A Map of Healthcare Needs for Poland – Oncology

THE PROJECT IS CO-FINANCED FROM THE EUROPEAN SOCIAL FUND UNDER THE OPERATIONAL PROGRAMME HUMAN CAPITAL

HUMAN CAPITAL
NATIONAL COHESION STRATEGY

Ministry of Health
Republic of Poland
Human – best investment

European Union
European Social Fund

www.mpz.mz.gov.pl

Table of Contents

Background information 3
Demographic and Epidemiological Aspects 3
Population Breakdown and Demography 3
Cancer Incidence 3
Deaths due to Cancers 5
Status and Use of Resources: the Analysis 5
Inpatient healthcare 5
1 Hospitals Providing Cancer Treatment 5
2 Service Providers Analysis by Cancer Group 6
3 Inpatient Treatment Analysis 7
4 Chemotherapy Treatment Analysis 7
5 Radiotherapy Treatment Analysis 8
Specialist Outpatient Care 8
Medical staff 9
Healthcare Needs Forecasts 11
Demographic Forecast 11
1 Population Breakdown and Demography Forecast 11
Projected Number of Patients 11
1 Incidence Forecast 11
2 5-Year Prevalence Forecast 12
Treatment Forecast 13
1 Hospitalisation 13
2 Positron Emission Tomography (PET) Scan Forecast 13
3 Chemotherapy 13
4 Radiotherapy 14
Attachments 15

Background information

1. This document covers cancer diagnoses with the exception of non-melanoma skin cancer and tumours of the hematopoietic and lymphoid tissues (codes: C00-C43, C45-C80, D05 according to the International Statistical Classification of Diseases and Related Health Problems, 10th revision)
2. The number of cancer patients, newly diagnosed in 2010–2012, was established based on the data from the Polish National Cancer Registry (KRN), supplemented by the data from the Polish National Health Fund's (NFZ) reports. However, our actions were not limited to simply merging the two above-mentioned sets of data. As to the KRN, we have excluded those patients who, despite being entered therein for the first time this year, were qualified as patients diagnosed earlier (so-called follow-up patients) based on healthcare services provided to them in the previous years. As to the NFZ records, we have excluded those patients who were entered in the NFZ database under a different type of cancer than in the KRN database (precedence of KRN over NFZ database). Also, we have excluded those patients whose clinical pathway was not adequate for a newly diagnosed patient with a given type of cancer. Information on the clinical pathway (covering the period of 365 days from the first date of entry in the system) included the information on reported procedures in compliance with ICD-9, reported chemotherapy and radiotherapy treatment as well as information on patient's death. Information included in the clinical pathway was used to estimate the cancer stage in the case of patients for whom it was not specified in the KRN database.
3. Such patient records were used to reclassify some part of the inpatient treatment reported along with D37–D48 diagnosis (relative to conservative or surgical treatment) to appropriate groups of cancer diagnoses.
4. Primary healthcare is local in nature, and the aim of the Map of Healthcare Needs for Poland – Oncology is to analyse supra-regional phenomena. Therefore, no detailed analysis of primary healthcare was performed in this document.

Part I

Demographic and Epidemiological Aspects

Population Breakdown and Demography

In 2014, Poland was inhabited by 38.5 million people. Most of them lived in Mazowieckie Voivodeship (13.9% of the population) and Śląskie Voivodeship (11.9%). The smallest population lived in Opolskie Voivodeship (2.6%) and Lubuskie Voivodeship (2.7%). The highest population density was observed in Śląskie Voivodeship (372 people/1 km^2).

The Polish population was heterogeneous in terms of age. In 2014, the number of the youngest people (up to 19 years old) was 7.8 million. They constituted the largest percentage of the total population in Podkarpackie, Śląskie, Wielkopolskie and Warmińsko-Mazurskie Voivodeships. The number of middle-aged people (between 20 and 64 years old) was 24.8 million. The number of people aged above 65 years amounted to 5.8 million. Seniors constituted the largest percentage of the total population in Lubuskie, Świętokrzyskie, Podlaskie and Mazowieckie Voivodeships.

Cancer Incidence

1. In 2012, 164.1 thousand new cancer cases were diagnosed in Poland, with the highest prevalence in Mazowieckie (23.6 thousand) and Śląskie (20.7 thousand) Voivodeships, and the lowest – in Opolskie (4 thousand) and Lubuskie (4.4 thousand) Voivodeships. Therefore, the number of patients recorded in Mazowieckie Voivodeship was higher by 490% as compared to the number of patients diagnosed in Opolskie Voivodeship.
2. In order to eliminate the effect of population size, the number of cancer cases was calculated per 100 thousand inhabitants. The highest rates were obtained for Łódzkie (466), Pomorskie (463), Zachodniopomorskie (456) and Śląskie (450) Voivodeships. In contrast, the lowest incidence rates per 100 thousand inhabitants were observed in Podkarpackie (357), Lubelskie (372), Opolskie (392) and Małopolskie (393) Voivodeships.

3. Age-standardised incidence rate (new cases per 100 thousand people) for cancers in general was the highest in Pomorskie Voivodeship, and the lowest in Lubelskie Voivodeship. However, the incidence rate for all groups of cancers was the highest in Łódzkie, Śląskie and Świętokrzyskie Voivodeships. Moreover, the second highest incidence of breast cancers was recorded in Dolnośląskie Voivodeship. On the other hand, the lowest standardised incidence rates for most of the analysed cancer groups were observed in Warmińsko-Mazurskie and Lubuskie Voivodeships.

4. The most frequently diagnosed malignancies included: lung cancers (25.5 thousand cases), breast cancers (19.5 thousand cases), prostate cancers (14.6 thousand cases), colon cancers (13.9 thousand cases) and bladder cancers (8.2 thousand). In total, they accounted for approximately 50% of cancers diagnosed in 2012.

5. Cancers most commonly were diagnosed at stage II or IV; however, the distribution varied to a great extent depending on the type of cancer. In 2012, cancers diagnosed at the earliest stage (I and II) included thyroid, endometrial or lip cancers, and those diagnosed at the latest stage (IV) were pancreatic, liver and oesophageal cancers.

6. Cancers in general were diagnosed at the earliest stage (I and II) in Podkarpackie and Małopolskie Voivodeships (over 50% of cases at stage I or II). On the other hand, their detection is the most delayed in Dolnośląskie and Świętokrzyskie Voivodeships (40% of cases at stage IV).

7. Lung cancers are diagnosed with a significant delay in all voivodeships. The largest share of the first two stages was observed in Warmińsko-Mazurskie Voivodeship. On the other hand, the largest share of stage IV diagnoses was recorded in Dolnośląskie Voivodeship (62%).

8. Breast cancer was diagnosed at earlier stages of the disease. The share of stage I was the largest in Dolnośląskie Voivodeship, and the total score for stages I and II was the highest in Opolskie Voivodeship. Breast cancer diagnoses were the most delayed in Podkarpackie Voivodeship (18% of stage IV cases).

9. Anus and rectum cancers were diagnosed the earliest (at stages I and II) in Opolskie Voivodeship. However, the diagnoses were the most delayed in Świętokrzyskie Voivodeship (44% of new cases at stage IV).

10. In 2012, prostate cancer was most frequently diagnosed at stage II. The largest share of early diagnoses was observed in Pomorskie Voivodeship (77% of new cancer cases at stage I or II) and Opolskie Voivodeship (76%). On the other hand, the cancer was diagnosed the latest in Lubuskie Voivodeship (34% at stage IV) and Świętokrzyskie Voivodeship (33%).

11. The stage structure of bladder cancer diagnoses was very varied in individual voivodeships. In Dolnośląskie Voivodeship, it was very commonly diagnosed at stage IV (59%), but at the same time the share of stage I diagnoses was also the largest (15%). The highest rate of new stage I or II cases was reported in Opolskie Voivodeship.

Deaths due to Cancers

1. Cancers were the second most frequent cause of death of the inhabitants of Poland. In 2011–2013, they were responsible for 24.5% of all deaths of the country's inhabitants (26% in the case of men and 22.8% in the case of women). The actual mortality rate due to cancers in Poland amounted to 243.2 (per 100 thousand inhabitants), where the highest value was recorded in Kujawsko-PomorskieVoivodeship and the lowest value in Podkarpackie Voivodeship.
2. In Poland, lung cancers were the most frequent cause of death in cancer patients (24%). The actual mortality rate for Poland was equal to 58.5. The value of the SMR index for lung cancers was the highest in Warmińsko-Mazurskie Voivodeship (1.27) and the lowest in Podkarpackie Voivodeship (0.7).
3. Breast cancer was the cause of death in the case of 13.5% of female patients dying due to cancers in Poland. The highest SMR value was recorded in Śląskie Voivodeship, and the lowest – in Lubelskie Voivodeship.
4. Lower gastrointestinal tract cancers accounted for 11.8% of deaths due to cancers in 2011–2013. The actual mortality rate in Poland was equal to 28.7, and the highest value of the SMR index was recorded in Opolskie Voivodeship. In contrast, the lowest values were recorded in Podkarpackie Voivodeship.
5. Prostate cancer was the cause of 8% of deaths due to cancers in men. The highest values of the SMR index were observed in the following Voivodeships: Kujawsko-Pomorskie, Lubuskie and Podlaskie. On the other hand, the lowest values of the index for prostate cancer were observed in Łódzkie and Mazowieckie Voivodeships.
6. In 2011–2013, bladder cancers were responsible for 5% of cancer deaths of people inhabiting Poland. For this type of cancer, the highest values of the SMR index were recorded in Warmińsko-Mazurskie and Lubuskie Voivodeships, and the lowest – in Lubelskie and Podkarpackie Voivodeships.

Part II

Status and Use of Resources: the Analysis

Inpatient healthcare

1. Hospitals Providing Cancer Treatment

1. In 2012, 806 hospitals in Poland provided cancer treatment. The largest number of providers is located in large city counties, primarily in Warsaw (42), Katowice (23), Łódź (22) and Kraków (20). Cancer treatment in Poland is quite centralised: 98 healthcare providers provided cancer treatment to 80% of patients. Most of these providers were located in Mazowieckie (17) and Śląskie (12) Voivodeships, and the smallest number – in Opolskie (1), Podkarpackie (2), Lubuskie (2) and Świętokrzyskie (2) Voivodeships.
2. The highest number of patients in Poland was admitted to Maria Skłodowska-Curie Institute of Oncology in Warsaw (11.3 thousand, 4.8% of patients treated in Poland). The second provider, M. Kopernik Regional Specialist Hospital in Łódź, treated 6.7 thousand patients (2.9% of patients treated in Poland), and Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz admitted 6.4 thousand patients (2.7% of all Polish patients).
3. In most voivodeships, there were no significant migrations of patients. The percentage of patients from outside of the voivodeship they were treated in ranged in most cases from 5% to 10%. A higher percentage of patients from other voivodeships was observed in Mazowieckie (14%), Kujawsko-Pomorskie (13%) and Śląskie (12%) Voivodeships. Also, the percentage of patients leaving their voivodeships in most cases ranged from 5% to 15%. A higher percentage was recorded in Lubuskie (32%), Opolskie (20%) and Warmińsko-Mazurskie (17%) Voivodeships.

4. Out of 19 hospitals which treated the highest number of cancer patients in Poland, Maria Skłodowska-Curie Institute of Oncology Gliwice Branch was the largest healthcare provider to patients from other voivodeships (2.2 thousand patients, 39.3% share in the entire number of treated patients).

5. On average, the number of hospitalisations per patient in Poland amounted to 2.34. The value was the highest in Łódzkie (2.73), Dolnośląskie (2.58) and Zachodniopomorskie (2.45) Voivodeships. On the other hand, the lowest number of hospitalisations per patient was observed in the following Voivodeships: Kujawsko-Pomorskie (2.04), Świętokrzyskie (1.99) and Pomorskie (1.85).

6. Another analysis included 19 hospitals which treated over 1% of cancer patients in Poland each. Cancer patients from these hospitals were the most often hospitalised in surgical oncology wards (20.1 thousand), radiation therapy wards (19.9 thousand), oncology wards (12.8 thousand) and clinical oncology/chemotherapy wards (11.3 thousand). In addition, in 13 hospitals, cancer patients were hospitalised in gynaecologic oncology wards, and in 10 – urology wards.

7. In hospitals admitting over 1% of patients treated in Poland, most patients were hospitalised in the area of surgical oncology – hospitalisation (24.5 thousand), chemotherapy – hospitalisation with combined treatment (20.4 thousand) and clinical oncology – hospitalisation (16 thousand). In addition, a substantial number of patients were hospitalised for the purpose of receiving teleradiotherapy (12.2 thousand).

8. Over 70% of cancer patients in Poland were admitted electively based on a referral (the greatest share of elective admissions, i.e. 100%, was observed at Dolnośląskie Oncology Centre in Wrocław). Statistically speaking, every fourth patient was admitted on an emergency basis, but was not transported to the facility by the paramedics. In all 19 hospitals treating the highest number of cancer patients, elective admissions based on a referral were prevalent.

9. In 2012, in hospitals treating over 1% of patients in Poland, the highest number of hospitalised patients were breast cancer patients, (16.4 thousand) and female reproductive system cancers (11.1 thousand). Testicular cancer patients constituted the smallest subpopulation (786 patients). In Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań, Oncology Centre Hospital –– Kraków Division Institute, Dolnośląskie Oncology Centre in Wrocław and St. John of Dukla Lublin Regional Independent Public Healthcare Centre in Lublin, over 25% of cancer patients were breast cancer patients. A similar proportion (31%) was observed at Maria Skłodowska-Curie Institute of Oncology Gliwice Branch with respect to hospitalisations due to thyroid cancers.

2 Service Providers Analysis by Cancer Group

1. 8 cancer categories were distinguished, including: the central nervous system, head and neck, testis, kidney, upper gastrointestinal tract, thyroid, female reproductive system cancers, as well as melanoma. Due to the fact that these cancers were treated in a limited number of hospitals, the analysis involving service providers treating the most patients from each of the groups was conducted at the national, and not voivodeship level, which was the case with lung, breast, lower gastrointestinal tract, prostate and bladder cancers.

2. In 2010–2012, 7.7 thousand testicular cancer patients were treated in Poland, and 8 service providers hospitalised more than 2% of all patients. In total, these 8 providers hospitalised approx. 22% of all testicular cancer patients. A vast majority of such patients (over 400) were treated at Maria Skłodowska-Curie Institute of Oncology in Warsaw. In 2010–2012, approx. 21 thousand thyroid cancer patients were treated in Poland, whereas 7 service providers hospitalised more than 2% of all patients. In total, these 7 providers hospitalised approx. 72% of all thyroid cancer patients. This observation proves a clear centralisation of the treatment. A vast majority of such patients (over 5 thousand) were treated at Maria Skłodowska-Curie Institute of Oncology Gliwice Branch.

3. In 2010–2012, approx. 35 thousand central nervous system cancer patients were treated in Poland, whereas 5 service providers hospitalised more than 2% of all patients. In total, these 5 providers hospitalised approx. 12% of all CNS cancer patients. A vast majority of such patients (almost 1 thousand) were treated at the 10 Military Clinical Hospital with Specialist Outpatient Clinic in Bydgoszcz.

4. In 2010–2012, 13.5 thousand melanoma patients were treated in Poland, and 12 service providers hospitalised more than 2% of all patients. In total, these 12 providers hospitalised approx. 45% of all melanoma patients. A vast majority of such patients (over 1.2 thousand) were treated at Maria Skłodowska-Curie Institute of Oncology in Warsaw.

5. In 2010–2012, 31 thousand kidney cancer patients were treated in Poland, whereas 5 service providers hospitalised more than 2% of all patients. In total, these 5 providers hospitalised approx. 12% of all kidney cancer patients. This situation proves that treatment of this cancer is de-centralised. Most patients with this type of cancer (nearly 800) were treated at Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz.

6. In 2010–2012, over 89 thousand upper gastrointestinal cancer patients were treated in Poland, whereas 7 service providers hospitalised more than 2% of all patients. In total, these 7 providers hospitalised approx. 13% of all upper gastrointestinal cancer patients. This situation proves that treatment of this cancer is de-centralised. A majority of such patients (over 1.2 thousand) were treated at the Independent Public Central Clinical Hospital in Warsaw.

7. In 2010–2012, over 43 thousand head and neck cancer patients were treated in Poland, whereas 10 service providers hospitalised more than 2% of all patients. In total, these 10 providers hospitalised approx. 27% of all head and neck cancer patients. A vast majority of such patients (almost 2.4 thousand) were treated at Maria Skłodowska-Curie Institute of Oncology in Warsaw.

8. In 2010–2012, 76 thousand gynaecological cancer patients were treated in Poland, whereas 16 service providers hospitalised more than 2% of all patients. In total, these 16 providers hospitalised approx. 41% of all gynaecological cancer patients. A vast majority of such patients (over 4 thousand) were treated at Maria Skłodowska-Curie Institute of Oncology in Warsaw.

3 Inpatient Treatment Analysis

1. In 2012, 19 healthcare providers reported nearly 36.5 thousand surgical treatment DRGs and over 13 thousand conservative treatment DRGs. Six of these providers reported less than 1.5 thousand hospitalisations due to cancer (excluding chemotherapy and radiation therapy related hospitalisations), and eight of them – less than 3.5 thousand but more than 1.5 thousand. Only in the case of two healthcare providers, the proportion of reported conservative to surgical treatment services was higher than 1:1, and for six of them, the proportion was approx. 1:2 (in the case of the other providers, for every conservative treatment service, there were 2.7 surgical treatment services. Assuming that patient structure by cancer type and stage is similar in these healthcare service providers, 12 of them would report surgical and conservative treatments at a ratio higher than 2:1. In 2012, the number of surgical treatment DRGs with procedures reported as radical (according to ICD-9) by these healthcare providers was approx. 23.5 thousand. Out of these providers, only three reported less than 730 radical procedures in 2012. It means that the other healthcare providers performed on average more than 2 radical procedures a day. For 19 top healthcare providers, the proportion of surgical treatment DRGs involving a procedure considered radical to the other surgical treatment DRGs was approx. 2:1.

2. The conservative treatment DRGs reported by top healthcare providers were analysed according to the average length of stay. The ALOS in the case of three out of six healthcare providers reporting at least 1,000 DRGs was approximately 4 days. For the remaining three healthcare providers from this group, the parameter amounted to 4.5–5.5 days.

3. The correlation between the number of surgical procedures performed annually in a hospital and their efficiency was discussed in multiple medical and statistical papers published in the last 20 years. A general conclusion that can be drawn therefrom is the positive correlation between the number of patients that have undergone a specific surgical treatment in the given facility and the quality of treatment. Assuming that the minimum number of radical surgical procedures oscillates at approx. 60 surgeries per year, only 54 healthcare providers in Poland met the above criterion in terms of the treatment of lower gastrointestinal tract cancers. The other 433 healthcare providers reported fewer procedures. As to breast surgery, only 55 out of 336 healthcare providers (16%) met this criterion. For prostate cancers, 13 out of 175 providers reported more than 60 radical procedures.

4 Chemotherapy Treatment Analysis

1. In 2012, 212 facilities provided chemotherapy treatment and were parties to contracts for the provision of the aforesaid treatment with the third-party public payer in Poland. 16 of them were located in Warsaw, 10 in Poznań, and 8 in Wrocław.

2. The highest share of chemotherapy treatments combined with hospitalisation was reported in Lubelskie and Opolskie Voivodeships, where it exceeded 50% of all chemotherapies.

3. The highest share of outpatient chemotherapy treatments was observed in Kujawsko-Pomorskie (over 40% of all chemotherapies) and Pomorskie (more than 30% of all chemotherapies) Voivodeships.

