration (participation of an ambassador, expert or representative of the campaign as a guest of the programme).

Expected impact of the public awareness campaign:

Conducting a communication campaign will produce the following results:

- all journalists in Poland dealing with issues of health care will learn about the project, receive materials and information, and appear on the list of the campaign media base
- we expect to achieve during one year through consistent communication more than a thousand publications (in press and on the Internet), and dozens of clippings from radio and TV stations,
- after one year of the campaign operation, a phenomenon called “information suction” will emerge, i.e. when dealing with topics related to cancer treatment and prevention, journalists will submit inquiries and demand for information, statements and materials directly to the press office of the campaign,
- the campaign target groups will see a marked increase in awareness regarding the need to perform diagnostic tests, as well as the available testing options (testing as a kind of a “civic duty”),
- a network of ambassadors and experts will be established that will make it possible to prepare interesting, multi-contextual and professional information materials for the public (delivered by the media).

The obtained media results are the effect of several factors, with the major ones being the quality of the information potential (what information, data or knowledge and of what importance can be passed to the media), effectiveness in reaching out to the broadest possible group of media and journalists and the quality of cooperation with the media (timeliness, quality of information, fairness, proper form). These factors are under the control of the campaign contractors, i.e. in the case of this project, of a specialist press office team.

It is difficult to identify specific public relations results expressed in numbers, but given the current outline of the project it is possible to make some estimations. Undoubtedly, at such a scale of the campaign and such a breadth of issues it can be predicted that within one year of effective work of the press office we will manage to acquire more than a thousand publications (in the press overall and on the Internet) dedicated to the campaign issues and the campaign itself. Additionally, depending on willingness to cooperate among ambassadors and experts, there will be several dozens of radio programmes and TV materials. It is possible to obtain materials both in major Poland-wide media (key TV stations, PR programmes, Poland-wide dailies, opinion weeklies and the most important monthlies), and in any titles listed in the media database (specialized, regional, thematic). Such results are achievable, however, only if the work of the press office is properly organised, which assumes the appointment of the team and its effective management based on experience.

Communications for Group 2 (physicians and health managers)

Assumptions

In the communication concept physicians have two roles:

- they make the decision to refer the patient to particular tests,
- they inform the patients about the necessity of cancer prevention (they tell them what they can and should do, they may also educate the patients to some extent).

Given these two strategic roles, physicians should be covered by the programme not only information-wise, but also in terms of implementation, in order to form appropriate attitudes. This is also assumed by this social communication concept.

Primary health care physicians will also have contact with patients who are the target of this campaign, including those motivated by media communications to undergo the tests, as well as the users of the online website that is a part of this concept (website users will receive feedback encouraging them to do preventive tests) . **In this context, the contact of patients and physicians should be considered as a potential that cannot be wasted.** To use this potential (patients' intention and their effort) to the fullest, the project should provide for equipping physicians with a tool in the form of a screening programme. It will not be enough, however, to develop the programme. It is also necessary to educate physicians in the scope of the testing

(availability, accessibility, and effectiveness) as well as in terms of ways to motivate patients to participate in the programme.

Training. The primary carrier of information about the programme will take the form of meetings with physicians in their workplaces and, in the second place, at symposia and congresses gathering this professional group. It is necessary to set up a unit that will be responsible for conducting short meetings with physicians in the field. Such a unit, which would combine appropriate competencies, will be responsible for the entire logistics process; after scheduling the meeting with the director of the institution, representatives of the programme will meet the physicians and explain how the programme works, with an emphasis on its objectives, i.e. encouraging patients to use the screening programme. Similar activities will be conducted at congresses and symposia, which should involve prior preparation of short presentations promoting the principles and the idea of the testing programme.

An optional form of education for physicians – e-learning modules covering the following:

- consistent building of awareness among patients as regards cancer prevention (lecture + test)
  - How to talk about the formation of cancer?
  - Why doesn't it hurt and why are there no symptoms?
  - What are the benefits of a blood test, X-ray, colonoscopy?
  - What are preventive genetic tests and what are their benefits?
- using the website (PIS) – website presentation + tasks
  - How to use the website?
  - How does the algorithm of the website work?
  - What are the basic and additional features of the website?
  - Who should use the website?
  - Restrictions of communicating via the website (what information will not by provided by PIS to the users)?
- using cancer prevention testing programme (lecture + test).
  - What tests should be performed as part of cancer prevention?
  - What is the order of screening for particular cancers?
  - What tests are "recommended" by PIS?
  - What are the patient's options and rights as regards preventive testing?

E-learning modules should be supported by institutional communication channels (National Health Fund, the Ministry of Health), whose task will be to express support and draw attention to the programme, while the content of the training itself should be accessible on the online platform that could at the same time bring together the medical community, enabling them to share information, experiences and to discuss.

Patients in health care facilities: two ways of communicating the information. Health care facilities are the most important places where patients should be reached by message concerning cancer prevention and the PIS website. The communication project, as described above, assumes that the message is transmitted first of all by physicians. The very presence of the patient at the facility should be used to deliver the message via another channel and at a different level. The communication should assume covering health care facilities with measures targeted at particular audiences (BTL) (See BTL), which means distributing informational materials (posters, leaflets), both in the public space available to patients and in doctors' offices. When at the facility, the patient will have two opportunities to be reached by the message – with the help of a physician during the visit and through on-site materials containing relevant information.

As the actions of the directors of health care institutions (ZOZ) and other medical facilities are essential in making the information directly reach patients, their involvement is decisive for the communication success. Health care institutions participating in the campaign may be included in a facility awarding system combined with a system of rewarding physicians for implementing preventive actions. It is necessary to consider potential and available benefits that could be offered to physicians and facilities as rewards. For example, the benefits of physicians could be strictly financial, e.g. bonuses in the form of a share in the financial surplus of particular medical procedure for health care institutions (ZOZ), but they may also take the form of consent for ordering more expensive and more specialized tests which could be an options in those facilities where physicians are accounted depending on the number of patients admitted.

Tools

Direct communication

The main tool of the communication is the direct contact between physicians and the project leaders, enhanced through an incentive system and the administrative

command of their immediate supervisor, as well as a sense of participation in an important and socially useful action (as a result of extensive communication activities and patronage over the action held by authorities that are important for this group). The project, apart form being an informative one, should also be treated as an implementation project in terms of introducing new tests to the offer. The basic tools will include working with the database, making phone calls and appointments, meeting directors of the facilities, providing materials, follow-up visits, talking to the reception desk etc.

Media communication

The information will be transmitted through professional social networking sites for physicians including websites featuring price lists of medical procedures and search engine of procedures, as well as other websites dedicated to this professional group. Information will be transmitted by name in those websites which provide the mailing option as well as in the form of banners and other advertising space. These activities will be coordinated with the communication activities for the group of professional journalists (cf. Group 1).

Expected results

Within two years of the campaign, 75% of Health Care Facilities' (ZOZ) Directors and almost 100% of coordinators of oncology wards will be informed about the campaign and the prevention opportunities, thus enabling them to make an autonomous decision on their involvement and on supporting the patients.

Communication for Group 3 (well-educated, aged 35-55)

Assumptions

This group is the main target of the communication. It is the group most exposed to media communications, which, in theory, makes reaching it relatively the easiest. Yet it is this group that is the recipient of the largest number of communications, social campaigns and advertisements transmitted by the media, so that the key challenge for the campaign is to "get through" with its communications. The campaign will be more effective thanks to a proper preparation of the communication in terms of its language, content and form, which should take into account the needs and expectations as well as the specific characteristics of the group.

Tools

Direct communication

Regardless of the type of the initiative involving promoting preventive testing, direct contact is the best way to reach the target: talking to the doctor, the programme ambassador or persons representing the campaign, who encourage their interlocutors to take the tests. Direct communication ensures that the communication is delivered and that it reaches a particular person. Later on, it is up to this person whether they will take action (and take the tests) promoted by the communication received.

At the same time it should not be forgotten that reaching out to the audience through direct communication is relatively expensive, taking into account the cost of individual transmission of information.

This campaign assumes that direct communication will be based on using hostesses and volunteers working among the largest gatherings of people: in each province, primarily in province capitals and in other major centres of each province, as well as in health resorts and holiday resorts during the high season. It may be decided to install information points at large sports and cultural events or in places likely to host those potentially most interested in health care: in medical facilities and in locations with high foot traffic, for example at train stations, office parks, shopping centres and shopping malls and in major stores.

The direct contact formula includes a scenario of a brief conversation with people and handing them a simple leaflet (or a simple gadget) to reinforce the message. The aim of the conversation is to inform them about the campaign, the PIS website and to communicate to them the key arguments for taking the initiative towards undergoing the tests. A conversation can take the form of a mini interview (a few brief questions, if possible extending into a conversation). The result of the conversation is the transfer of information, increased awareness of the opportunities and importance of preventive tests and the motivation to visit the PIS website.

Direct communication must involve the following measures: a group of 25-35 volunteers and hostesses should be coordinated by one supervisor.

The supervisor will be responsible for the following:

- training people in conducting interviews involving associated topics,
- providing BTL materials and elements of visual identification for such people,
- coordinating field work (planning, supervision),
- reporting to the person coordinating the campaign at the provincial or national level.

In addition, it must be assumed that in each region (e.g. North, Centre, South, East, West) there will operate senior coordinators, managing the direct campaign in the regions. Their responsibilities will focus on recruiting hostesses and volunteers for the project, managing the communication plan (schedule, locations) and establishing campaign implementation conditions with administrators of the sites and facilities.

Training campaign hostesses and volunteers should assume that they acquire the minimum level of knowledge and understanding of the issue to be able to identify with the goals of the campaign, to understand and promote it. The training should also be provide for acquiring knowledge of the basic operation of the PIS website, frequently asked questions (FAQs), information on basic diagnostic tests, counterarguments for reservations raised by the recipients, and on possible scenarios of conversations and ways to encourage people to visit the website or to go to the doctor for a referral to the tests (patients' opportunities and rights).

Internet – long-term measures

The campaign assumes that all activities carried out in social channels (online communities) will be integrated with the PIS (information flow, post and content sharing). The campaign provides for setting up a campaign profile on Facebook and LinkedIn, as well as ongoing management of communication within these channels (posts, photos or multimedia content – differentiated and profiled according to the specifics of each website). At the same time, social channel operators should support the chat channel (*chatter* – option that enables to

talk with an on-line operator via the website, whether from Facebook, LinkedIn or PIS level). Therefore it will be necessary to work on shifts in the chat room.

The campaign also provides for opening channels on YouTube and Instagram (publications including footage featuring ambassadors and photos from meetings) and Twitter (publishing information related to the media communication and information on campaign events and its developments). The campaign provides for activity (starting new topics, moderating discussions) on discussion forums, including monitoring selected discussion topics within selected forums and groups. The aim of this activity is to raise awareness of available testing and redirecting the audience directly to the PIS website.

The campaign also provides for keeping a blog created both by the campaign ambassadors and physicians, as well as representatives of the health care sector, authors invited to cooperate and blog administrators. The blog should publish information on testing available in the field of prevention of malignant tumours, rights of patients, frequently encountered problems, ways to resolve them (counselling, tips, best practices), costs of treatment including both those attributable to the National Health Fund and social costs. The blog can also be used to inform the readers about current and planned actions and about the modality of operation of the website.