4. Day care chemotherapy was the most common type of chemotherapy treatment in Świętokrzyskie and Mazowieckie Voivodeships.

5 Radiotherapy Treatment Analysis

1. In 2012, 34 facilities provided radiotherapy to patients in Poland. Maria Skłodowska-Curie Institute of Oncology in Warsaw reported the provision of teleradiotherapy services for 6.8 thousand patients, and brachytherapy services – for 834 patients. Maria Skłodowska-Curie Institute of Oncology Gliwice Branch admitted 5.85 thousand patients for teleradiotherapy, and 780 patients for brachytherapy. In 2012, inhabitants of Poland were cleared for nearly 35.5 thousand radical teletherapy treatments and over 22.2 thousand palliative teletherapy treatments.

2. The patients from particular voivodeships benefited from teletherapy to various degrees (such result is also confirmed by standardised data excluding the potential impact of the cancer type and stage). Nationwide, 24 teletherapies per 100 cancer patients were provided. Most often, they were used by patients from Śląskie (30.9 treatments per 100 cancer patients), Lubuskie (29.3), Kujawsko-Pomorskie (28.1) and Podkarpackie (27) Voivodeships. The lowest numbers were observed in Świętokrzyskie (17.6 treatments per 100 patients), Warmińsko-Mazurskie (18.1) and Łódzkie (19.3) Voivodeships. The median value for Polish voivodeships amounted to 23.9 radical teleradiotherapy procedures per 100 cancer patients.

3. The data confirmed that the number of teletherapy procedures is inversely correlated to the distance between the patient's county and the closest linear accelerator (straight-line distance between city counties). In general, it means that the further the patient lives from a facility with an installed accelerator, the less frequently he or she benefits from teletherapy. The nationwide linear correlation coefficient between the distance and the number of teletherapy services provided per 100 cancer patients was –0.38.

Specialist Outpatient Care

Healthcare Providers Offering Cancer Treatment

1. In 2012, in Poland there were 4,603 Specialist Outpatient Care Facilities where cancer treatment was provided. Most of them were located in voivodeship cities and city counties.

2. In most voivodeships, there were no significant migrations of patients. The percentage of patients from outside of the voivodeship they were treated in ranged in most cases from 5% to 10%. A higher percentage was observed in Mazowieckie (11%), Świętokrzyskie (11%) and Śląskie (12%) Voivodeships. On the other hand, the lowest share of patients from outside of the region was observed in Łódzkie and Pomorskie Voivodeships (3% each).

Positron Emission Tomography (PET) Scans

1. In 2012, over 29.3 thousand PET scans were reported to the Polish National Health Fund by 11 voivodeships (no reports were obtained from Lubuskie, Opolskie, Podkarpackie, Podlaskie and Zachodniopomorskie Voivodeships), where over 21,1 thousand (72%) of PET scans were received by inhabitants of the respective voivodeship.

2. In 2014, such scans were not reported only in 2 voivodeships (Lubuskie, Opolskie), and out of 38.2 thousand scans performed, over 29.3 thousand (77%) were received by patients in their respective voivodeships. The highest percentage of patients from outside the voivodeship was observed in Kujawsko-Pomorskie Voivodeship and amounted to 44% in 2012 (40% in 2014).
3. The number of PET scans per 100 thousand inhabitants[1] in 2012 ranged from approx. 32 scans per 100 thousand inhabitants of Podkarpackie Voivodeship to approx. 133 scans in Świętokrzyskie Voivodeship. In 2014, the numbers were approx. 45 for Podkarpackie Voivodeship and approx. 192 for Świętokrzyskie Voivodeship.

[1]Scans received by inhabitants of the respective voivodeship, including scans performed in other voivodeships.

Medical staff

Surgical oncologists

1. In 2012, the Supreme Medical Chamber's (NIL) database listed 499 surgical oncologists[2]. Most of them were located in Mazowieckie Voivodeship (88), and none in Podkarpackie Voivodeship. In 2012, the highest number of surgical oncologists per 100 thousand adults (above the age of 18 years) was recorded in Świętokrzyskie Voivodeship, and the lowest (excluding Podkarpackie Voivodeship) – in Lubuskie Voivodeship.
2. The lowest number of contracts per surgical oncologist was recorded in Lubuskie Voivodeship (1.11 contracts per physician), while the highest in Łódzkie Voivodeship (3.79 contracts per physician).
3. In 2012, a majority of practising surgical oncologists in Poland were aged between 55 and 60 years.

Gynaecologic oncologists

1. In 2012, the NIL database listed 152 gynaecologic oncologists. Most of them were registered in Mazowieckie Voivodeship, and the fewest in LubelskieVoivodeship (2).
2. The highest number of gynaecologic oncologists per 100 thousand adults was recorded in Świętokrzyskie Voivodeship, and the lowest – in Lubelskie Voivodeship.
3. In 2012, the highest number of contract per gynaecologic oncologist was recorded in Mazowieckie Voivodeship (an average of 2.62), and the lowest – in Lubuskie, Opolskie, Małopolskie, Podkarpackie and Lubelskie Voivodeships (an average of 1 each).
4. In Poland, a majority of gynaecologic oncologists were aged between 40 and 45 years.

Paediatric oncologists and haematologists

1. In 2012, the NIL database listed 152 specialists in paediatric oncology and haematology. Most of the registered physicians were located in Mazowieckie Voivodeship, whereas no specialist in paediatric oncology and haematology was listed in Podkarpackie or Opolskie Voivodeships.
2. In 2012, the number of paediatric oncologists and haematologists per 100 thousand minors was the highest in Lubelskie Voivodeship, and the lowest – in Lubuskie Voivodeship (excluding voivodeships with no registered specialists).
3. The highest number of contracts per specialist in paediatric oncology and haematology was reported in Mazowieckie Voivodeship (2.71).
4. A majority of paediatric oncologists and haematologists were aged between 50 and 55 years.

Clinical oncologists

1. In 2012, the NIL database listed 863 clinical oncologists. Most of them were located in Mazowieckie Voivodeship (213), and the fewest in Lubuskie and Opolskie Voivodeships – 17 and 18, respectively.
2. The highest number of clinical oncologists per 100 thousand adults was observed in Mazowieckie Voivodeship, and the lowest – in Podkarpackie Voivodeship.
3. The highest number of contracts per clinical oncologist was reported in Śląskie Voivodeship (3.74), and the lowest – in Lubuskie and Opolskie Voivodeships (1.05 each).
4. A majority of clinical oncologists were aged between 40 and 45 years.

[2]The number of physicians is not a unique number: if a physician works in several voivodeships, they are taken into account in each of them. Analogical procedure was applied with respect to medical specialities – if a physician has several specialities, he or she is listed under each of them.[3]It should be noted that pathologists are not required to register.

Pathologists

1. In 2012, the NIL database listed 82 pathologists, and most of them were located in Śląskie and Łódzkie Voivodeships[3]. No such specialist was registered in Dolnośląskie, Lubelskie and Warmińsko-Mazurskie Voivodeships.
2. The highest number of pathologists per 100 thousand adults was recorded in Łódzkie and Śląskie Voivodeships, and the lowest (excluding voivodeships with no registered pathologists) in Wielkopolskie Voivodeship.
3. Listed pathologists were mostly aged between 45 and 50.

Radiation therapists

1. In 2012, the NIL database listed 608 radiation therapists, with the highest number in Śląskie Voivodeship (112), and the lowest – in Lubuskie Voivodeship (13).
2. The highest number of radiation therapists per 100 thousand adults was recorded in Śląskie and Opolskie Voivodeships, and the lowest – in Wielkopolskie and Podkarpackie Voivodeships.
3. The highest average number of signed contacts per radiation therapist (3.37) was reported in Śląskie Voivodeship. Opolskie Voivodeship was characterised by the lowest number of contracts per radiation therapist (1.04).
4. Most radiation therapists were aged between 45 and 50 years.

Oncology nurses

[3]It's worth mentioning that pathologists are not obligated to register their activity.
[4]Nurses specialising in oncology nursing may work at different wards than those compliant with their field of specialisation. In addition, wards with an oncology profile, apart from nurse specialists in oncology nursing, also employ nurses without additional qualifications acquired as part of postgraduate education. Therefore, the numbers presented in the graph (number of nurses specialising in oncology nursing) should not be interpreted as the actual number of nurses employed in the given field.
[3]If the patient's TERYT code was not reported (TERYT code was not assigned to the patient in the Central Registry of Insured Persons), TERYT code of the service provider was assigned (assuming the patient has not migrated).
[3]At present, the major limitation for the number of PET scans performed is the scope of contracts. The first scenario is a simplified presentation of a situation where the contract is not extended. The second one, however, is based on the maximum potential (calculated on the basis of the currently reported one).

In 2015, there were 1,251 oncology nurses in Poland,[4] most of whom were registered in Wielkopolskie Voivodeship (126), and the lowest number was observed in Opolskie Voivodeship (4). The nurses were mostly aged between 40 and 49 years.

Part III

Healthcare Needs Forecasts

Demographic Forecast

1 Population Breakdown and Demography Forecast

In 2014–2029, the population of Poland will decrease by 1.17 million people, which is about 3%. The gender-related structure in 2029 will be similar to 2014 (the predominance of women in the population). The population of Poland in 2029 will be on average older than in 2014.

It is expected that by 2029 the number of inhabitants of most voivodeships will decrease, with the exception of Mazowieckie (+ 1.69%), Pomorskie (+ 1.48%), Małopolskie (+ 1.12%) and Wielkopolskie (+ 0.12) Voivodeships. Changes in the age structure of individual voivodeships will take place mostly in the same way as in the whole country.

Projected Number of Patients

1 Incidence Forecast

1. Taking into account demographic processes only, it is estimated that in 2016–2029 the number of new cancer cases will increase from 180.3 thousand to 213.1 thousand (+18%). In 2016, the highest number of new

cancer cases in Poland will be recorded in Mazowieckie (25.1 thousand) and Śląskie (22.5 thousand) Voivodeships. The fewest new cases will be diagnosed in Opolskie and Lubuskie Voivodeships – 4.8 thousand and 4.7 thousand, respectively. The most rapid increase in the number of new cases in 2016–2029 will be observed in Wielkopolskie (22.3%), Pomorskie (22.3%), Podkarpackie (22.2%) and Małopolskie (21.8%) Voivodeships, and the smallest increase – in Łódzkie (11.6%) and Śląskie (13.4%) Voivodeships. In 2029, lung cancer will still be responsible for the highest number of newly diagnosed cases. The most rapid increase in the number of new cases will be observed for prostate cancer (a 29% increase between 2016 and 2029). In the same period, a decrease is expected in the incidence of testicular cancer. The most substantial change in the incidence of cancers will be observed in 75–84-year-old patients. As compared to 2016, a 60% increase will be reported until 2029.

2. In 2016, over 27.6 thousand new cases of lung cancers will be diagnosed in Poland. Most of them will be reported in Mazowieckie (3,830) and Śląskie (3,471) Voivodeships. Lubuskie Voivodeship will see the lowest number of new cases (725). In 2029, over 32.5 thousand new cases of lung cancers will be diagnosed in Poland. Again, most of them will be reported in Mazowieckie (4,548) and Śląskie (3,898) Voivodeships. Opolskie Voivodeship will see the lowest number of new cases (854). The most substantial increase in the number of new lung cancer cases will be recorded in Podkarpackie and Małopolskie Voivodeships: 23% and 21%, respectively, whereas it will be the least marked in Łódzkie (10%) and Śląskie (12%) Voivodeships.

3. In 2016, over 20.3 thousand new cases of breast cancers will be diagnosed in Poland. The highest number of such cases will be reported in Mazowieckie Voivodeship (2,803). The lowest incidence of breast cancers will be observed in Lubuskie (535) and Opolskie (547) Voivodeships. In 2029, over 22.9 thousand new cases of lung cancers will be diagnosed in Poland. Again, most of them will be reported in Mazowieckie Voivodeship (3,205). The lowest incidence will be observed in Lubuskie (608) and Opolskie (592) Voivodeships. The most substantial increase in the number of new breast cancer cases will be recorded in Pomorskie, Wielkopolskie and Małopolskie Voivodeships: 17% each, whereas it will be the least marked in Łódzkie Voivodeship (7%).

4. In 2016, over 15.1 thousand new cases of colon cancers will be diagnosed in Poland. Mazowieckie Voivodeship will see the highest number of new cases (2,130). The lowest number of new cases will be reported in Lubuskie Voivodeship – 390. In 2029, over 18.7 thousand new cases of colon cancers will be diagnosed in Poland. The lowest number of new cases, 489, will be diagnosed in Opolskie Voivodeship. The most considerable increase in the incidence of colon cancers will be recorded in Pomorskie, Warmińsko-Mazurskie and Wielkopolskie Voivodeships: 28% each. The smallest increase in the number of new cases will be observed in Łódzkie Voivodeship: 17%.

5. In 2016, over 8.6 thousand new cases of anus and rectum cancers will be diagnosed, with the highest incidence in Mazowieckie (1,209) and Śląskie (1,087) Voivodeships. Lubuskie and Opolskie Voivodeships will see the lowest number of new cases: 224 and 234, respectively. By 2029, the largest increase in the number of new cases will be recorded in Wielkopolskie, Pomorskie and Warmińsko-Mazurskie Voivodeships:

6. In 2016, the number of new prostate cancer cases in Poland will exceed 16.4 thousand, with most of them diagnosed in Mazowieckie (2,267) and Śląskie (2,074) Voivodeships, and the fewest in Lubuskie Voivodeship (424). By 2029, the situation will change the most for Warmińsko-Mazurskie, Lubuskie and Podkarpackie Voivodeships: the number of new cases in these regions will increase by 37%, 36% and 36%, respectively.

7. 9.3 thousand new bladder cancer cases will by diagnosed in 2016. Most of them will be reported in Mazowieckie (1,312) and Śląskie (1,169) Voivodeships, and the number will be the lowest in Lubuskie Voivodeship (240). By 2029, the most substantial increase in the incidence will be observed in Warmińsko-Mazurskie, Pomorskie and Wielkopolskie Voivodeships – the number of new cases will be higher by 28% as compared to 2016.

2 5-Year Prevalence Forecast

The projected 5-year cancer prevalence will increase in 2016–2029 by 81 thousand cases (i.e. from 474 thousand to 555 thousand; +17%). The highest 5-year prevalence in 2016 in Poland will apply to breast cancers and will amount to 82,551. Another type of cancer with the second highest 5-year prevalence will be prostate cancer (60,666). The same two types of cancer will have the highest prevalence in 2029: 90,968 for breast cancer and 79,968 for prostate cancer.

Treatment Forecast

1 Hospitalisation

1. Based on NFZ reports for 2009–2014, an empirical model of hospitalisation with the purpose of performing a radical surgical procedure was developed. According to the data, for each patient cohort, the number and timing of procedures were identified, and divided by: cancer type (as per cancer groups), stage at the time of diagnosis, age groups and the voivodeship where the patient received treatment.

2. Performed analyses (including only demographic changes, *ceteris paribus*) indicate that the demand for hospitalisation with the purpose of performing a surgical procedure considered radical will grow. In 2018, the highest demand for surgical procedure is expected to apply to breast cancers (18.1 thousand), and it will grow to 18.9 thousand in 2024. The most hospitalisations associated with these procedures will be reported in Mazowieckie Voivodeship.

3. Lower gastrointestinal tract cancer is the malignancy with the second-highest projected number of radical procedures. The most hospitalisations will be required in Mazowieckie Voivodeship.

4. In 2018, the maximum number of contracts for the provision of "oncology package" combined treatment should somewhat decrease as compared to 2015. Overall, in Poland, the maximum number of contracts in 2018 will be the highest for surgical oncology (381 contracts), with the most in Mazowieckie Voivodeship (67), and the fewest in Opolskie Voivodeship (9). On the other hand, in 2024, the maximum number of contracts signed in the field of surgical oncology should amount to 410 (34% of all contracts for the provision of “oncology package” unlimited combined treatment, with most in Mazowieckie Voivodeship (72) and the fewest in Opolskie Voivodeship (10). The lowest number of projected contracts will be signed in the field of plastic surgery: 1 (Zachodniopomorskie Voivodeship).

2 Positron Emission Tomography (PET) Scan Forecast

1. Due to the strengthening position of PET diagnostics (including an increase in the number of scans from 29,346 in 2012 to 34,174 in 2014), the forecasts used the implementation level for 2014. Based on the actual performance level, the number of scans performed in individual patient groups defined by the patient’s voivodeship of residence,[5] age (by age groups) and gender. Based on these data, the implementation rates for these services were developed.

2. Projected number of PET scans allows determining the number of PET scanners required. Projected equipment demand was presented in two scenarios: implementation at the level of 1,913 scans per device (an average number in 2014) and 4,474 scans per device (the highest number reported in 2014)[6]. It is assumed that in 2018, 21 PET scanners will be required in Poland, including the demand for 3 devices in each of the following Voivodeships: Mazowieckie, Małopolskie, Śląskie and Wielkopolskie. Each voivodeship should be equipped with at least 1 scanner.

3 Chemotherapy

1. As the maximum, within the analysed time horizon, a slight increase in the demand for chemotherapy (inpatient treatment, day care treatment, outpatient treatment), from 1,055 thousand person-days in 2016 to 1,142 thousand person-days in 2029 (+9%), is estimated.

2. As the minimum, within the analysed time horizon, a slight increase in the demand for chemotherapy (inpatient treatment, day care treatment, outpatient treatment), from 777 thousand person-days in 2016 to 637 thousand person-days in 2029 (-18.1%), is estimated.

3. The highest number of chemotherapy person-days both in 2016 and 2029 is estimated for Mazowieckie Voivodeship, and the lowest – for Opolskie Voivodeship.

[5] If the patient’s TERYT code was not reported (TERYT code was not assigned to the patient in the Central Registry of Insured Persons), TERYT code of the service provider was assigned (assuming the patient has not migrated).
[6] At present, the major limitation for the number of PET scans performed is the scope of contracts. The first scenario is a simplified presentation of a situation where the contract is not extended. The second one, however, is based on the maximum potential (calculated on the basis of the currently reported one).

4 Radiotherapy

1. In 2014, Poland was equipped with 144 linear accelerators. Most of them were located in Śląskie (25 linear accelerators), Mazowieckie (17) and Małopolskie (15) Voivodeships. The fewest were reported in Lubuskie and Opolskie Voivodeships (3 each). Most linear accelerators were located in large cities (Warszawa, Poznań, Gliwice). Since there was only 1 accelerator per 273 thousand inhabitants, neither the ESTRO recommendations of 2005 (1 accelerator per 250 thousand inhabitants) nor the IAEA recommendations of 2010 (1 accelerator per 180 thousand inhabitants) have been met. The most favourable ratio of installed linear accelerators to the size of the population was observed in the following Voivodeships: Śląskie (1 per 184 thousand), Zachodniopomorskie (1 per 215 thousand), Małopolskie (1 per 240 thousand) and Warmińsko-Mazurskie (1 per 241 thousand). Only these voivodeships met the 2005 ESTRO recommendations. None Polish voivodeship met the IAEA recommendations.

2. In 2014, the number of patients receiving teleradiotherapy amounted to nearly 65 thousand, which means that on average there was 1 accelerator per 0.45 thousand patients (IAEA recommendations of 2010 regarding 450 patients per 1 accelerator have not been met).