Campaign own website (PIS) should, apart from the function to promote screening, be also an information platform (publishing information on ongoing campaigns, press office materials and the modality of operation of the website) and a communication platform (integration with social channels and working on shifts in the chat room). It would also be a good idea to set up a campaign hotline during specified working hours – an option especially useful for older recipients.

Expected results

Reducing late diagnosis of malignant tumours, reducing the number of cases, reducing the number of medical procedures related to cancer treatment.

Communication for Group 4 (children, school students)

Assumptions

Communications targeted at to this group have two objectives: a short-term one (intensifying the communications targeted at parents and grandparents) and a long-term one (building public awareness of the need for testing among future adult citizens).

Tools:

Direct communication

This group should be reached directly. An effective method for the group including grades 4-6 and secondary school (gimnazjum) will be to prepare classes on two levels – on the risks of developing cancer, on the benefits of early diagnosis and on the mechanism behind genetic screening. The issues presented will relate to the world of adults (intensifying the communications targeted at parents), making the children realise the importance of regular preventive tests. Such classes may be conducted in all primary and secondary schools (gimnazjum), where principals would agree to conduct anti-cancer education programme.

In the case of high school students, however, it would be advised to prepare, apart from the classes, competitions involving working on projects related to cancer prevention.

This part of campaign implementation should involve appointing a team to manage the project in educational facilities. The task of such a team would be to build a schedule of classes in various regions, support the project in terms of logistics (optimization of the schedule of classes, route), form a team to conduct the classes (e.g. three or four teams conducting classes simultaneously in three / four regions of Poland).

An additional tool of direct communication can be provided in the form of a special leaflet or gadget given to children when talking directly to their parents (see *Communication for Group 3*). Such a leaflet or gadget would undoubtedly strengthen the effect of a conversation with an adult, and at the same time reinforce awareness of the issue among children.

Media communication

No media communication targeted at this group is planned.

Expected results

The main result will be the intensification of communication targeted at Groups 3 and 5. The long-term result will be educating future generations with a high awareness of the need for prevention tests. For the purposes of the campaign it can be assumed that within two years of the campaign it will be possible to conduct classes in approx. 1000 educational facilities for nearly 60 thousand students.

Communication for Group 5 (well-educated, aged 55-75)

Assumptions

This is a group similar to group 3, differing mainly in terms of the age criterion and the pace of adaptation to new technologies. Therefore the communication concept for this group will be similar to the communication concept for Group 3.

In Group 5, however, there is a statistically significantly higher risk of developing the disease; therefore communications should clearly put a greater emphasis on the need to protect one's own health. Here, communication should appeal, more pronouncedly than in other groups, to emotions and personal experiences of the recipients (e.g. "I am the parent and my loved ones need me"). It must be assumed that people in this group are self-aware, more willing to take care of themselves and show greater concern for their health. This is why the campaign involves primarily motivating the target group to take the initiative: "I want to take the tests, it is important for me", while overcoming resistance, reluctance and various objections.

Tools

Direct communication

The main method to reach this group will involve direct contact (volunteers, hostesses, meeting with ambassadors during special events), implemented on the same basis as in the case of communications for Group 3. The only difference lies in a slightly different way of conducting the conversation and – an option to consider – somewhat different content of the leaflet handed at the end of the conversation. The campaign assumptions should be the same as for communications for Group 3 (the role of regional coordinators and project managers).

Media communication

Communication via the media should be considered to be the key activity, which, at the same time, will support direct meetings. The disposition of the media is similar to Group 3, except that in the case of this group a slightly stronger emphasis should be put on the press, radio, TV, with smaller emphasis on the Internet. Media communication should also involve preparing special arguments (fighting

stereotypes, eliminating resistance factors, suggesting specific practical advice) motivating to take preventive tests.

It is because of this group that it should also be considered to conduct an outdoor campaign in carefully selected locations (in terms of number of representatives of groups in particular areas).

Expected results

Since this group is statistically most exposed to developing cancer, it should be anticipated that it is in this group that the effectiveness of the campaign is to be seen first. In the short term, the effectiveness should be measured primarily based on the increase in the number of screening tests performed. At the end of the campaign it is expected to see an increase in the number of cases of malignant tumours detected at different stages. In the long term, the campaign should result in a clear decrease in detecting advanced stages of cancer.

Communication for Group 6 (secondary education, aged 35-55)

Assumptions

The formula of communication for this group should be similar to the one proposed for Groups 3 and 5, however, due to lower exposure to on-line channels, it should focus on traditional channels (media, outdoor). Building the communication, like in the case of Group 5, should be based on emotions, referring to the experiences of others (“like me”) and everyday life – they should focus on the health of the family and the need to protect one’s nearest. As our survey demonstrated, the elderly and the less educated were more likely to declare lack of willingness to perform preventive tests, thus making it an important target group of the campaign.

It is assumed that a significant proportion of recipients in this group live in medium-sized cities, smaller towns and villages. Therefore, direct communication may have a shorter reach, and the communication build via the parishes may have a wider reach.

Tools

Direct communication

It is identical with the measures in Group 5, but its range is limited (communications will rather reach people living in larger cities).

Media communication

It is identical with the measures in Group 5, and, additionally, the communications via parishes may prove to be more important here, particularly in the areas outside large cities.

Expected results

A significant increase in the awareness of preventive tests (need, availability, options) and, ultimately, a reduction in the number of new cancer cases over a long period and a pronounced decrease in the detection of late stages of cancer (over a long period).

Communication for Group 7 (patients – communication in health care facilities)

Assumptions

It is constituted by people belonging to Groups 3, 5 and 6, presented separately due to experiencing such events like visiting the clinic, a medical facility, staying at the hospital and seeing a physician. An important reason for the separation of the group is the assumption that those getting to a medical facility are potentially more open to health-related and prevention-related communication.