3. The average age of an accelerator in Poland was 5.6 yrs. On average, the oldest accelerators were used in Pomorskie (7.2) and Kujawsko-Pomorskie (7.2) Voivodeships. Wielkopolskie (7) and Łódzkie (6.9) Voivodeships also had high average age accelerators. The median for voivodeships was 6.3 years. On average, the newest accelerators were installed in Warmińsko-Mazurskie (2.8), Podlaskie (3.3) and Małopolskie (3.8) Voivodeships.

4. The projected demand for teletherapy in 2025 in Poland nearly reached 90 thousand.

5. According to the model for the optimisation of purchase and localisation of linear accelerators for 2016–2025, in 2025, 200 linear accelerators should be installed in Poland. Most of them should be located in Warsaw (11 accelerators), Poznań (11) and Gliwice (10).

Attachments

Table of Attachments

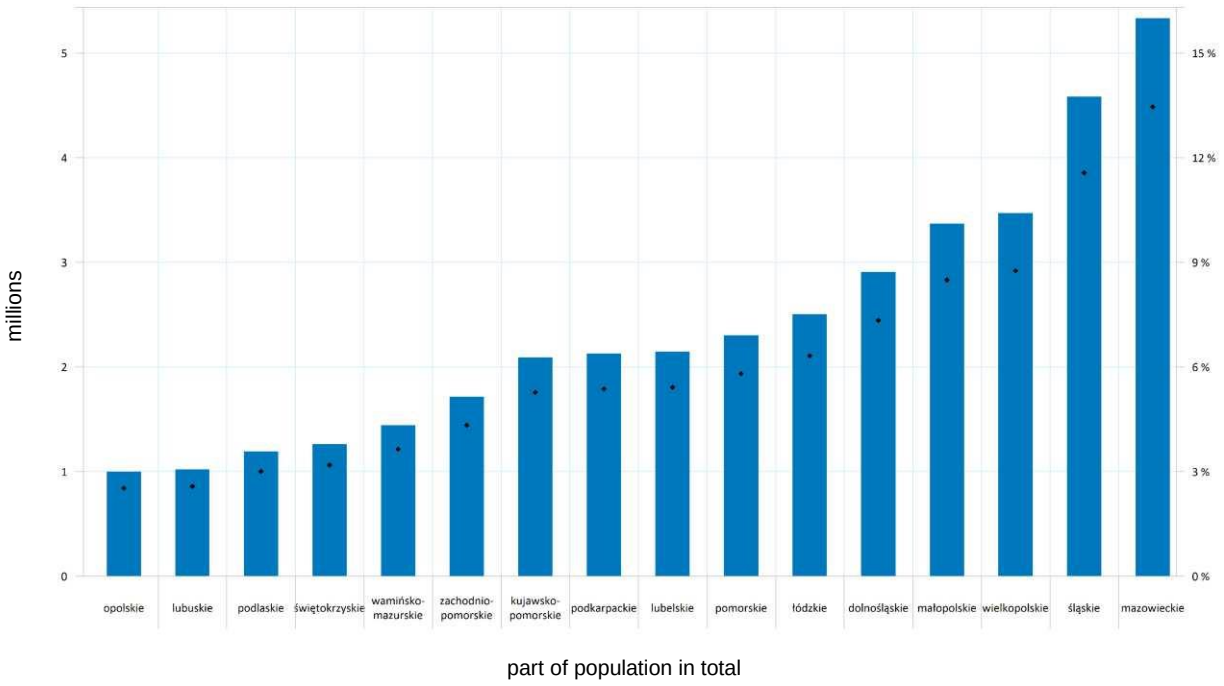
I	Demographic and Epidemiological Aspects	19
	1.1 Population Breakdown	20
	1.2 Deaths due to Cancers	25
	1.3 Annual Hospital Morbidity: Cancers	31
	1.4 Cancer Incidence	33
II	Status and Use of Resources: the Analysis	51
	2.1 Hospitalisation	52
	2.1.1 Surgical and Conservative Treatment Analysis	79
	2.1.2 Chemotherapy Treatment Analysis	83
	2.1.3 Radiotherapy Treatment Analysis	85
	2.1.4 Hospitalisation – children aged below 18 years	87
	2.2 Specialist Outpatient Care	90
	2.3 Positron Emission Tomography (PET)	95
	2.4 Medical Staff	97
III	Healthcare Needs Forecasts	104
	3.1 Projected Population Breakdown	105
	3.2 Epidemiological Forecast	109
	3.2.1 Incidence Forecast	109
	3.2.2 5-Year Prevalence Forecast	117
	3.2.3 Surgical Treatment Forecast	120
	3.2.4 PET Scan Forecast	121
	3.2.5 Chemotherapy Treatment Forecast	123
	3.2.6 Radiotherapy Treatment Forecast	124

Attachments to Part I

Demographic and Epidemiological Aspects

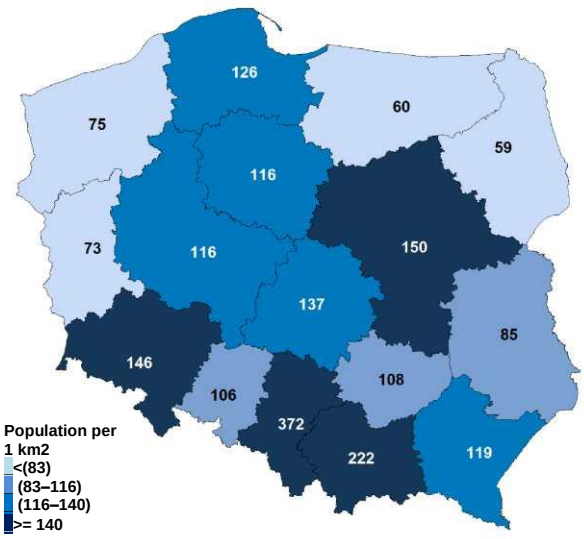
1.1 Population Breakdown

Figure 1: Population in Poland by voivodeship (2014)



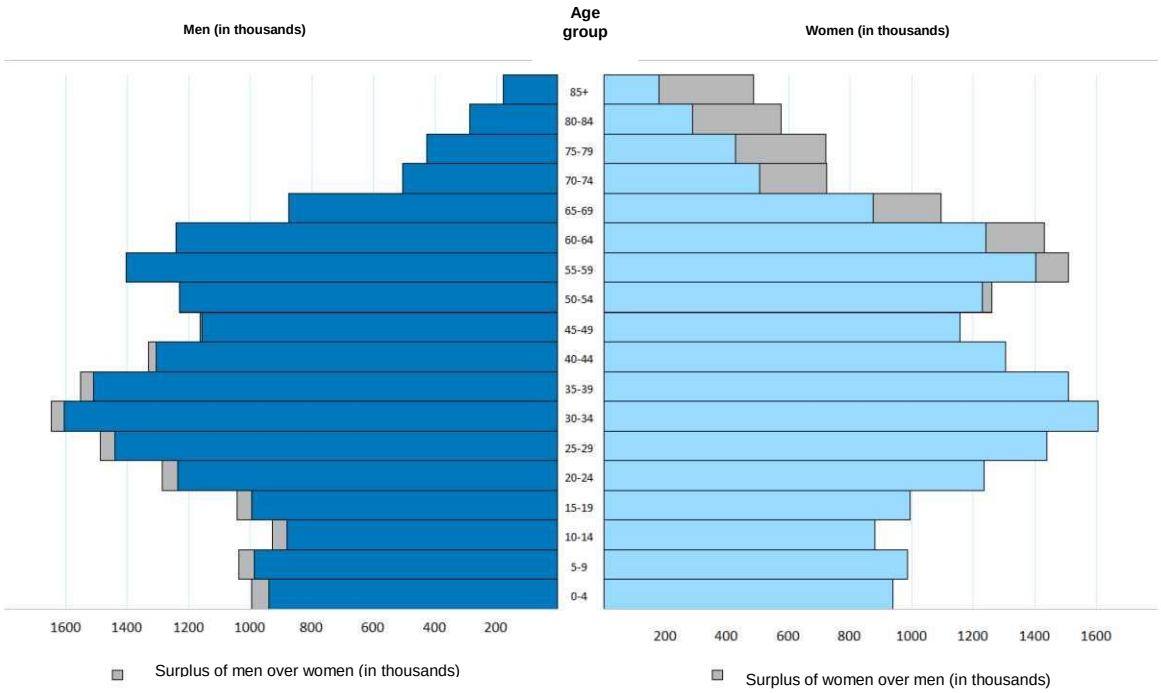
Source: compiled based on data provided by the Central Statistical Office

Figure 2: Population density by voivodeship (2014)



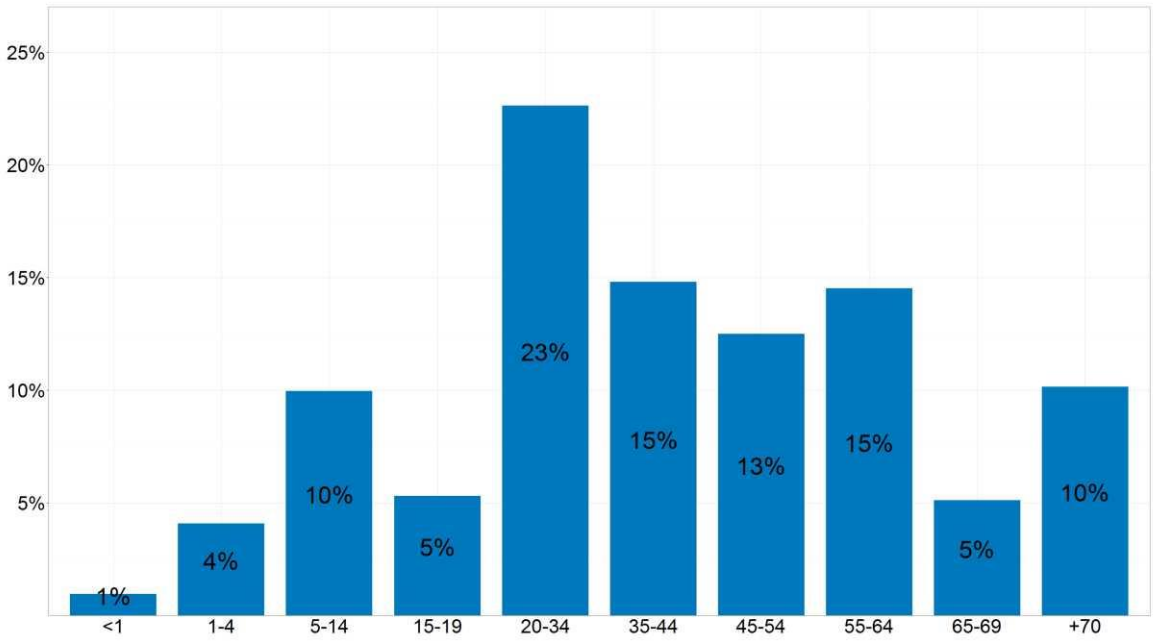
Source: compiled based on data provided by the Central Statistical Office

Figure 3: Population structure by gender and age in Poland (2014)



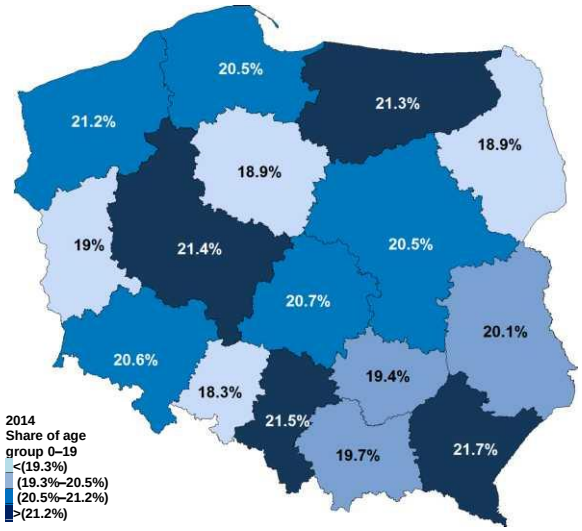
Source: compiled based on data provided by the Central Statistical Office

Figure 4: Population structure by age groups in Poland (2014)



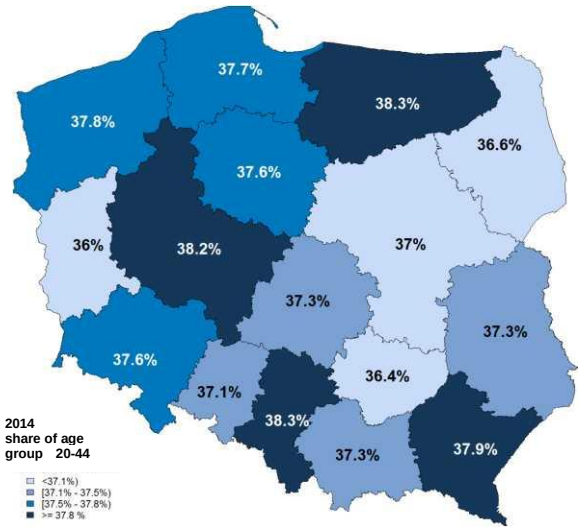
Source: compiled based on data provided by the Central Statistical Office

Figure 5: Share of persons aged below 19 years by voivodeship (2014)



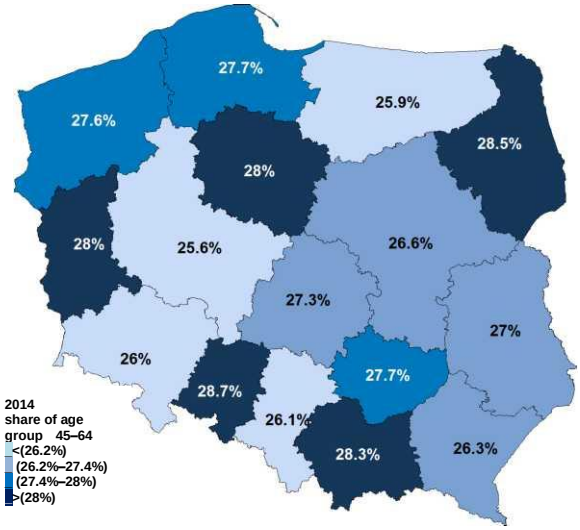
Source: compiled based on data provided by the Central Statistical Office

Figure 6: Share of persons aged 20-44 years by voivodeship (2014)



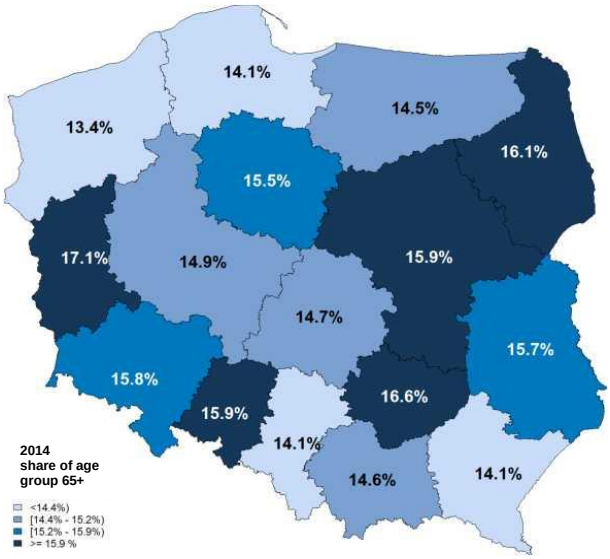
Source: compiled based on data provided by the Central Statistical Office

Figure 7: Share of persons aged 45–64 years by voivodeship (2014)



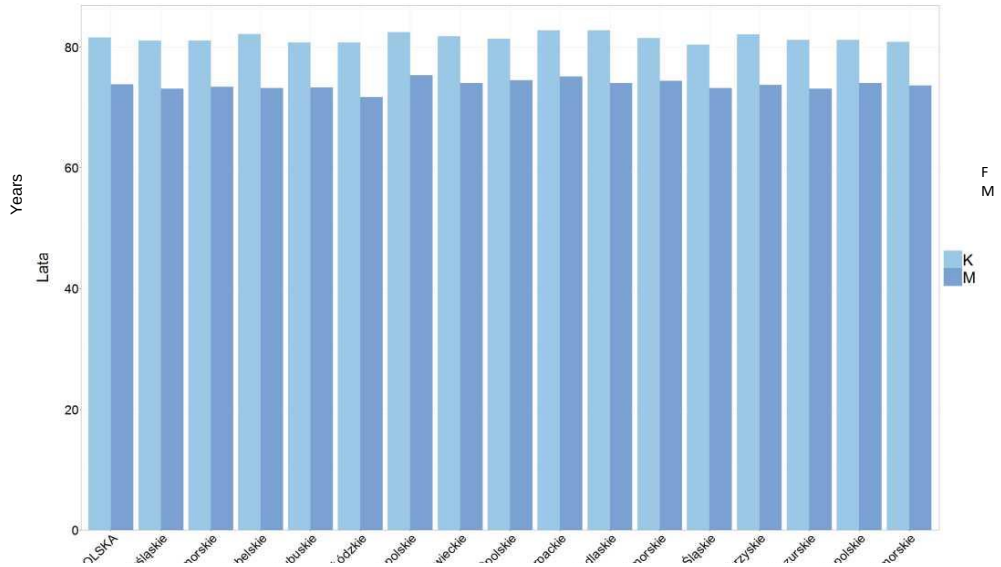
Source: compiled based on data provided by the Central Statistical Office

Figure 8: Share of persons aged 65 years and above by voivodeship (2014)



Source: compiled based on data provided by the Central Statistical Office

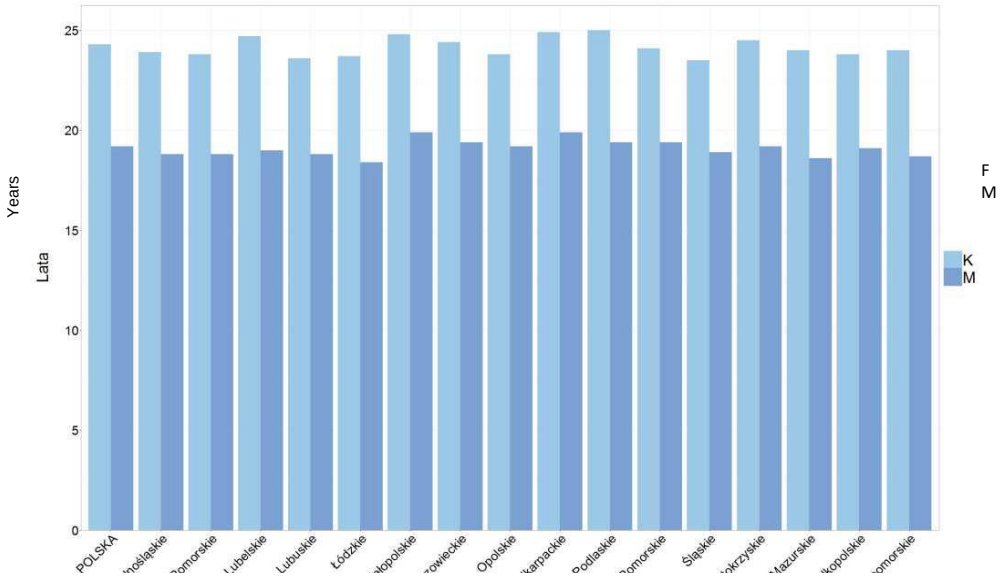
Figure 9: Life expectancy of a newborn by voivodeship (2014)



Source: compiled based on data provided by the Central Statistical Office

Figure 10: Life expectancy of a 60-year-old person by voivodeship (2014)