Tools

Direct communication

The basis for reaching out to this target group is the direct communication of the patient with a physician as well as a certain potential for contact of a person being at the clinic with informational materials available on site. Upon entering a medical facility, such people become the target group and have contact (in the waiting room, at the reception desk or in the hallway) with campaign informational materials (posters, wobblers, flyers, floor stickers, etc.). At the doctor's office, on the other hand, the group receives information and referral/suggestion to perform the relevant screening under this programme. This activity should apply the highest goal conversion – making the decision about performing the test, on the basis of instructions of the physician – a specialist.

However, separating Group 7 as the recipient of the communication is only justified if the campaign involves implementing an educational programme for physicians (promotion of screening, promotion of PIS, specific instructions on referring to tests), and (though this issue is not as important) preparing BTL materials that will be successfully distributed to medical facilities.

Media communication

Apart from direct measures, it is possible to be in contact with the target group through TV networks broadcast at medical facilities (the so-called custom publishing, e.g. healthtv.pl), through internet forums and websites related to health care and through other media dealing with health issues. What may be particularly efficient is the model based on using contextual advertising on the Internet and specific terms (e.g. names of the disease) appearing in the search results. These advertisements, or contextual messages, redirect network users directly to the PIS or to community profiles coordinated by administrators under the campaign.

Expected results

Reduction in the number of cancer cases, marked increase in the number of screening tests performed. Increase in detection of cancers at all stages – as a result of preventive tests (over a medium period), marked decrease in the number of cancers detected at an advanced stage (over a long period).

Additional ways to reach the residents of medium-sized cities, small towns and villages

One of the big challenges in the social communication model is to get the message across to residents of medium-sized cities, small towns and villages. The primary channel used to reach these groups is still nation-wide and local media. It is necessary, however, to identify complementary methods of providing information, such as communication through parishes, organisation of workshops for school students in educational facilities and distribution of materials to clinics as well as direct contact with the clinic employees.

Communication through parishes

In Poland there are over 10 thousand parishes, most of which are located in small towns, villages and medium-sized cities. The campaign assumes that one of the methods to reach these areas should involve communication implemented in cooperation with local parishes. When it comes to matters of highest importance for the public, that is to say human life,

health protection, stability and well-being of families, it should be assumed that the Church will show openness and willingness to support in communicating important information to people.

In this channel, communication may be implemented through, e.g. small posters placed in information showcases at churches (after consulting the above with the rectory).

Workshops for schools

An important way to directly reach the target group of students is informational activity in schools. It should be emphasized that measures taken in this group will also indirectly affect the target group of students' parents. Communications in schools should be implemented through a brief educational programme in the form of workshops. We suggest preparing the two following formulas of workshops:

- lessons with the participation of consultants delegated from the project (consultants conduct a workshop lesson),
- ready-made lessons for teachers – a ready-to-use package, including the agenda, materials, information and necessary multimedia support.

Communication elements. All groups – summary

Table 9 Indicative percentage breakdown of measures for each group and information channel

group	direct communication	Internet	outdoor	press, radio, TV
Group 1 *journalists*	90%	10%		
Group 2 *physicians and health care managers*	90%	10%		
Group 3 *aged 35-55 higher education*	50%	30%	10%	10%
Group 4 *children, school students*	100%			
Group 5 *aged 55-75 higher education*	50%	10%	10%	30%
Group 6 *aged 35-55 secondary education*	30%	10%	20%	40%
Group 7 *patients*	80%	10%		10%

Website

The website will be a tool of communication with patients, using information contained therein to stimulate them to think about their own health and the health of their family. It will provide information to users on what they can do to stay healthy; it will publish interviews with authorities about how the disease can change one's life, interviews with campaign ambassadors about the importance of prevention in their lives. The overall objective of this measure will be to make users aware that they should take care of their health by monitoring the state of their body.

The website will be built on the implemented algorithm prepared by medical specialists who, after receiving basic information about patients and their condition, will instruct them on necessary tests. It is an element enabling patients to acquire information virtually immediately after receiving the media message about the need for testing. Thus, the mechanism of action-reaction can be used. The person receiving the message about preventive tests can immediately afterwards, whether in the office, at home, on the bus, or in any other place, use their smartphone (mobile version of the website) to check what tests they should take. If users provide their mail address to the website, they will receive reminders about the tests. Such a mechanism will make it possible to take a step further than in the case of other test-related campaigns, involving receiving information about the need to take the test, and still needing to go to the doctor. In our case, the recipients will perform the initial "diagnosis" themselves, while the website will determine the likelihood and the need for performing the tests.

Another important element of the website will include building patients' communication tools with experts using the website as a communication platform, combining all tools available on the web (social media, chatroom, hotline, e-mails).

The website will be developed in 4 stages described below:

First stage – 6 months

- developing the concept of the website,
- structure of the website,
- functional model of the website,
- developing the screening schedule by specialized physicians,
- developing an algorithm,
- appointing a team consisting of one or two people to coordinate work,

Second stage – 2 months

- alpha version,
- launching the service, feeding contents,
- tests and fixes,
- initial web positioning,
- building a team operating the website,

Third stage – 2 months

- alpha version,
- functional tests performed by a selected group of physicians and IT specialists.
- developing functionality,
- further web positioning,
- using media in health care facilities (e.g. health.tv),
- using professional media,
- PR activity in general media,
- initial promoting of the website in professional environments,
- disseminating cancer preventive tests schedule among physicians,
- reaching to physicians through directors of medical facilities,
- direct contact in the offices and at medical symposia and conferences,
- bringing campaign ambassadors into play,
- bringing experts into play,
- bringing employees, volunteers and hostesses into play.

Fourth stage – website launch

- beta version,
- launching the social media platform,
- launching the hotline,
- building a knowledge base based on information from users,
- further development of the website with new functionalities in the scope of information provided about the tests and communication with users.