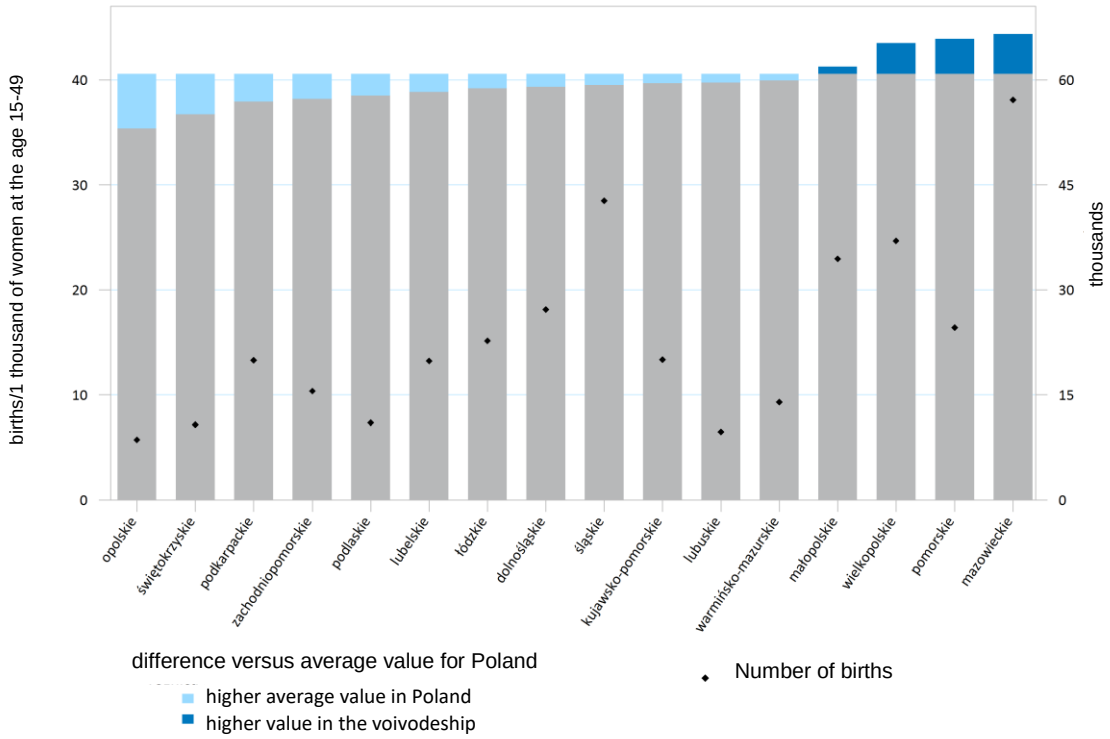
Wykres 10: Oczekiwana długość trwania życia osoby w wieku 60 ukończonych lat wg województw (2014)



Source: compiled based on data provided by the Central Statistical Office

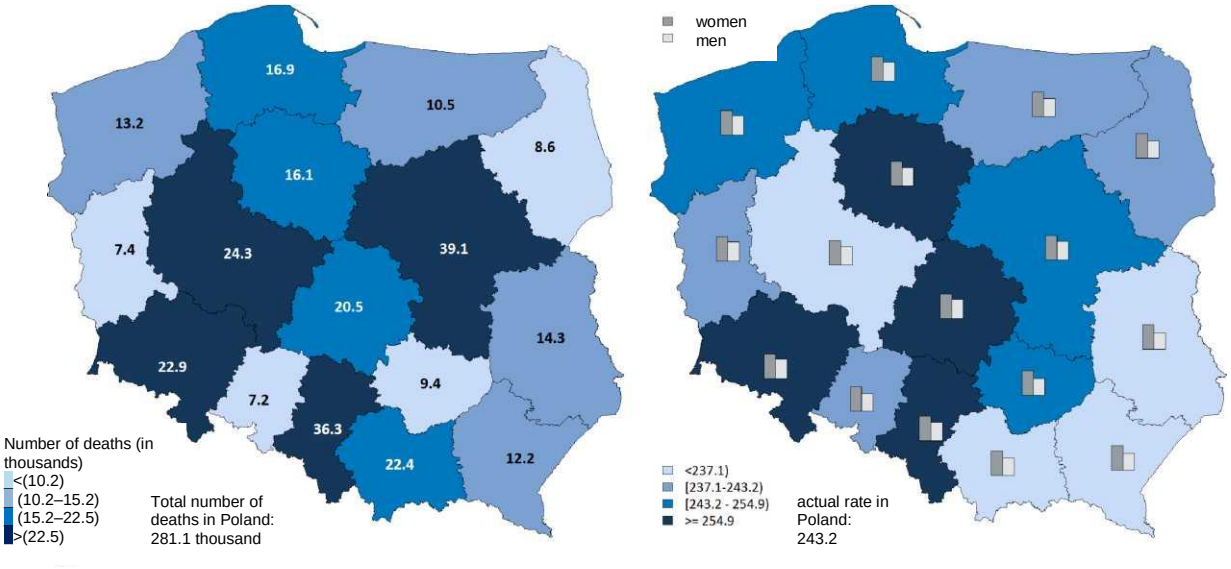
Źródło: opracowanie własne na podstawie danych GUS.

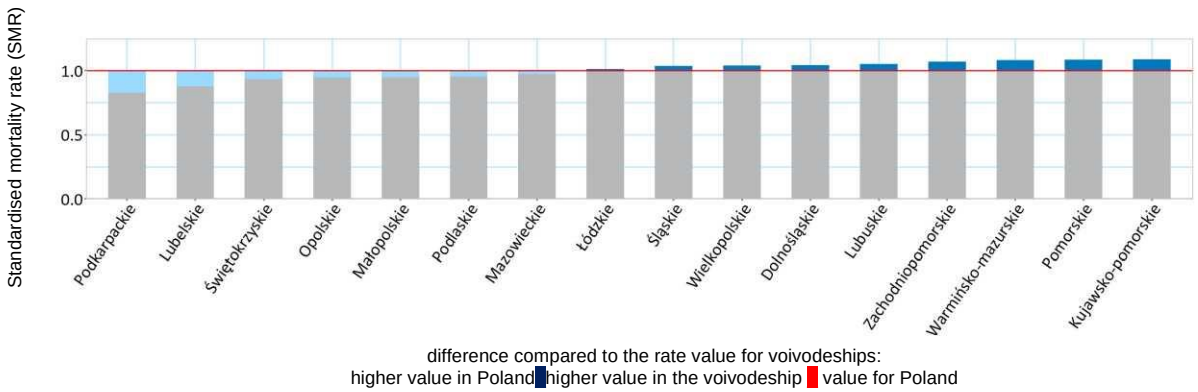
Figure 11: Fertility rate and births by voivodeship (2014)

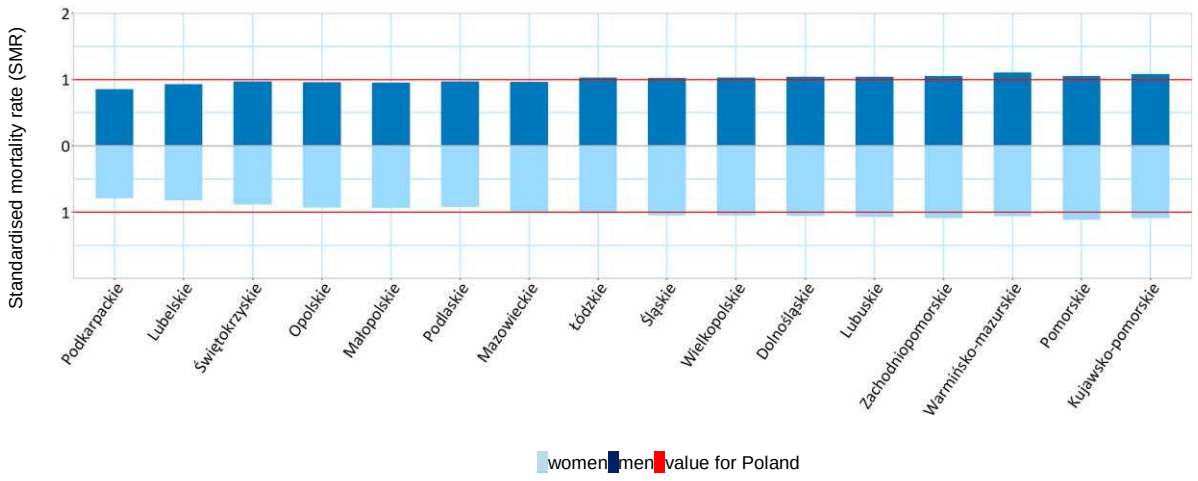


Source: compiled based on data provided by the Central Statistical Office

Figure 12: Total deaths due to cancers (C00–C97) (2011–2013)

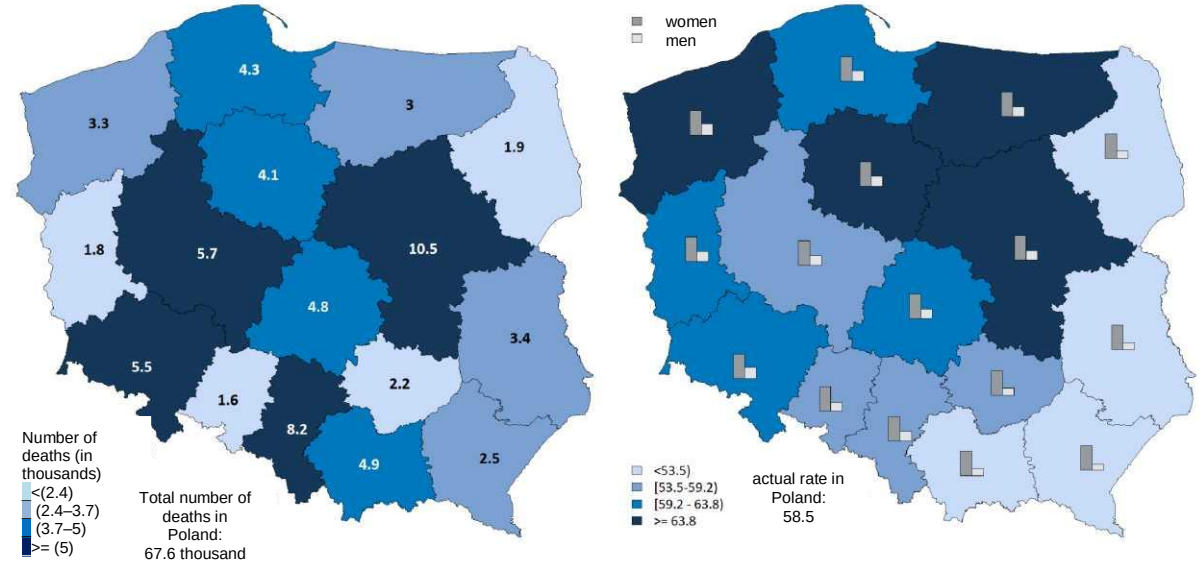


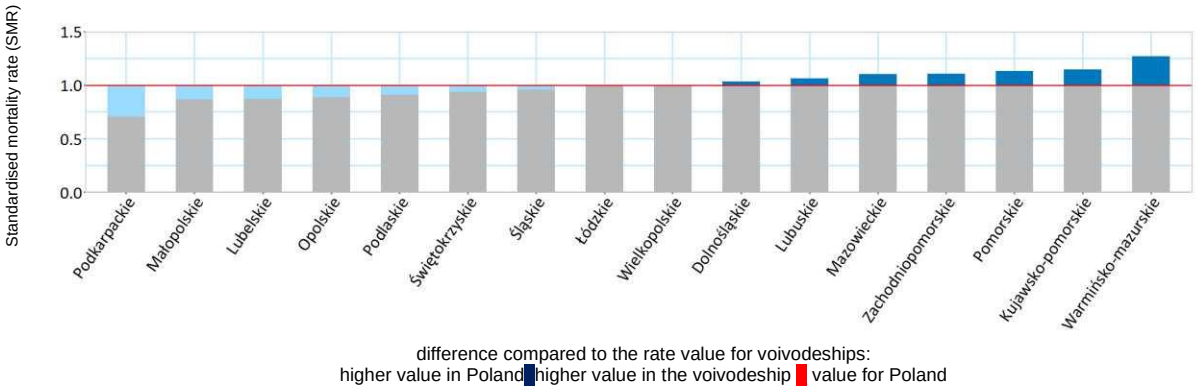


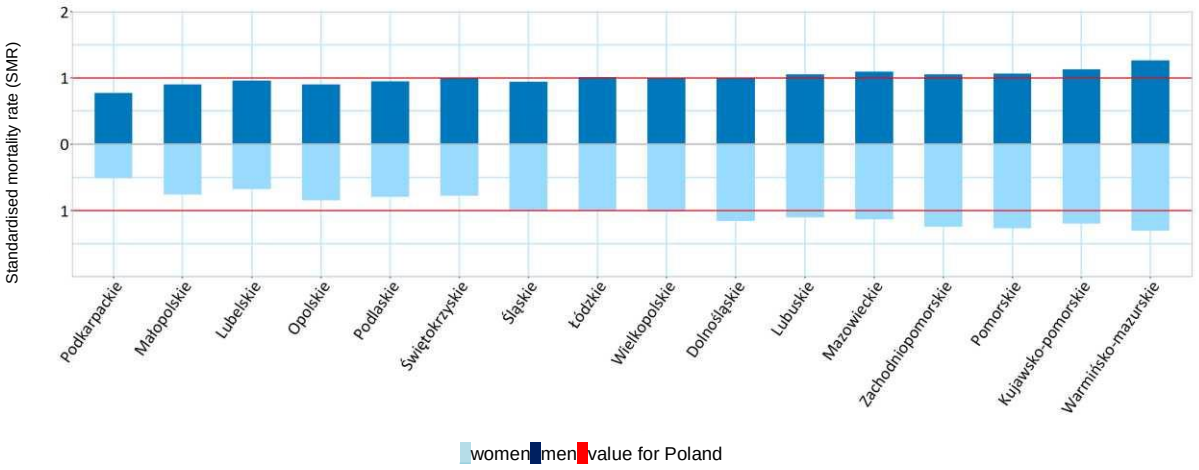


Source: based on data provided by the National Public Health Institute – National Institute of Hygiene.

Figure 13: Total deaths due to trachea, bronchus and lung cancers (C33–C34) (2011–2013)

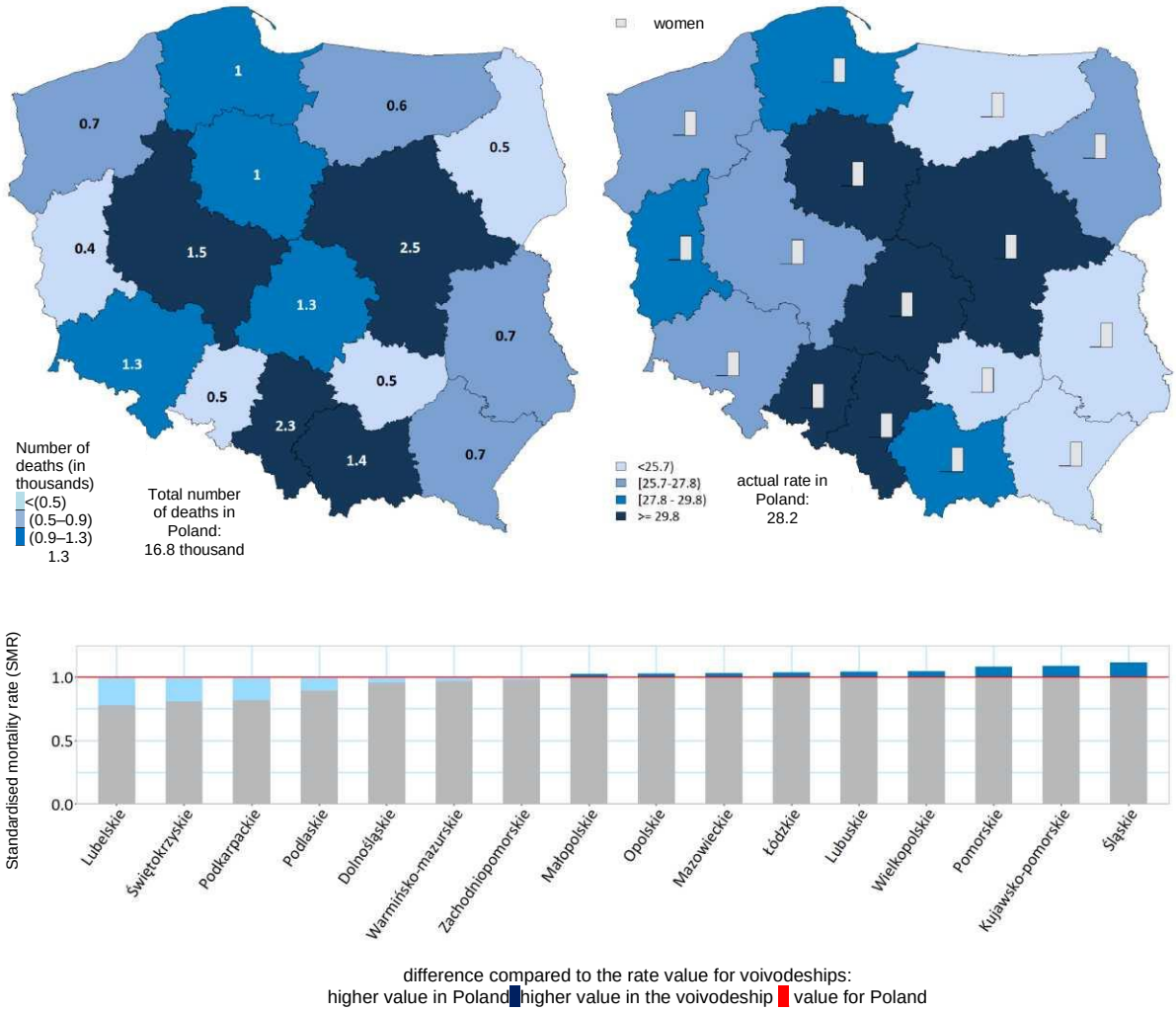






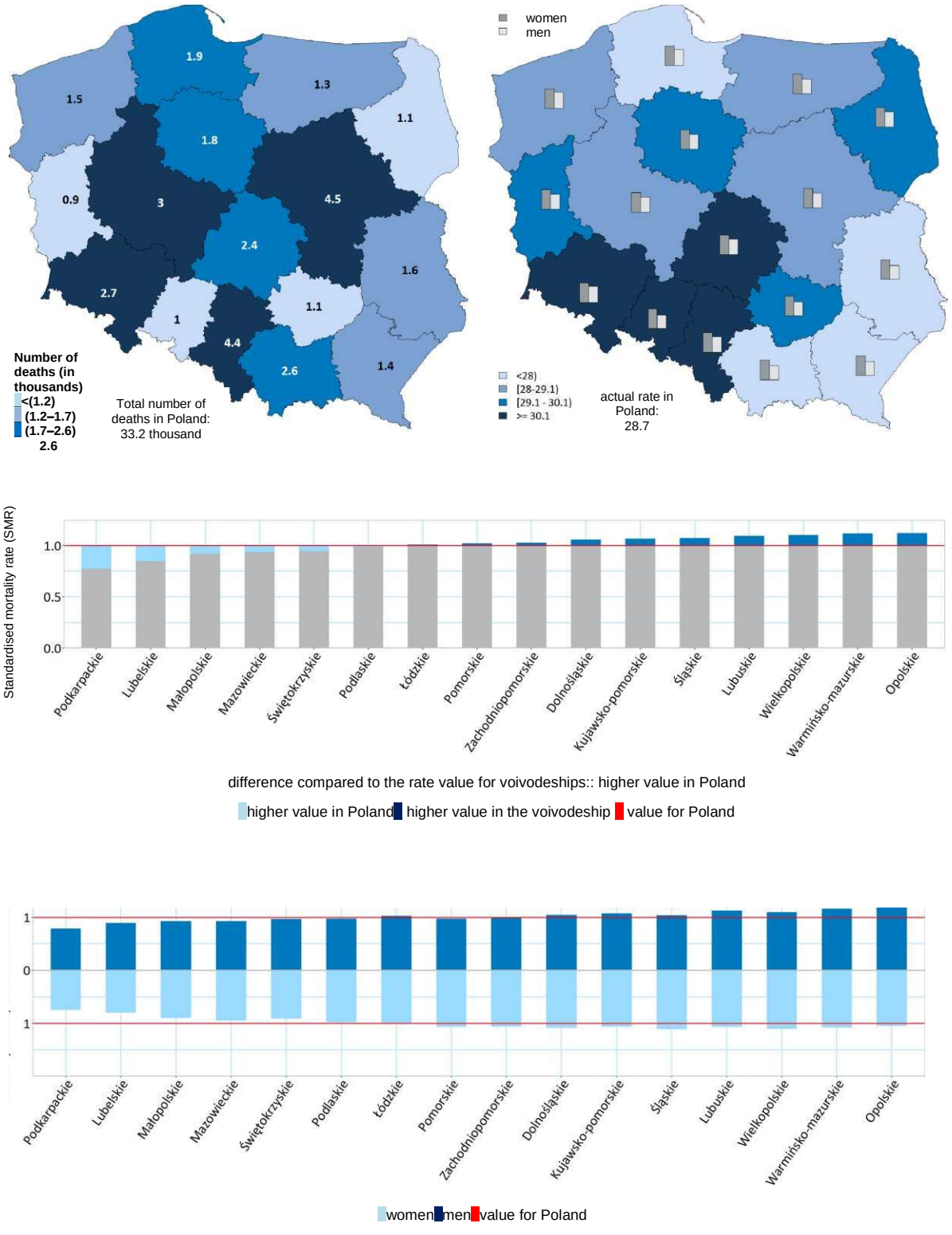
Source: based on data provided by the National Public Health Institute – National Institute of Hygiene.

Figure 14: Deaths due to breast cancer in women (C50) (2011—2013).



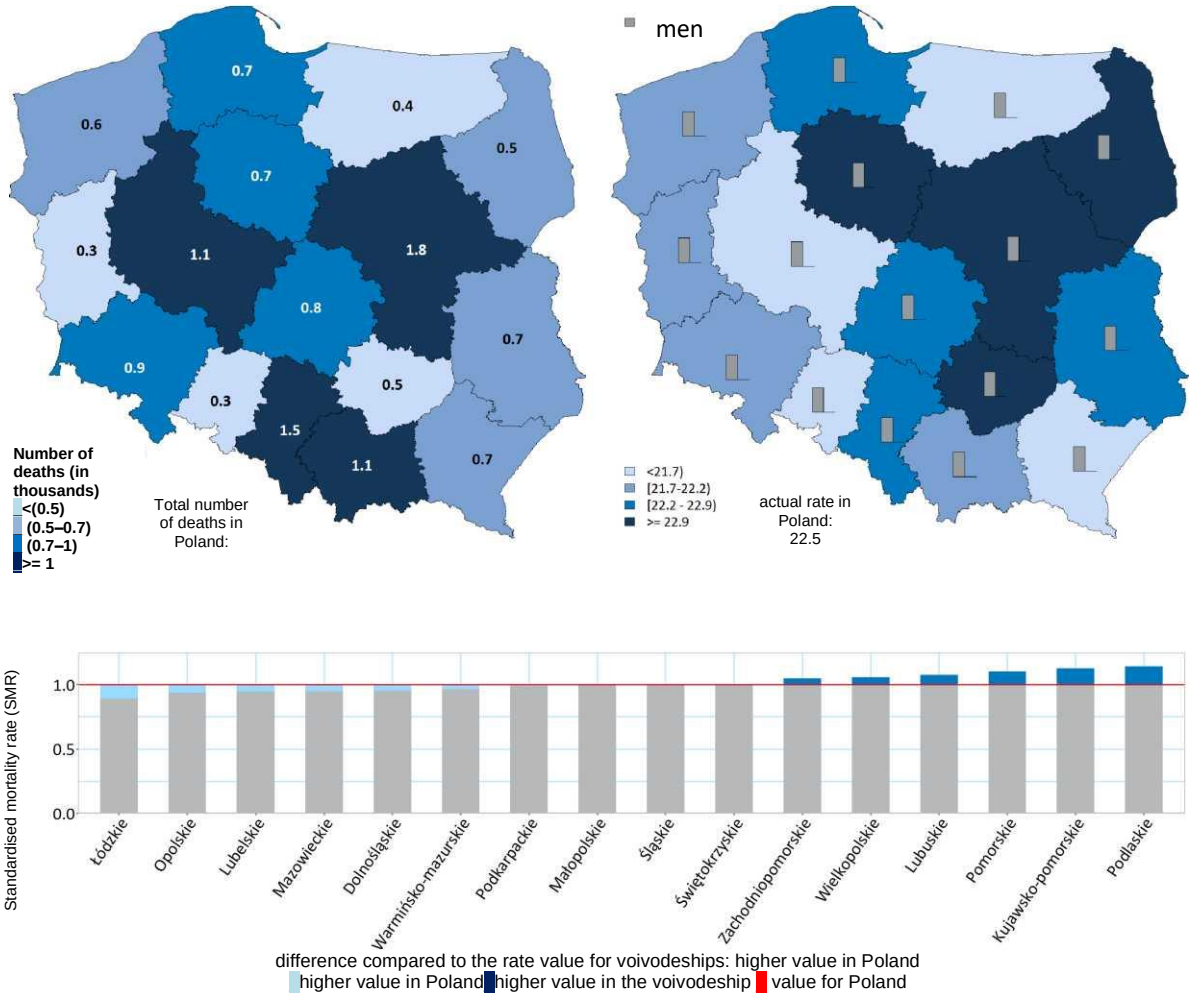
Source: based on data provided by the National Public Health Institute – National Institute of Hygiene.

Figure 15: Deaths due to lower gastrointestinal tract cancer (C18–C21) (2011–2013)



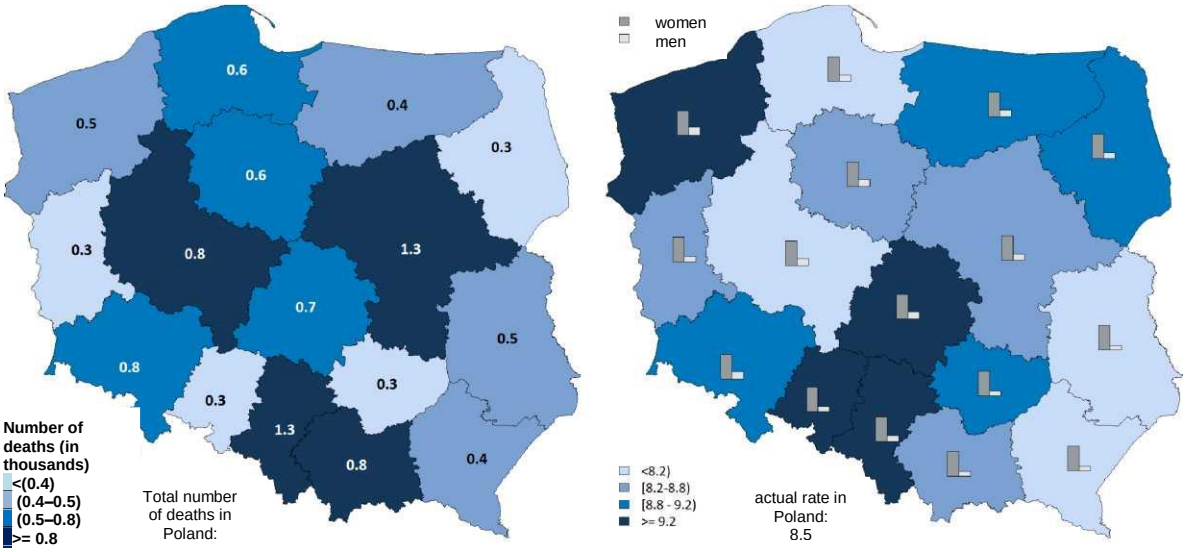
Source: based on data provided by the National Public Health Institute – National Institute of Hygiene.

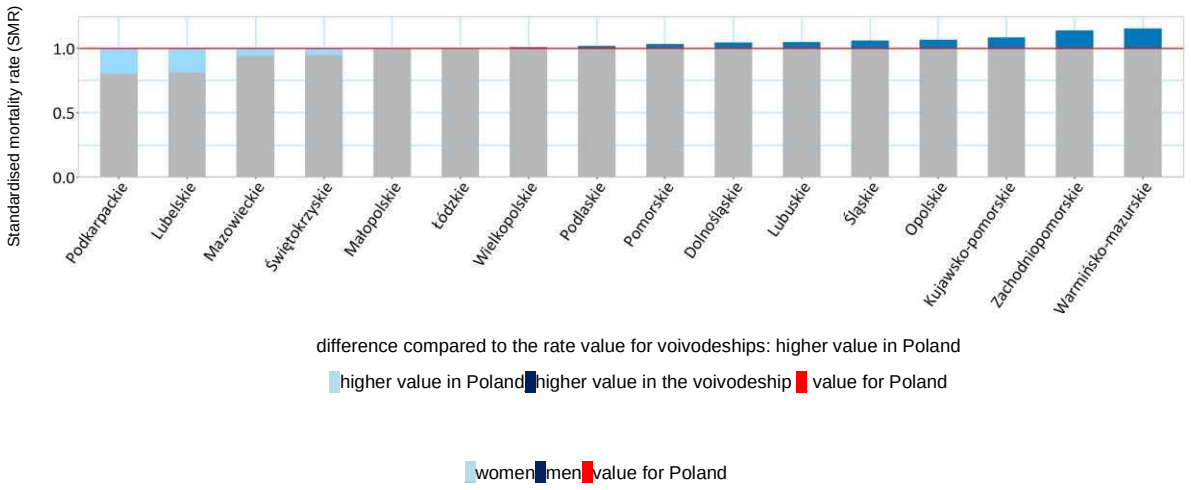
Figure 16:Deaths due to prostate cancers (C61) (2011–2013)



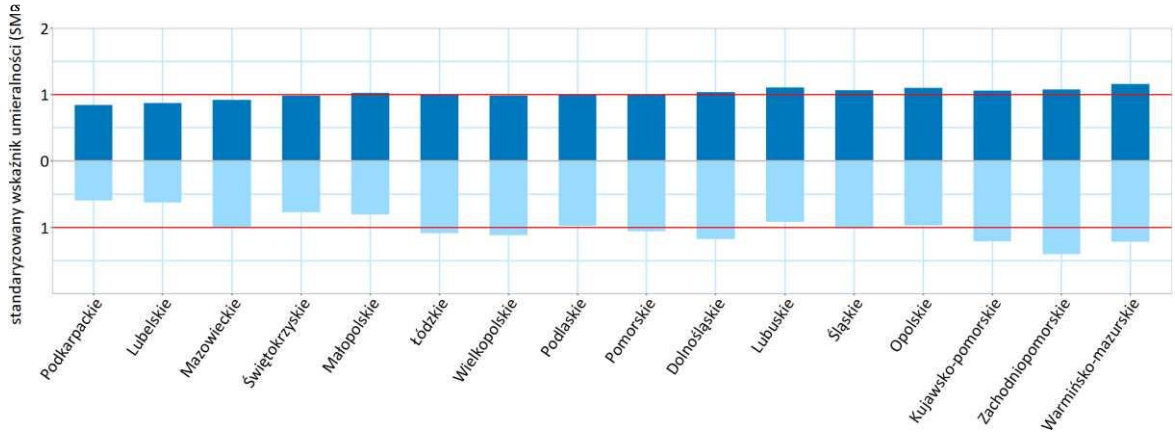
Source: based on data provided by the National Public Health Institute – National Institute of Hygiene.

Figure 17: Deaths due to bladder cancers (C67) (2011–2013)



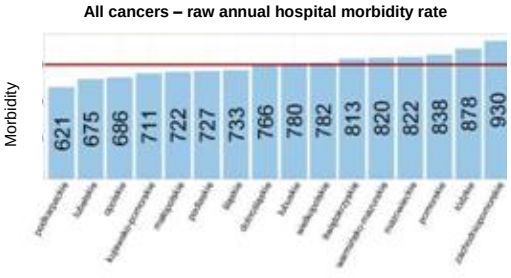


Source: based on data provided by the National PublicHealth Institute – National Institute of Hygiene.

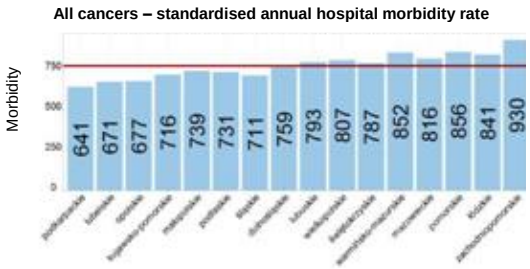


1.3 Annual Hospital Morbidity: Cancers

Figure 18: Annual hospital morbidity: all types of cancer (2012) in Poland

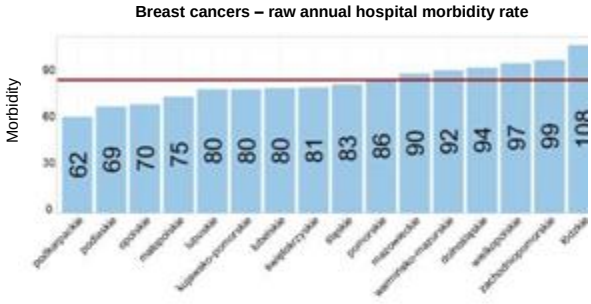


Source: compiled by DAiS based on data provided by the NFZ and Central Statistical Office.

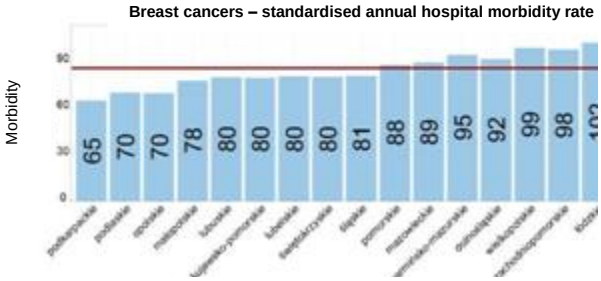


Source: compiled by DAiS based on data provided by the NFZ and Central Statistical Office.

Figure 20: Annual hospital morbidity: breast cancers (2012)

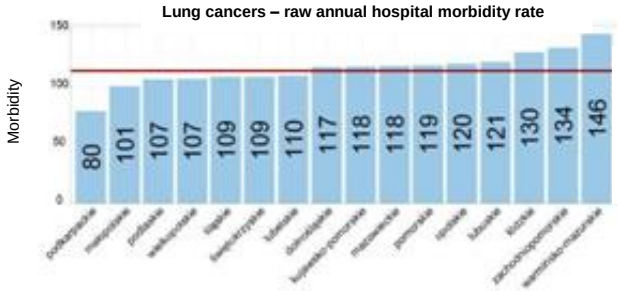


Source: compiled by DAiS based on data provided by the NFZ and Central Statistical Office.

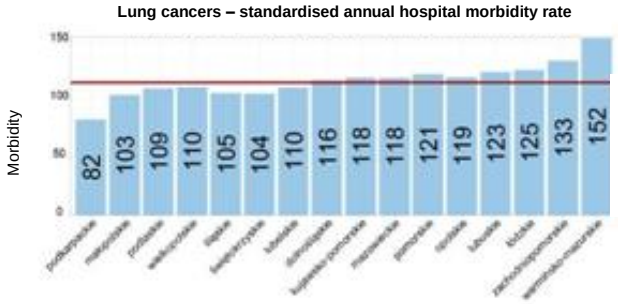


Source: compiled by DAiS based on data provided by the NFZ and Central Statistical Office.

Figure 19: Annual hospital morbidity:malignant lung neoplasms (2012)

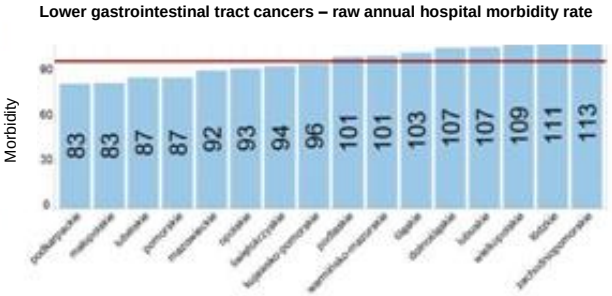


Source: compiled by DAiS based on data provided by the NFZ and Central Statistical Office.

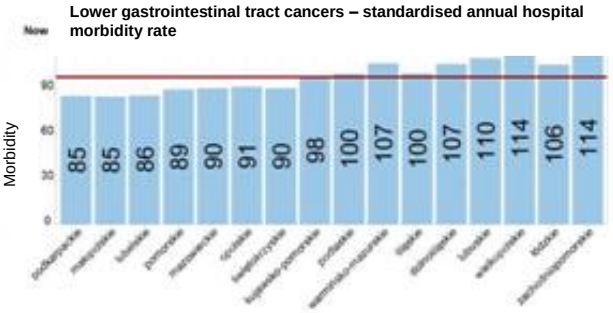


Source: compiled by DAiS based on data provided by the NFZ and Central Statistical Office.

Figure 21: Annual hospital morbidity: lower gastrointestinal tract cancers (2012)

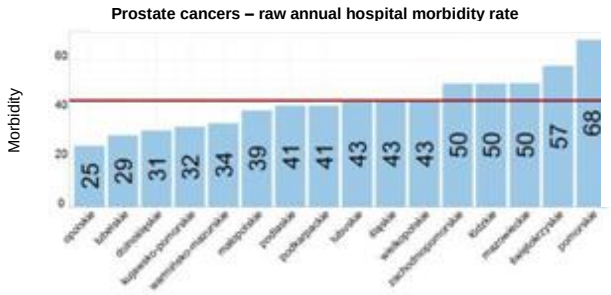


Source: compiled by DAiS based on data provided by the NFZ and Central Statistical Office.



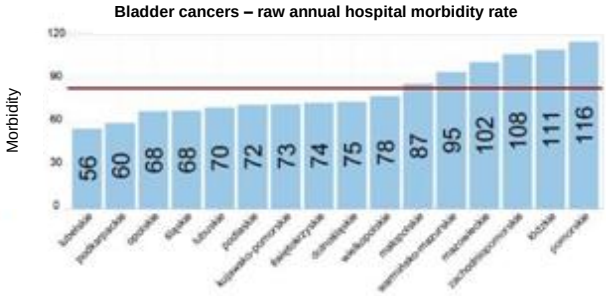
Source: compiled by DAiS based on data provided by the NFZ and Central Statistical Office.