Suggested domains for the website: comamzbadac.pl or niechceraka.pl

Current expectations of users precondition the multi-channel character of access to information and the need to prepare a website version for mobile devices. Placing the

campaign in the Internet will allow the entity financing the campaign to measure the effectiveness of measures taken and their correlation with the website traffic.

Website software:

- a system displaying preventive tests,
- a system displaying the list of the nearest doctor's offices where it is possible to seek advice, get a referral, etc.,
- a system displaying the list of the nearest facilities where you can do preventive tests under the National Health Fund and as a paid service.
- system support tools: system of reminders, chat with a consultant, hotline, Facebook, answering e-mails, etc.,

The website should operate both in full and mobile versions and have three levels of use:

- for anonymous users,
- for physicians,
- in the future for users who are logged in, enabling the use of reminders, optionally expanding and combining with the National Health Fund system.

Action Plan time line, budget

What is essential to any communication activity is the National Health Fund including budget for the very screening in contracts concluded with health care facilities. This document recommends starting operations with a 2.5-year pilot programme with special emphasis on two of the three most common cancers – colorectal and uterine cancers, and cervical and breast cancers. These cancers are already covered by screening, and a new way of communication can enhance the result.

System of preventive testing for colorectal cancer implemented through invitations is recommended by the European Union. "We introduce it gradually, which means that invitations to tests through colonoscopy will reach a growing number of people aged 50-65. By 2021, the whole population at that age will undergo tests" – said prof. Reguła, vice-president of the Polish Association of Gastroenterology. Apart from Poland, screening through colonoscopy is performed only in Germany, Italy, Austria and the United States. In other countries, such as France and Finland, faecal occult blood tests are performed for early detection of colorectal cancer. It is recommended that a particular person performs them at least once every two years.

The implementation scope of the existing screening programme is very poor. In 2012, 85 centres participated in the programme, where only 30,640 people were tested. The programme is targeted at the group of persons aged 50-65. At the time, this age group

included 8.1 million people, with 3.9 million men. This means the effectiveness amounted to approximately four per mille annually. In order to be able to talk about the success of the programme, it seems important to boost the effectiveness of reaching the target group with a message about the need to perform the tests, as described in this document. Another significant aspect involves supplementing the testing method with genetic testing for inherited cancer susceptibility. This will reduce the costs of further diagnostics by eliminating those with risk decreased due to no genetic predisposition. A diagnosis of genetic predispositions, on the other hand, will result in enabling patients to be covered with appropriate health care and potentially detecting the disease at an early stage.

A slightly better effectiveness is recorded in screening programmes for breast and cervical cancers. However, neither do they use the full potential due to the lack of interest of potential patients. Here, too, what is worth considering is genetic testing for mutations in the BRCA1 and BRCA2 genes. Their exclusion or confirmation, like in the case of colorectal cancer, determines further diagnostics, reducing the necessary frequency of testing in the majority of the population.

The key issue is to raise funding for the programme communicating the need to undergo screening. Apart from government funds raised e.g. under the National Programme for Combating Cancer, sponsors should be acquired for communication activities. In the first place companies where the Treasury is a shareholder should be contacted, such as KGHM PZU or Orlen. Another group of potential sponsors is constituted by companies which may want to be associated with such anti-cancer prevention, e.g. ING or Metlife (althought the presence of PZU may rule this out). It would also be recommended to gain several nationwide media patronages.

Apart from these activities, local partners should be acquired for each event, including both companies willing to appear as socially engaged and local media. Some promotional campaigns may involve inviting selected health care facilities or private clinics such as LuxMed, Swiss Med or Medicover.

Long-term communication activities require differentiating the dynamics of their intensity and developing a strategy using, among other things, a schedule. Suggested schedule covers 30 months and looks as follows:

Figure 11 Activity structure in the communication process

1st year of activity should include the following:

- the National Health Fund starting to finance a screening pilot project for malignant tumours, including in particular genetic testing for the most common malignant tumours – breast and cervical cancers and colorectal and uterine cancers (including relevant positions in contracts of health care facilities, informing physicians),
- providing institutional support (including from the National Health Fund and the Ministry of Health),
- developing, testing and launching the website (PIS)
- acquiring ambassadors for the project,
- following the launch of the website – carrying out first communication measures aimed at target groups and conducting a study of their effectiveness,
- conducting talks with physicians and launching the campaign in health care facilities cooperating with the National Health Fund (and optionally private ones),
- preparing BTL materials, printing and distributing them to health care facilities,

- fine-tuning the media database and identifying all the assumptions for the campaign press office, including recruiting office staff (services provided by a selected agency or a team hired for the project),
- clarifying assumptions for the communication strategy in social media and implementing the strategy,
- creating a media plan for the next year activity (optimizing advertising budget, schedule of expenses and building the reach for the second year of the campaign),
- clarifying assumptions for the implementation of direct communication (teams working in the field, volunteers, hostesses),
- creating a team that will develop educational workshops for students, preparing materials and conducting test lessons in selected education facilities, adjusting the lesson material based on feedback.

2nd year of activity should include the following:

- launching the campaign press office (full scope of activity),
- activating the campaign ambassadors,
- executing the media plan, including the implementation of the outdoor campaign,
- continuing the talks with physicians (building the reach) and distributing BTL materials,
- launching direct communication addressed to the target groups (short conversations in busy spots),
- implementing assumptions for the communication through parishes (forming teams, implementation),
- implementation of the direct communication through school lessons (selected regions of Poland).

Last 6 months of the campaign should include the following:

- intensifying the public relations activity (media) by using the information capital available (statistics, experience from the first campaign period, continuation of the issues discussed earlier),
- implementing the media plan for the last half year of the campaign,
- implementing the direct communication (meetings with people),
- implementing the communication through parishes,
- implementing an educational project (lessons for students).

The necessary condition for the campaign to be successful is to properly combine channels used to reach target groups (some groups should be reached via multiple channels) and to maintain a proper order of actions, where the communication with people should be conducted through the media only after performing the activities planned for the first year (above).