Figure 22: Annual hospital morbidity: prostate cancers (2012)

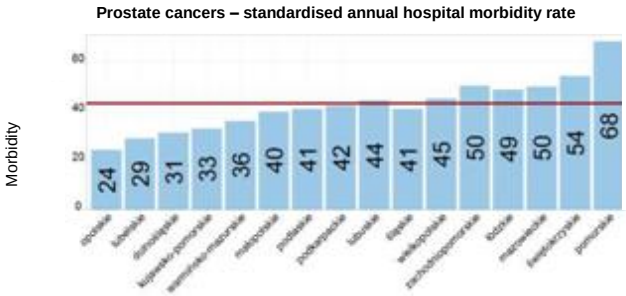


Source: compiled by DAiS based on data provided by the NFZ and Central Statistical Office

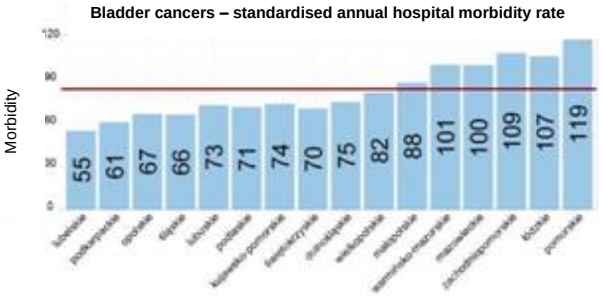
Figure 23: Annual hospital morbidity: bladder cancers (2012)



Source: compiled by DAiS based on data provided by the NFZ and Central Statistical Office



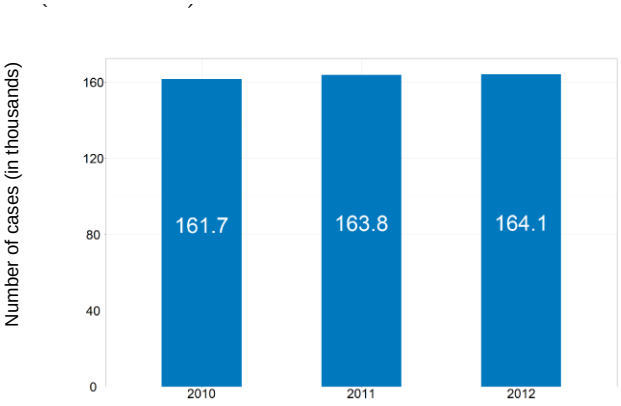
Source: compiled by DAiS based on data provided by the NFZ and Central Statistical Office



Source: compiled by DAiS based on data provided by the NFZ and Central Statistical Office

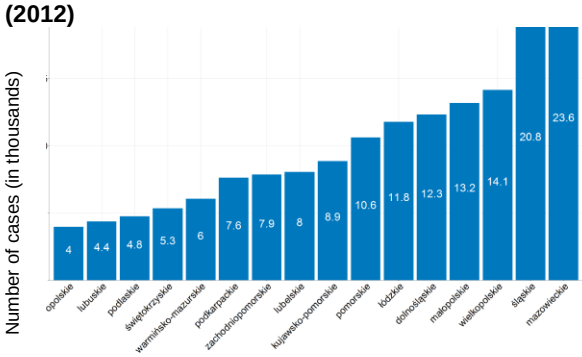
1.4 Cancer Incidence

Figure 24: New cancer cases in Poland – including D05 and excluding C44, C81–C96 as in ICD10 (2010-2012)



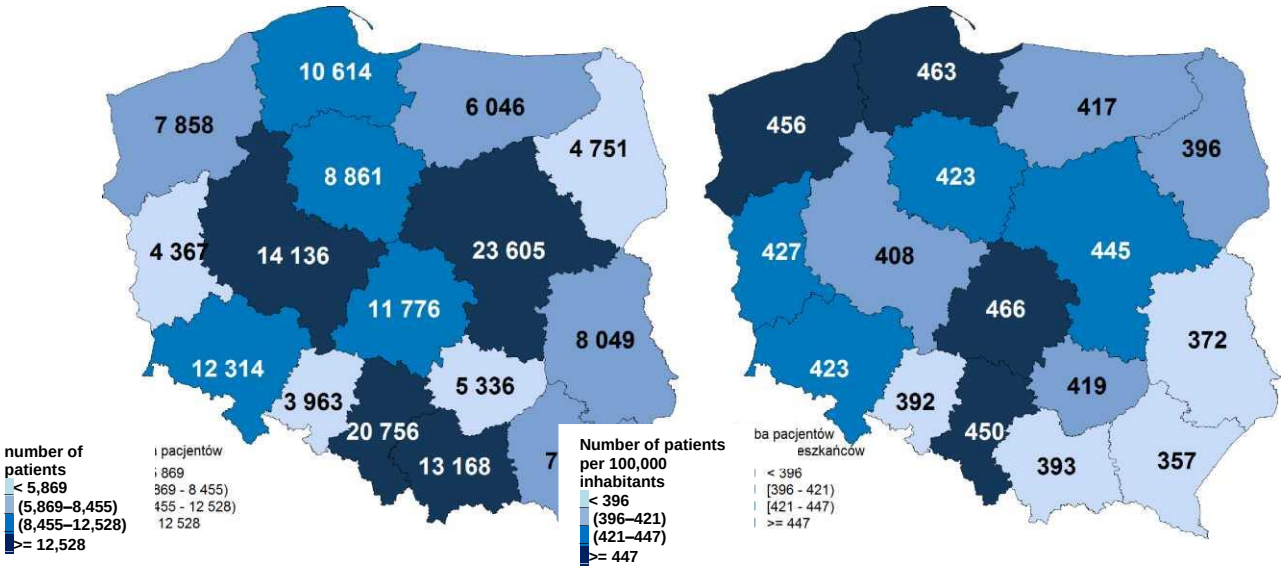
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 25: New cancer patients by voivodeship including D05 and excluding C44, C81–C96 as in ICD10 (2012)



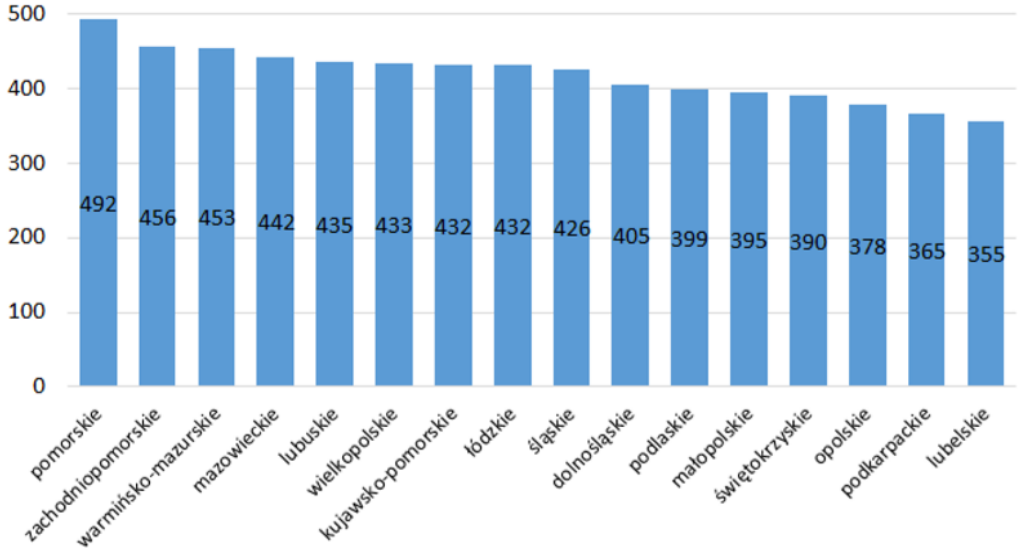
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 26: Patients with the first diagnosis of cancer (hereinafter: new cancer patients) by voivodeship – including D05 and excluding C44, C81–C96 as in ICD10 (2010–2012)



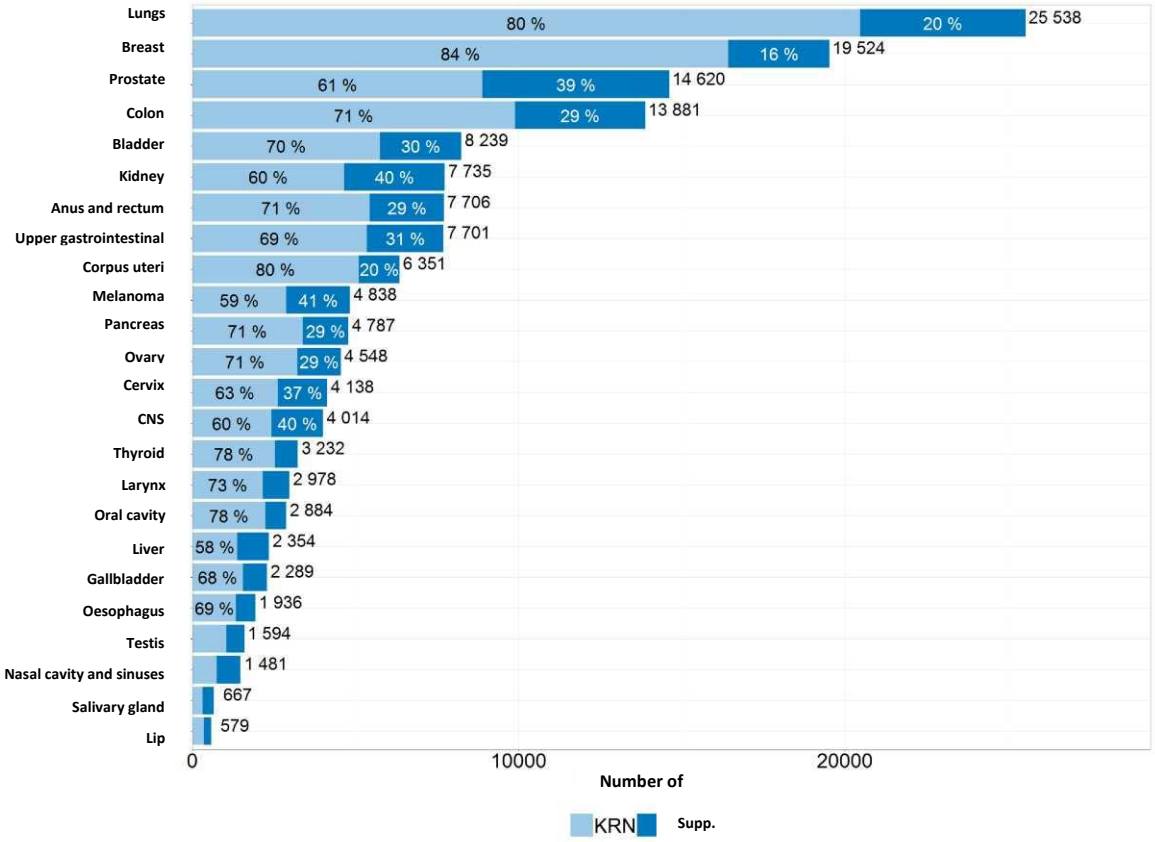
Source: compiled by DAiS based on data provided by the KRN

Figure 27: Age-standardised incidence rate – all types of cancers (2012)



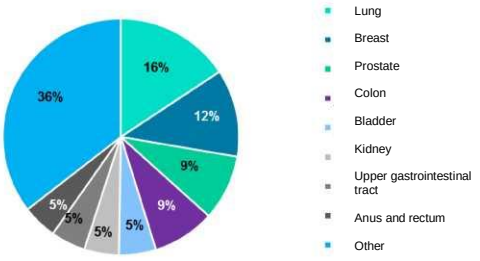
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 28: Total number of new cancer cases in Poland by the type of cancer based on the data provided by the KRN, supplemented by NFZ reports (2012)



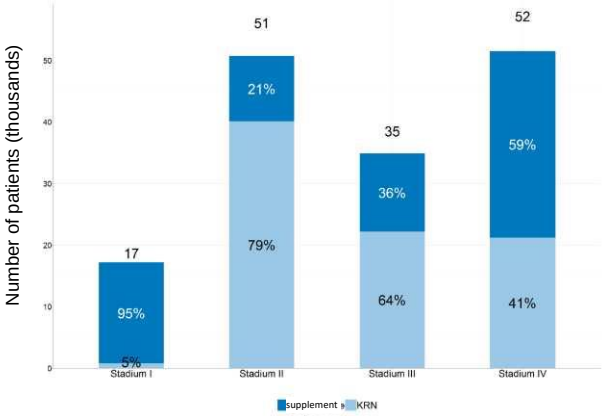
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 29: Share of individual cancer groups in the structure of new cancer cases (2012)



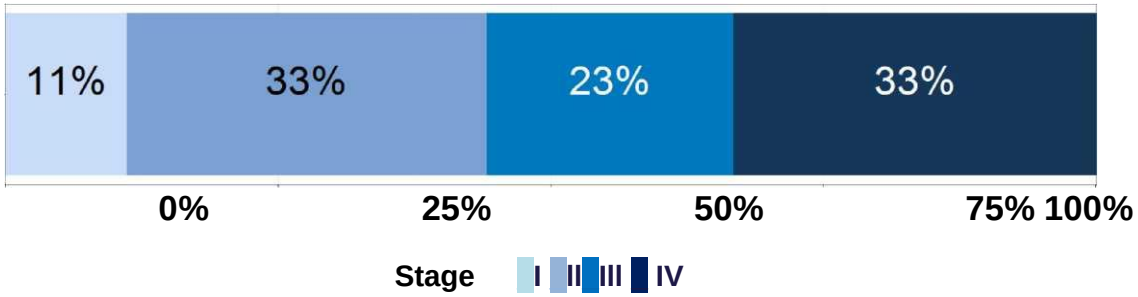
Source: compiled by DAiS based on data provided by the KRN

Figure 30: Distribution of new cancer cases by stage of the disease (hereinafter: stage) (2012)



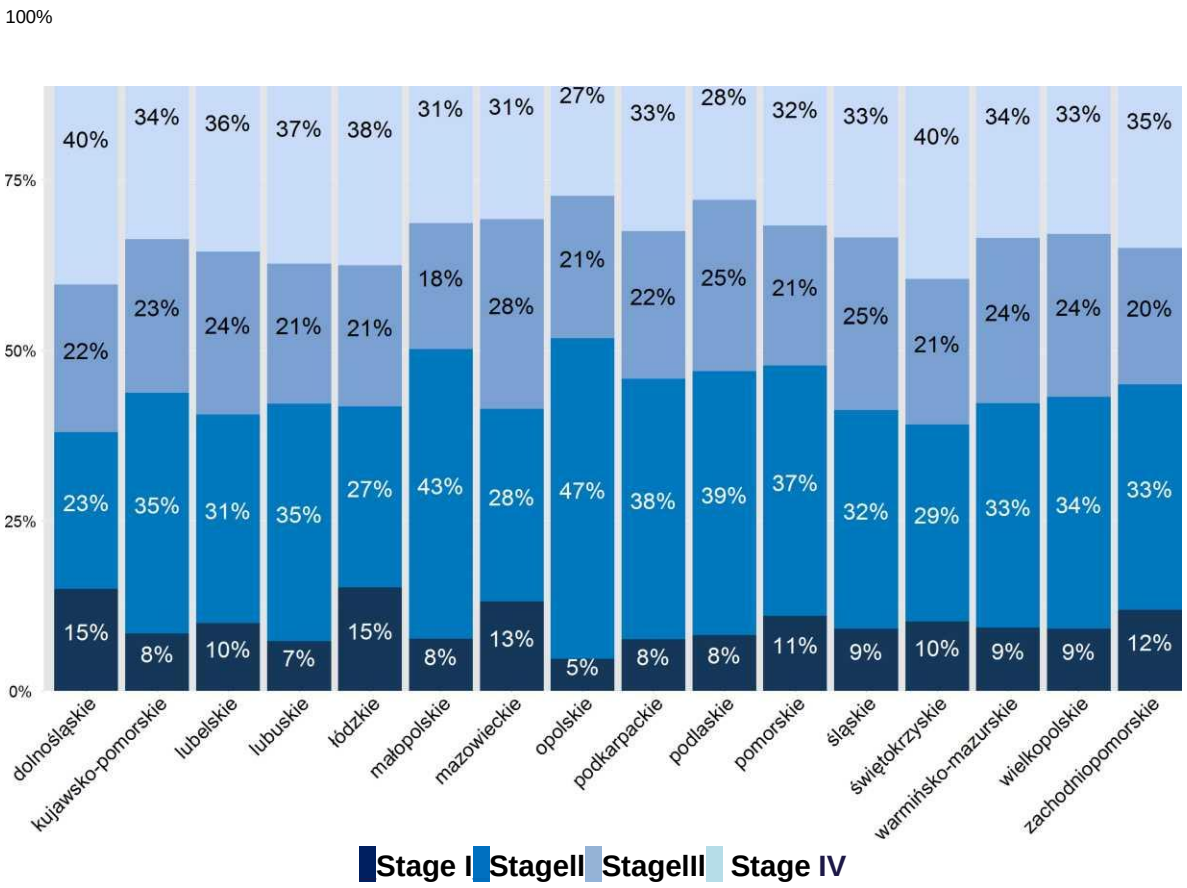
Source: compiled by DAiS based on data provided by the KRN

Figure 31: Percentage distribution of new cancer cases by stage of the disease (hereinafter: stage) (2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 32: Structure of new cases by cancer stage in particular voivodeships (2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 33: Distribution of the stage by cancer groups

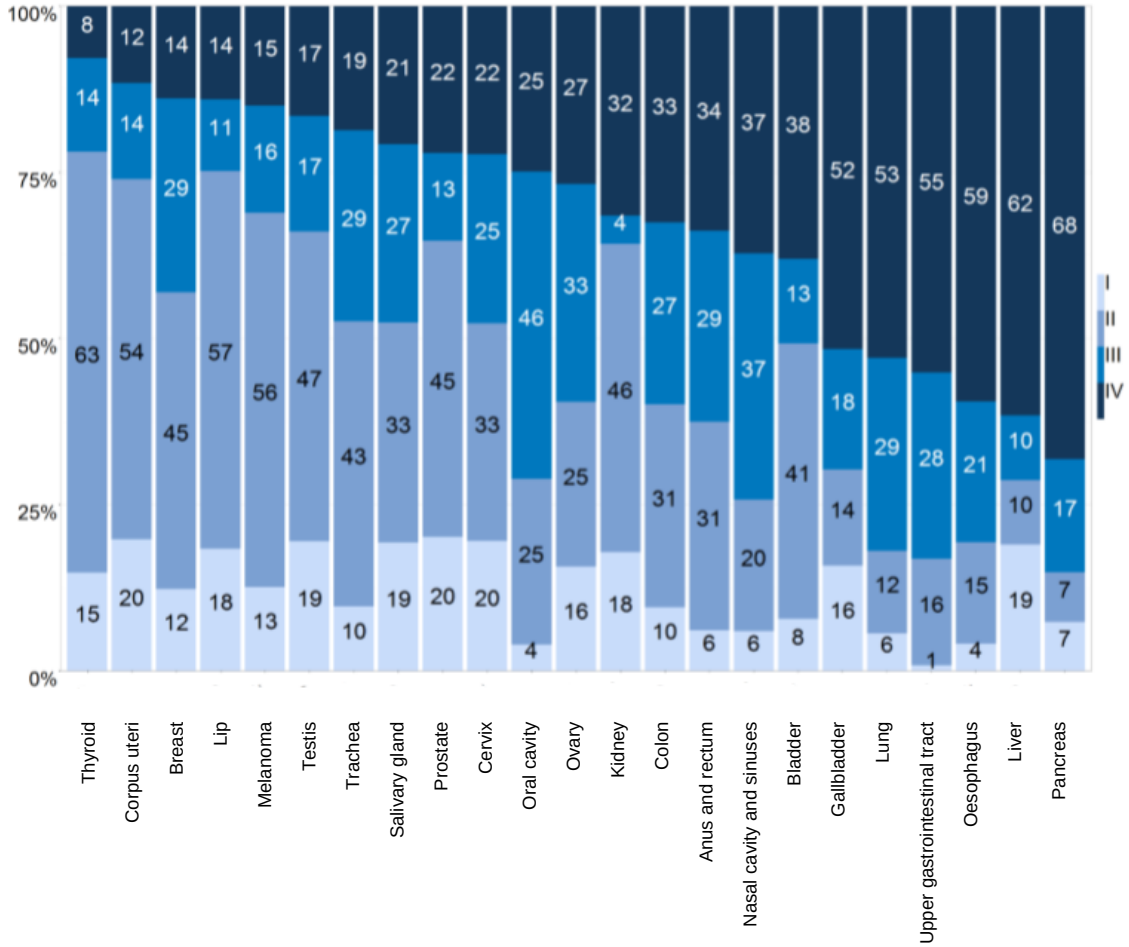
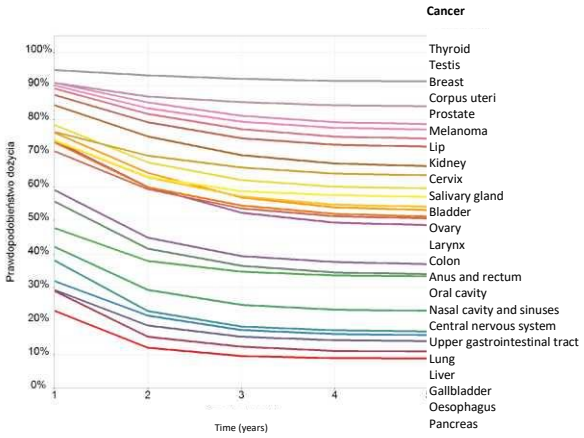
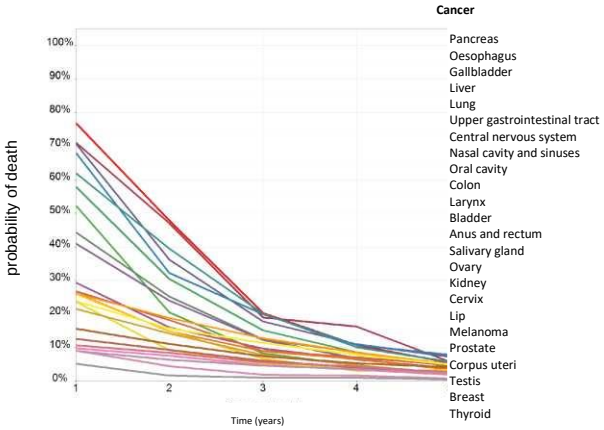