Opening campaign – suggestion

It is recommended to launch a pilot (opening) campaign before conducting the campaign on the scale presented in this document (multiple channels, huge reach, required coordination). The opening campaign provides for specific preparations as follows:

- The website (PIS) needs to be functioning flawlessly (the website has already been tested and at the time of the campaign launch it is necessary to be absolutely certain that it works properly). Therefore, the website should be launched at least a few weeks before the official launch of the campaign.
- Physicians adopting the screening programme; extending the awareness campaign in health care facilities to patients. It should be assumed that launching the media campaign and the direct communication will be welcomed by people who will not only visit the PIS, but also talk to the doctors. If physicians and health care facilities are not properly implemented, funding for the campaign will be wasted, and the project will face the risk of resulting in outcomes opposite to those intended.

The media communication should be implemented only after these two assumptions are achieved. The preferred option is to launch the press office, to draw up a complete list of media dedicated to each target group (where applicable), and then to arrange a meeting for journalists (a press conference).

Press conference

Organising the press conference, as well as running the press office, may be done using the outsourcing model (e.g. by a specialized PR agency). The agency may help build the media database and share professional experience (best practices, activity to be avoided, optimization of communication), as well as represent the campaign by appointing a press spokesman. Independently of the contractor, preparing a press conference requires at least the following: inviting journalists to the event (basic presentation of the issue, building a list of confirmations), handling the entire logistics, finding a venue, organising technical support, catering, preparing materials), and

managing the substantive aspect (preparing press releases and all necessary materials).

The conference is organised based on the previously prepared scenario that defines the form of speeches, distribution of tasks, specific information provided to the media, preparation of answers to potential questions, including difficult questions, invitations to the unofficial part (individual interviews after the conference). After the conference, it is necessary to send materials to journalists who were absent, and perform the so-called follow-up, i.e. contacting the absent journalists and providing them with relevant information. It is also a tool to build relationships with the media for the use of the entire campaign.

An example range of activities related to the organisation of the press conference:

- selecting and choosing PR agencies to carry out the communication in the scope of the organisation of the press conference and to perform the so-called follow-up after the event,
- Preparing a scenario and assumptions for the conference,
- Preparing invitations and informational and promotional materials for the conference (in digital and print form),
- Preparing the media database,
- Sending out a few hundred personal invitations (by traditional and electronic mail),
- Building a list of confirmations (individual contact, conducting initial talks with the journalists invited, launching the project representation in the media – answer to first questions),
- Preparing a list of questions and answers, preparing conference hosts, assign them their roles,
- Organising the conference in terms of logistic – venue, catering, technical aspect, on-site materials (e.g. roll-ups),
- Inviting speakers (a well-known journalist/actor moderating the talks of 2-3 experts),
- Launching media monitoring service to check the outcome of the conference,
- Sending post-conference and follow-up materials.

Apart from/instead of one large press conference it is possible to organise several briefings/breakfasts for journalists and bloggers in cities other than Warsaw. Separate actions targeted at journalists from local media may also be an option.

The press conference should be considered the official beginning of the public-targeted (target groups) campaign. This is the time when the following activity (proper communication for the target groups) should begin in parallel:

- Launching campaign profiles in communities and managing the communication (including hotline and chat),
- Implementing direct communication in line with the assumptions (meetings at high traffic spots),
- Launching the school lessons project,
- Continuing – reinforcing the dedication of the medical community in the project,
- Putting to use the potential of the ambassadors – blog, events, media communication,
- Implementing continuous operation of the press office,
- Communication through parishes.

Implementation – propositions

Press conference invitations

Visually attractive invitation for journalists. The design and the final look should make people think of health and testing. The invitation may be engraved on glass – a reference to the glass used for preparations or in the form of a green fabric cap used in the operating room. The organisation of the conference should involve cooperating with the press office; involvement of outside companies (campaign patrons) is also an option. Invitations may preferably be distributed together with a testing-related gadget, e.g.:

1st proposition
desk paper clip:

http://www.milion-gadzetow.pl/produkt/Klip_do_notatek/E766

sample slogan: Catch the disease before it's too late (a house design may be used for this purpose)

2nd proposition
http://www.milion-gadzetow.pl/produkt/Maska_na_oczy_do_snu_Perfect_Dream/TO1685

http://www.milion-gadzetow.pl/produkt/Lornetka_skladana_Opera/TO1691

a magnifying glass as an option for the binoculars:

http://www.milion-gadzetow.pl/produkt/Lupa_Support/MG1440

Sample slogan: You can keep your eyes closed or make sure that you can see everything that's there

3rd proposition

http://www.milion-gadzetow.pl/produkt/Kwiatowa_kartka_z_zyczeniami_Lavender/TO794

http://www.milion-gadzetow.pl/produkt/Ziolowa_puszka_Easy_planting/TO791

Sample slogan: Grow flowers, not cancer

4th proposition

http://www.milion-gadzetow.pl/produkt/Zamek_szyfrowy_Close/TO1688

Sample slogan: Lock up your illness

Gifts for the participants of e.g. a press conference

Depending on the scale of the meeting(s), the number of gadgets can vary from a few dozen to over a hundred. It is not necessary to honour all journalists on an equal basis when organising the conference. An offer of tests may be prepared for a few most important journalists. However, all participants may be offered e.g. the following:

- a medical bag,
- a home first aid kit,
- a nicely packaged item made of laboratory glass,
- a gift from the patron of the campaign.

The conference may be organised e.g. at a laboratory or in the conference room of an institution related to health care. The conference may be combined with a presentation (e.g. an anatomicum with artificial/virtual preparations), or with animations and videos produced specially for the occasion.