Figure 34: Unconditional survival curves of cancer patients



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 35: Risk of death for patients diagnosed with cancer



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

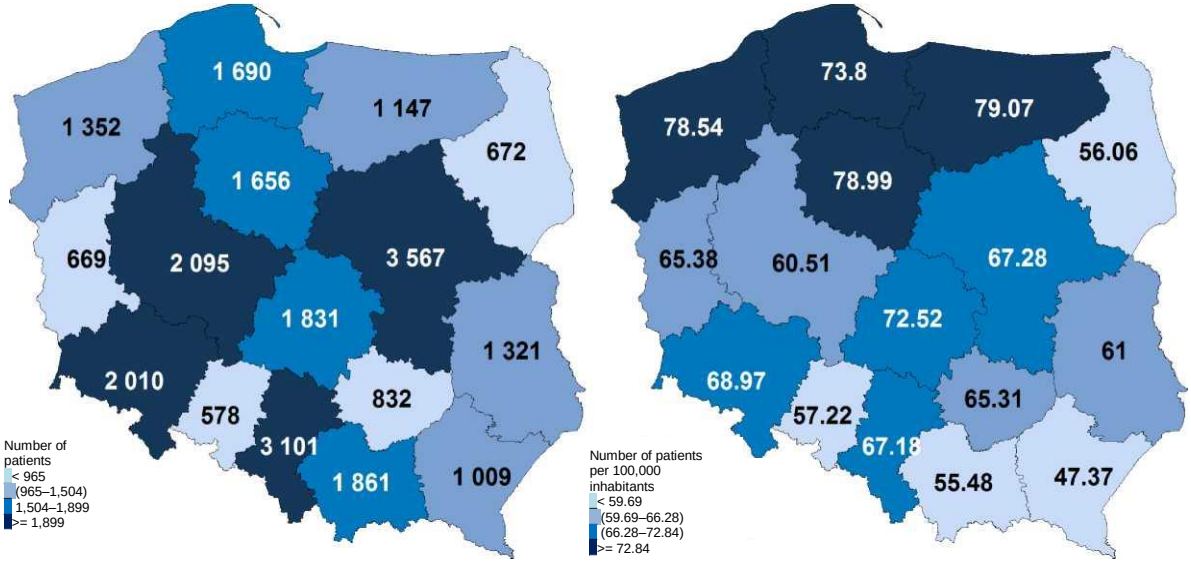
Table 35: Year Prevalence Forecast

Cancer group	Groups according to ICD-10	Patients diagnosed in 2010–2012 (source: data from KRN and NFZ)		Patients diagnosed in 2000–2002 (source: a publication by KKN)	
		Unconditional probability of 1-year survival	Unconditional probability of 5-year survival	Unconditional probability of 1-year survival	Unconditional probability of 5-year survival
Lip	C00	0.84	0.66		
Oral cavity	C01 C02, C03, C04, CO5, C06, C09,C10, C14	0.59	0.37		
Salivary gland	C07, C08	0.74	0.57		
Nasal cavity and sinuses	C11, C12, C13, C30, C3I	0.56	0.34		
Oesophagus	C15	0.29	0.11	0.27	0.05
Upper gastrointestinal tract	C16, C26	0.42	0.23	0.35 (Cl6)	0.13 (C16)
Colon	C18, C19	0.71	0.51	0.67	0.36
Anus and rectum	C20, C21	0.74	0.49		
Liver	C22	0.32	0.16	0.23	0.08
Gallbladder	C23, C24	0.29	0.14	0.21 (C23)	0.07 (C23)
Pancreas	C25	0.23	0.09		
Larynx	C32	0.73	0.51	0.76	0.45
Lung	C33, C34	0.38	0.17	0.35	0.10
Melanoma	C43	0.87	0.72	0.82	0.61
Breast	C50, D05	0.31	0.79	0.91 (C50)	0.69 (C50)
Cervix	C53	0.78	0.60	0.80	0.51
Corpus uteri	C54	0.90	0.77	0.89	0.70
Ovary	C56	0.76	0.53	0.71	0.39
Prostate	C61	0.89	0.74	0.80	0.48
Testis	C62	0.91	0.84	0.93	0.85
Kidney	C64, C65, C66	0.76	0.63	0.69 (C64, C65)	0.46 (C64, C65)
Bladder	C67	0.74	0.54	0.74	0,46
Central nervous system	C70, C71, C72	0.48	0.33	0.45 (C71)	0.23 (C71)
Thyroid	C73	0.95	0.91	0.90	0.83

Source: compiled by DAiS based on data provided by the KRN and the NFZ.
Ditkowska, J., Wojciechowska, U., Zatoński, W., Wskaźniki przeżyć chorych na nowotwory złośliwe w Polsce zdiagnozowanych w latach 2000–2002, Warsaw 2009

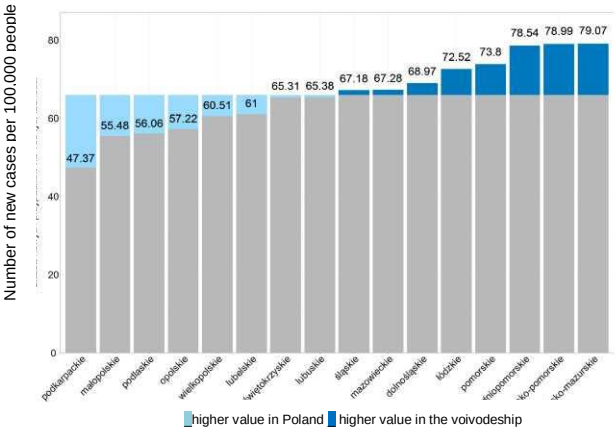
Malignant neoplasms of trachea, bronchus and lung (C33, C34)

Figure 36: New cases of tracheal, bronchial and lung cancers (C33, C34) in Poland (2012)



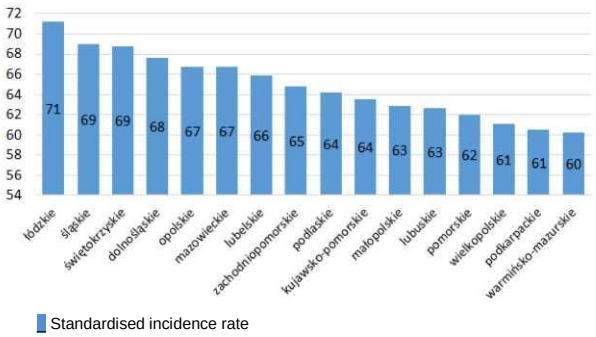
Source: compiled by DAiS based on data provided by the KRN

Figure 37: Number of new lung cancer cases per 100,000 people in Poland (2012)



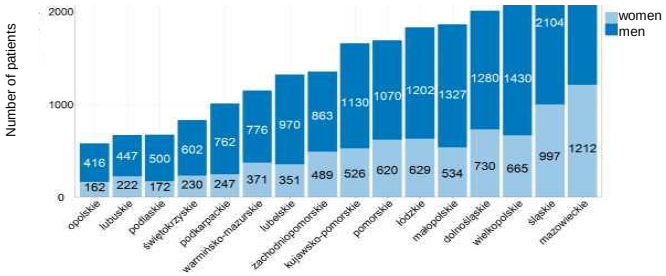
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 38: Age-standardised incidence rate – lung cancers (2012)



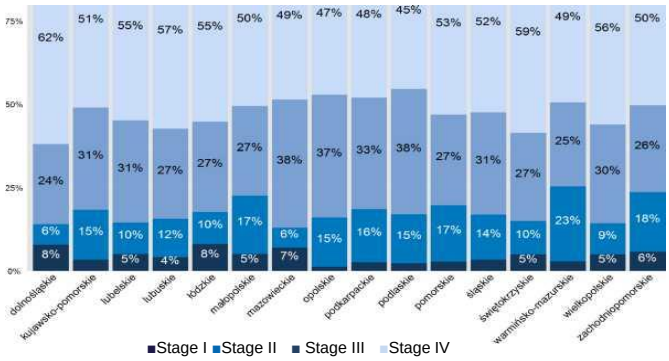
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 39: Number of new lung cancer cases in voivodeships by gender (2012)
stage in particular voivodeships (2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

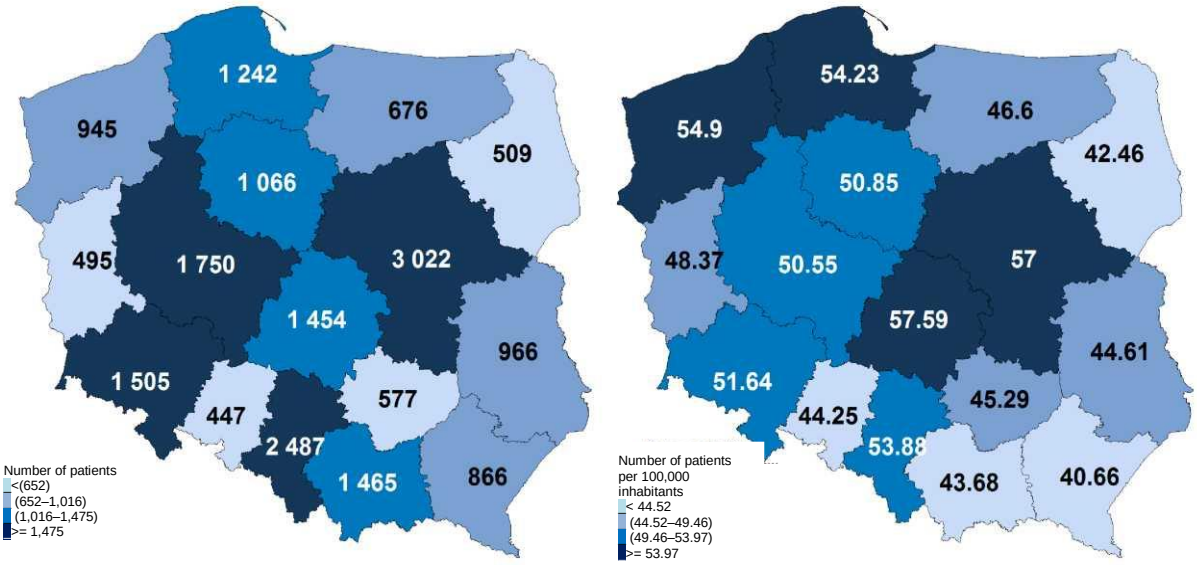
Figure 40: Structure of new cases by lung cancer



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

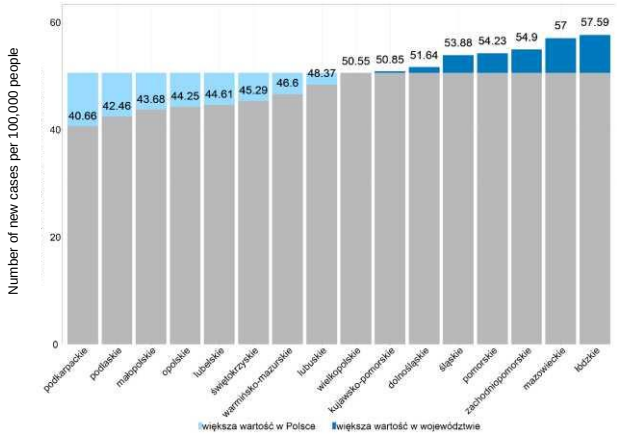
Malignant neoplasms of the breast (C50, D05)

Figure 41: New breast cancer cases (C50, D05) in Poland (2012)



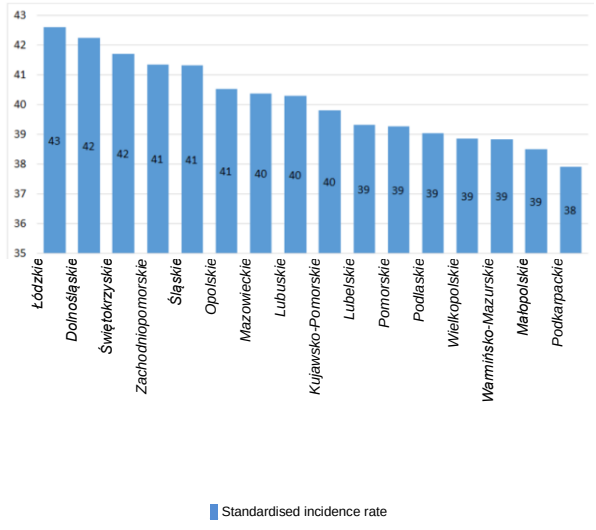
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 42: Number of new breast cancer cases per 100,000 people in Poland in 2012



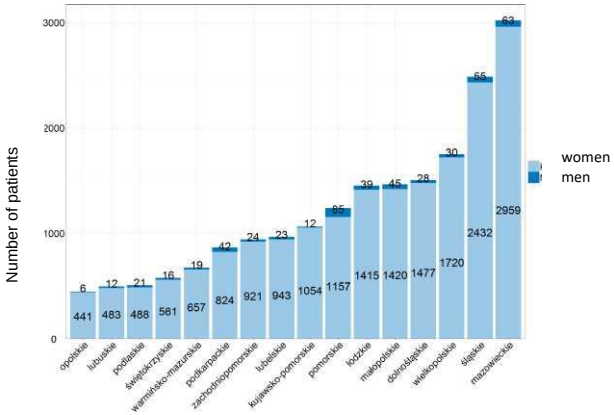
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 43: Age-standardised incidence rate – breast cancers (2012)



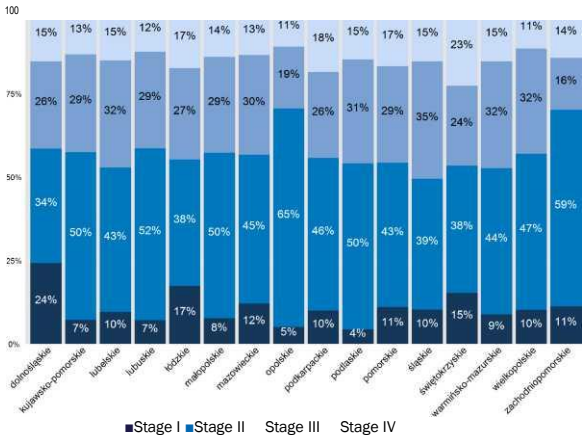
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 44: Number of new breast cancer cases in voivodeships by gender (2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

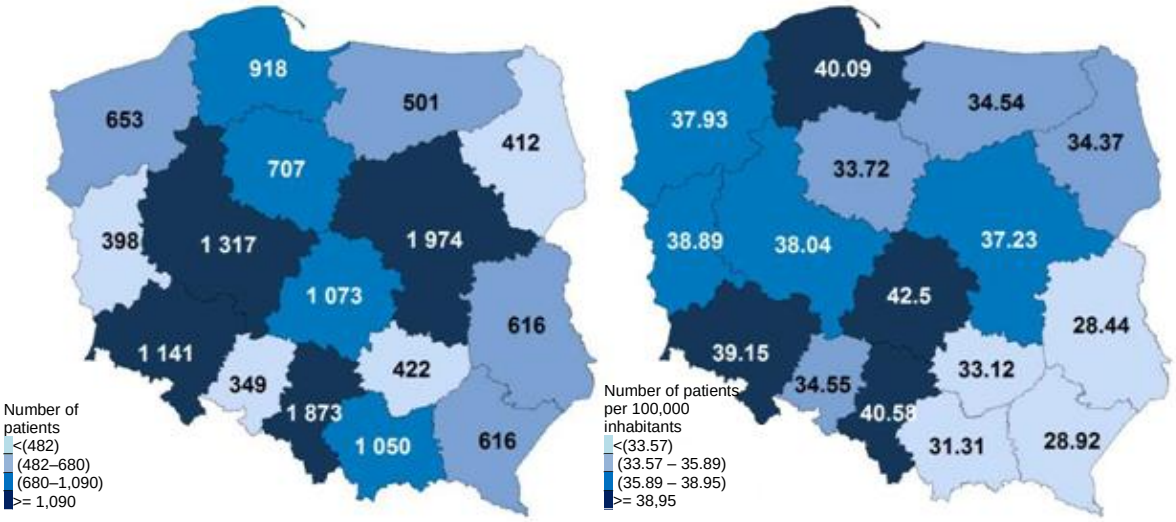
Figure 45: Structure of new cases by breast cancer stage in particular voivodeships (2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

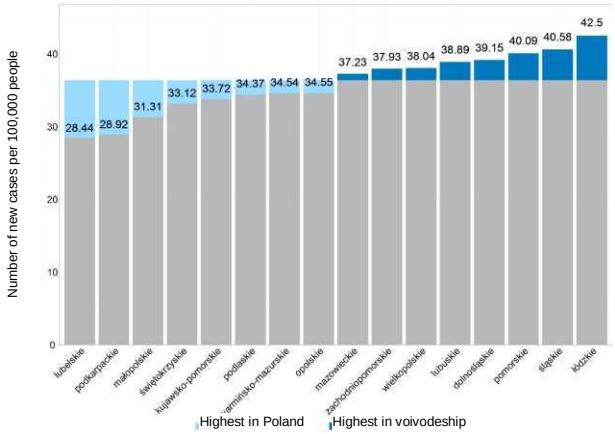
Malignant neoplasms of colon and rectosigmoid junction (C18, C19)