Internet activities

On-line activity (activity in social networks, at campaign profiles) should start along with the press conference (or just before it). The budget available determines the scope and duration of the activity. For this type of communication campaigns, the duration is expected to be years rather than months.

Outdoor and promotional campaign

One of the properties of advertising (including outdoor) is that the sender has the chance to interest the recipient only briefly and over a very short time (just a few seconds of viewing the advertisement). Therefore, in this case it is recommended to build recipients' interest using an intriguing (but not outrageous) image. One way to do that involves combining actually or apparently antagonistic characters, environments and phenomena (some examples below):

(political element) PiS and PO together again

(religious and moral element) Nergal and His Excellency

(social element) a truck driver and a cyclist

(social thread) a tax office representative and a businessman

a president of the bank and a prisoner

When combining antagonistic characters, it is possible to use a universal campaign slogan, e.g. "Yes! always together in the prevention of cancer"

This formula may be used as a single advertising campaign or a part of an event such as a scientific picnic, a conference, a congress, a fair or an event related to the prevention of cancer. Materials from the advertising campaign should be available also after the main programme-opening campaign is over, on YouTube channels and on social networking sites, on the campaign website as well as broadcast in thematic TV in health care facilities (e.g. healthtv.pl). Advertising videos may be used to complement short statements or photographs of experts, ambassadors and other persons involved in the campaign.

Other suggestions of slogans to be used in the campaign:

- Take care of yourself and your family
- Do not allow the disease to develop and frequently take tests
- The National Health Fund pays for your treatment, your loved ones pay for the rest
- You do not risk death, but you do risk your family being evicted by the bank, disability and long treatment
- Slogan "The National Health Fund pays for your treatment, your loved ones pay for the rest"

Materials targeted at a specific audience (BTL)

The campaign should involve considering the production of at least the following materials:

Leaflet

Informational leaflet of the website *www.comamzbadac.pl* includes the following:

- 1-2 screenshots of main subpages and brief information on the operation of the website,
- a brief description of the testing options available,
- general suggestions: tests recommended for men and women,
- a description of how to search for a GP,
- a description of the options of contacting the campaign representatives (e-mail, chat, Facebook).

Gadgets handed out by volunteers and hostesses

One of the listed gadgets to be distributed together with invitations for journalists or a lanyard with the following slogans: “keep cancer on a lead” or “cancer is not a snail, so keep it on a lead” or “keep cancer on a leash”. It is best to prepare up to two models of gadgets (for kids and adults). This will facilitate the identification of the shares, reduce costs and improve the effectiveness of logistics.

BTL in health care facilities

The message focuses on the need for preventive testing and use of the website also in its mobile version (so that it may be checked instantly on a smartphone).

The following are to be prepared for the needs of health care institutions:

- posters in at least A3 format
- leaflets
- stickers (for kids), “my dad doesn’t have cancer”, “my mom doesn’t have cancer”
- gadgets (e.g. campaign-themed finger puppets)

BTL for events with high pedestrian traffic

Stands, flags, T-shirts, caps, leaflets, gadgets for kids and adults, stickers as above and, if necessary, balloons for children.

Hostesses conducting talk at high foot traffic sites. Example scenario:
Identification: At this stage it is important to use a well-known logo that inspires confidence (National Health Fund, Ministry of Health, University), which will help to break the initial reluctance and the presumption that it is about selling.

Introduction: A one sentence information about the institution and the programme

Main part of the interview:

Question 1: *Did you know that cancer can be detected through X-ray and blood tests?*

Question 2: *Did you know that late detection of cancer often does not mean death, but long treatment, disability, which means you cannot work nor repay loans?*

Question 3: *Do you know what to do in order to take the tests?*

You can use the service www.comamzbadac.pl and see the doctor to ask for a referral for tests or take them privately without a referral.

Handing out leaflets/gadgets with the web address and information that the website is also available in mobile version, that it features a chat with an expert, and that you can access it via Facebook

Question 4: *Do you know who is your GP?*

If "no": *Our website will let you find out the location of the clinic that is the most convenient for you*

Next: *Did you know that you have to take the test results to the doctor?*

Selected literature

Book publications, press and reports

*Assessing the Economics of Genomic Medicine Catherine Wicklund, MS, CGC, N*orthwestern University, Feinberg School of Medicine Center for Genetic Medicine

The European Code Against Cancer, Zatoński W. (ed.) (2010), Maria Skłodowska-Curie Institute of Oncology, Warsaw 2010 (Europejski Kodeks Walki z rakiem, Zatoński W.(red.) (2010), Centrum Onkologii Instytut im. M. Skłodowskiej Curie, Warszawa 2010 r.)

Gazeta Wyborcza, 22 January 2014 Expert: 20 facilities will perform colonoscopy in 2014 Dispatch of the Polish Press Agency (Gazeta Wyborcza, 22.01.2014 r. Ekspert: 20 ośrodków będzie wykonywać kolonoskopię w 2014 r. Depesza PAP): http://wyborcza.pl/1,91446,15317498,Ekspert__20_osrodkow_bedzie_wykonywac_kolonoskopie.html#ixzz3eOWmGsw8

Genetic Testing Market Outlook 2018, RNCOS , Oct. 2014

Global DNA Diagnostics Market (Product types, Application, Technology, End User and Geography) - Size, Share, Global Trends, Company Profiles, Demand, Insights, Analysis, Research, Report, Opportunities, Segmentation and Forecast, 2013 - 2020

Legislation on direct-to-consumer genetic testing in seven European countries, Borry et al., Eur J Hum Genet. 2012 Jul; 20(7): 715–721

Market Trends in Genetic Services, Impacting Clinical Care through Better Prediction, Detection, and Care Selection, Timathie Leslie, Daniel Agar, Sarah Fielding, Sophie Miller, Booz Allen, 2013

Forecast of cancer incidence and mortality in Poland in 2025, Didkowska J., Wojciechowska U., Zatoński W., Maria Skłodowska-Curie Institute of Oncology, Warsaw 2009 (Prognozy zachorowalności i umieralności na nowotwory złośliwe w Polsce w 2025, Didkowska J., Wojciechowska U., Zatoński W, Centrum Onkologii Instytut im. M. Skłodowskiej Curie, Warszawa 2009 r.)

Report "Breast cancer in Poland - treatment is an investment", Warsaw, October 2014 (*Raport „Rak piersi w Polsce – leczenie to inwestycja*", Warszawa, październik 2014)

Demographic Yearbook 2014, Central Statistical Office of Poland, Warsaw 2014

Private healthcare market in Poland 2014. Development forecast for 2014-2018, PMR Report (Rynek prywatnej opieki zdrowotnej w Polsce 2014. Prognozy rozwoju na lata 2014-2018, Raport PMR)

Genetic testing for health purposes – a REPORT of the Team for Molecular Genetic Testing and Biobanking, Warsaw 2012 (Testy genetyczne dla celów zdrowotnych - RAPORT Zespołu do Spraw Molekularnych Badań Genetycznych i Biobankowania, Warszawa 2012)

Genetic testing for health purposes (*Testy genetyczne dla celów zdrowotnych*), materials of the Council of Europe, in cooperation with prof. Pascal Borry, with the help of Dr Heidi Howard, prof. Martina C. Cornel and members of the Public and

Professional Policy Committee of the European Society of Human Genetics. This initiative is supported by EuroGentest, project (FP7-HEALTH-F4-2010-261469) of the 7th Framework Programme of the European Union and by the European Society of Human Genetics.

The case for personalized medicine, Information materials, Personalized Medicine Coalition, 4-TH EDITION 2014

Speech by dr Janusz Meder given on 4 February 2006 on the occasion of the beginning of the National Programme for Combating Cancer and the World Cancer Day. http://www.redakcjapolska.dk/echa%20z%20kraju022006.htm

Serwisy internetowe

The National Programme for Combating Cancer; www.puo.pl

National programmes for combating cancer in the world; www.puo.pl

Screening for breast, cervical and uterine cancers

http://profilaktykaraka.coi.waw.pl/aktualnosci

Screening programme.

Early detection of colorectal cancer. http://pbp.org.pl/statystyki

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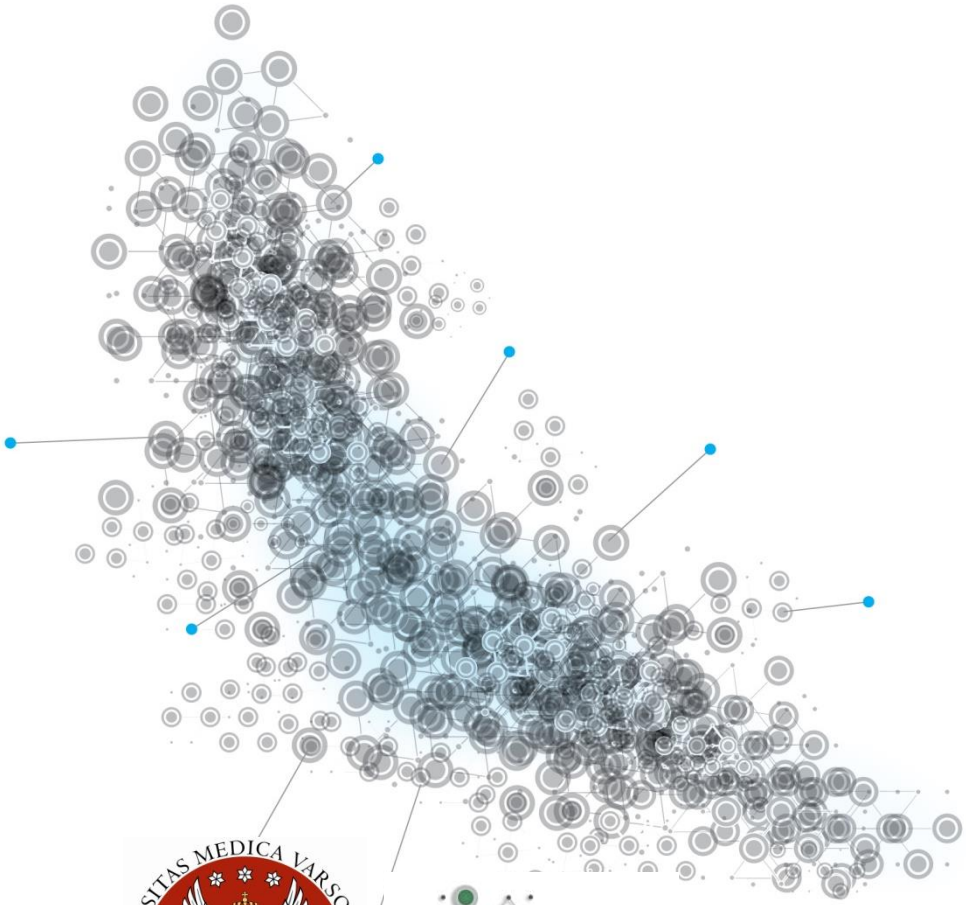

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Corresponding estimated/* budget

PERSONNEL, TRAVEL, AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY "1" M19 – M36			
	Item description	**Amount [EUR]**	**Explanations**
Work Package 2 (T2.6)	Personnel costs	10,258.12	Fees of the T2.6 leader, (2,48 PM)
	Travel	-	
	Subcontracting	39,962.11	Carrying over a thorough analysis of medical market in Poland and making a public consultation
	Other direct costs	1,620.07	Printing polish and English version of the Policy Paper
TOTAL DIRECT COST		51,840.03	

/ - exact costs for M19-M36 will be presented in the 2nd Period Report and Form C (October 2015)*

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