Figure 46: New colon cancer cases (C18, C19) in Poland (2012)



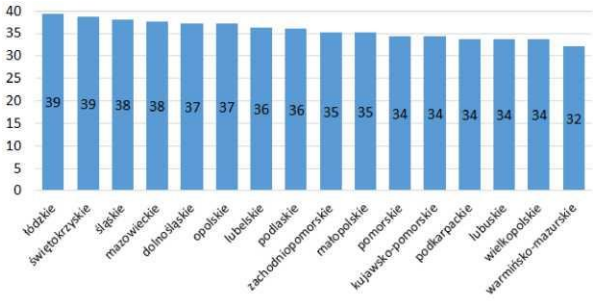
Source: compiled by DAiS based on data provided by the KRN and

Figure 47: Number of new colon cancer cases per 100,000 people (2012)



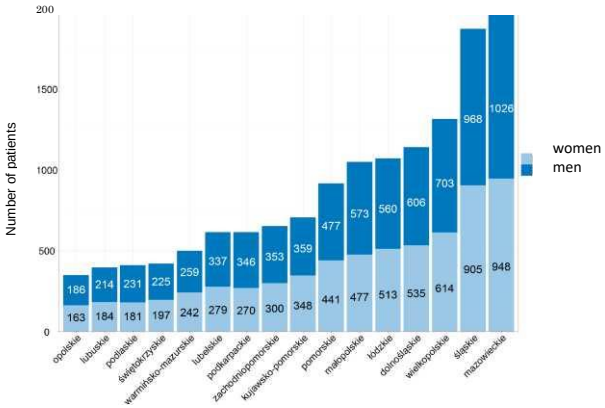
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 48: Age-standardised incidence rate – colon cancers (2012)



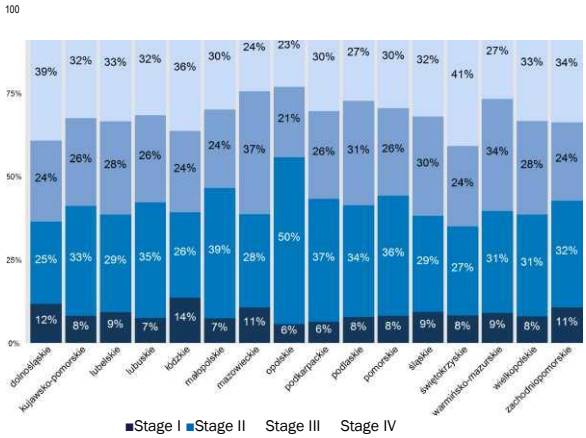
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 49: Number of new colon cancer cases in voivodeships by gender (2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

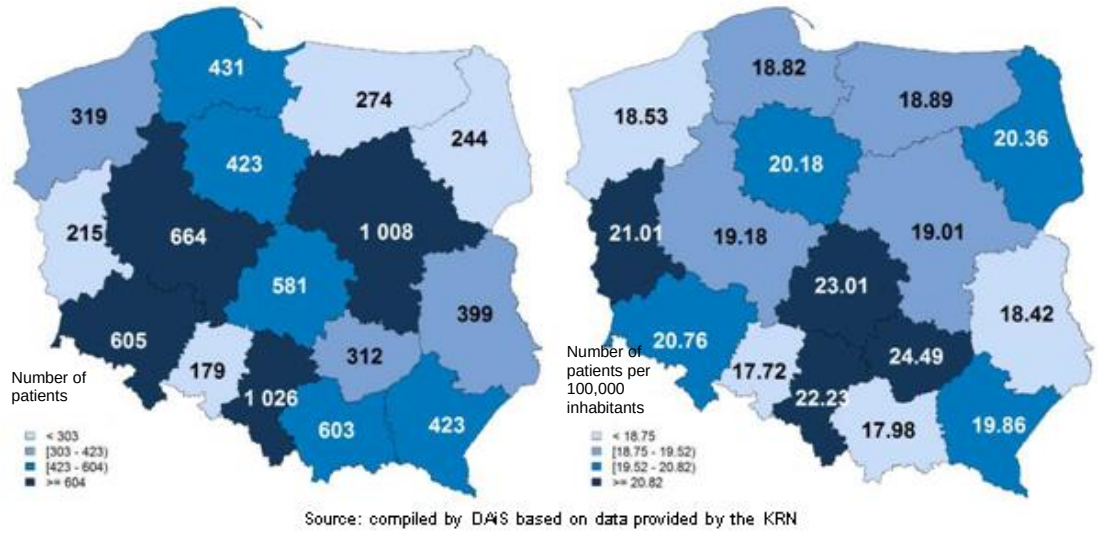
Figure 50: Structure of new cases by colon cancer stage in particular voivodeships (2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

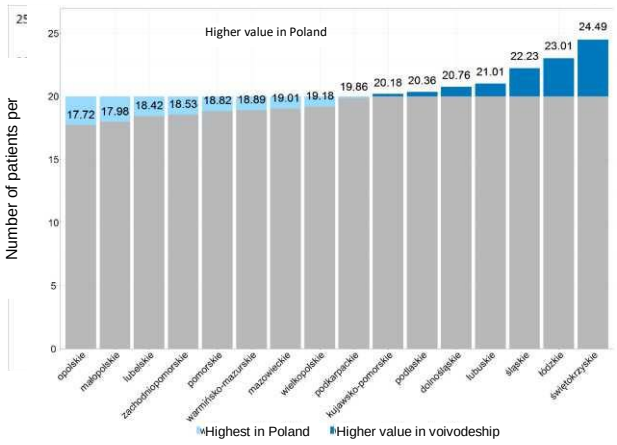
Malignant neoplasms of the rectum and anus (C20, C21)

Figure 51: New rectum and anus cancer cases— C20, C21 (2012)



Source: compiled by DAiS based on data provided by the KRN

Figure 52: Number of new rectum and anus cancer cases per 100, 000 people (2012)



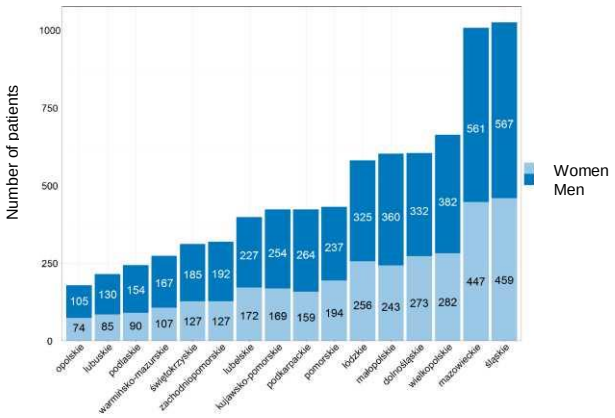
Source: compiled by DAiS based on data provided by the KRN

Figure 53: Age-standardised incidence rate – rectum and anus cancers (2012)

Source: compiled by DAiS based on data provided by the KRN and the NFZ.

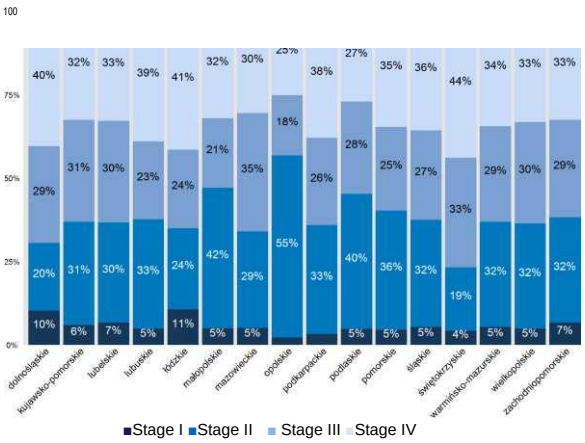
Standardised incidence rate

Figure 54: Number of new rectum and anus cancer cases in voivodeships by gender (2012)



Source: compiled by DAiS based on data provided by the KRN

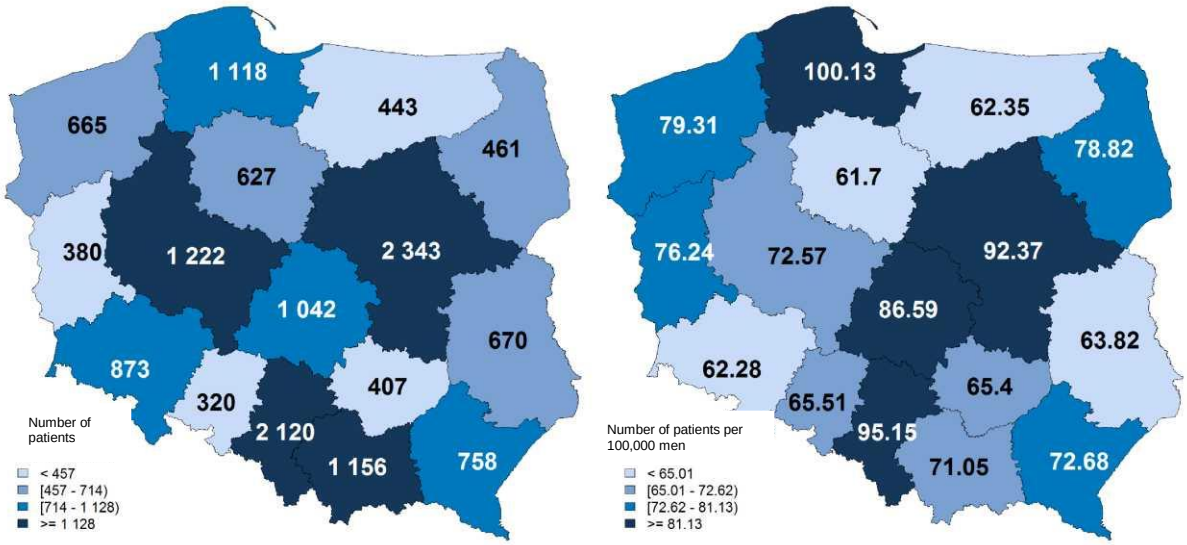
Figure 55: Structure of new cases by rectum and anus cancer stage in particular voivodeships (2012)



Source: compiled by DAiS based on data provided by the KRN

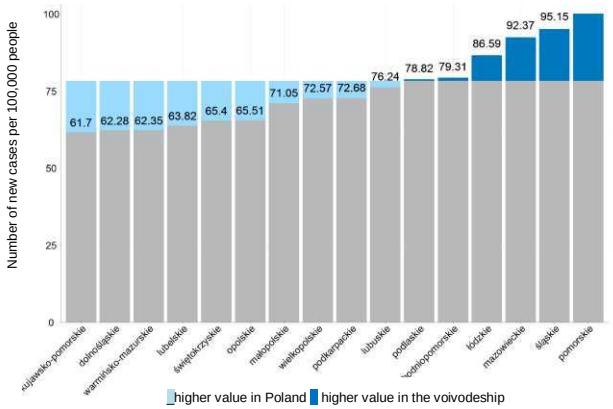
Malignant neoplasm of prostate (C61)

Figure 56: New prostate cancer cases (C61) in Poland (2012)



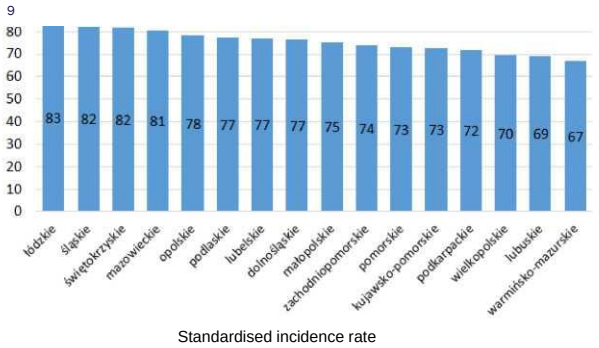
Source: compiled by DAiS based on data provided by the KRN

Figure 57: Number of new prostate cancer cases per 100,000 people in Poland (2012)



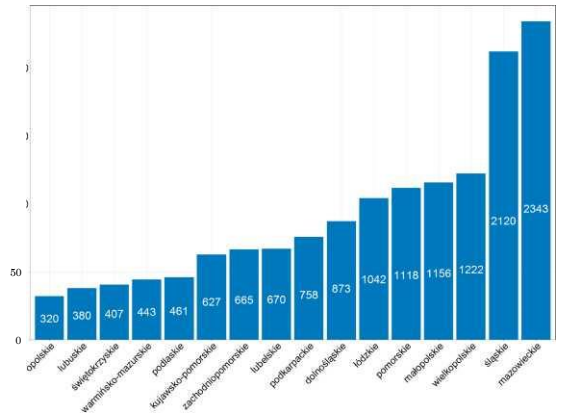
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 58: Age-standardised incidence rate – prostate cancers (2012)



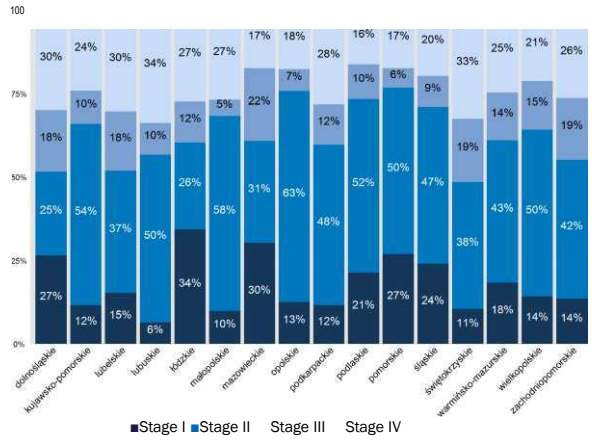
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 59: Number of new prostate cancer cases in voivodeships (2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

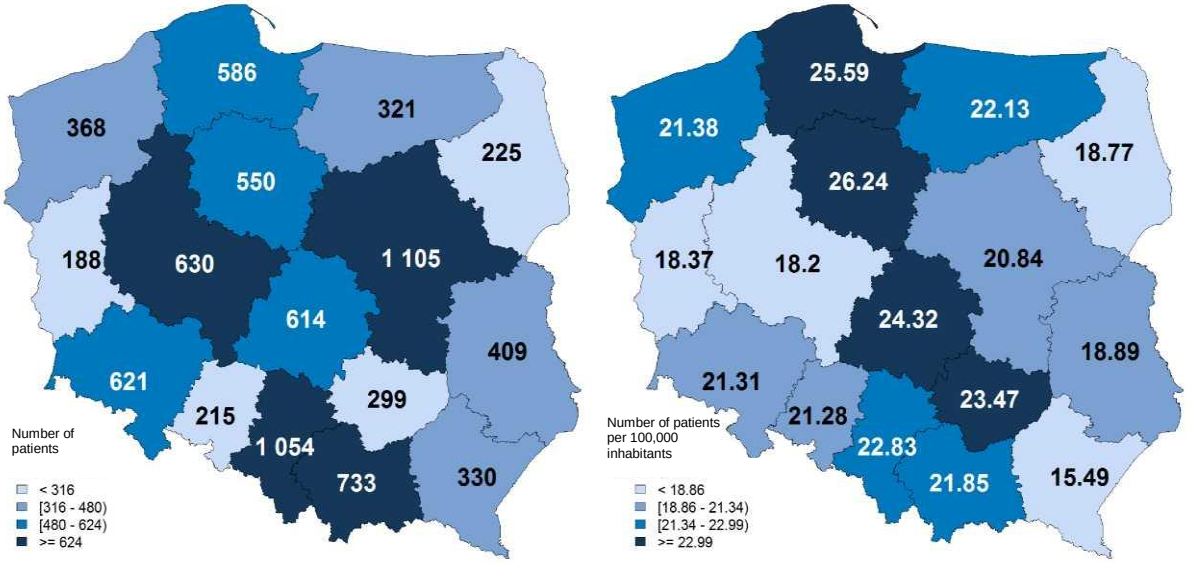
Figure 60: Structure of new cases by prostate cancer stage in particular voivodeships (2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

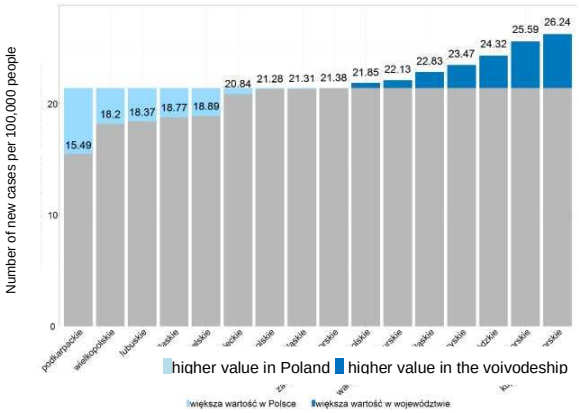
Malignant neoplasm of bladder (C67)

Figure 61: New bladder cancer cases – C67 (2012)



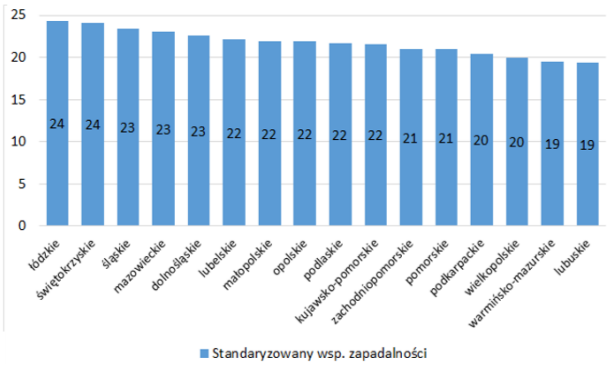
Source: compiled by DAiS based on data provided by the KRN

Figure 62: Number of new bladder cancer cases per 100,000 people in Poland (2012)



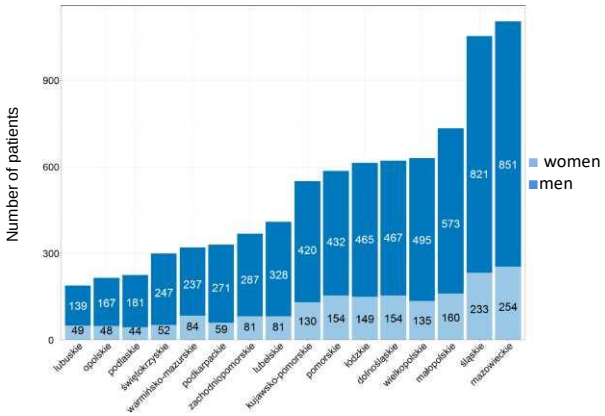
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 63: Age-standardised incidence rate of bladder cancers (2012)



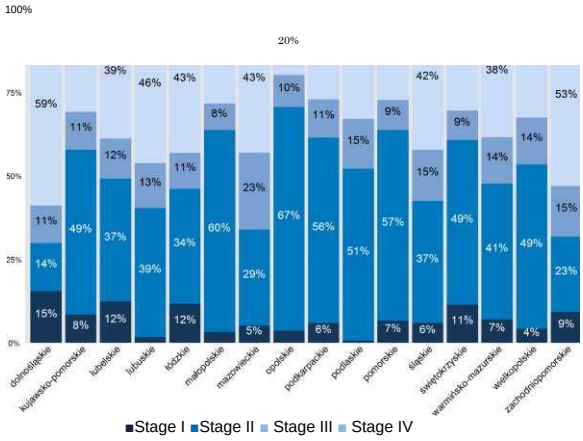
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 64: Number of new bladder cancer cases in voivodeships by gender (2012)



Source: compiled by DAiS based on data provided by the KRN and

Figure 65: Structure of new cases by bladder cancerstage in particular voivodeships (2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

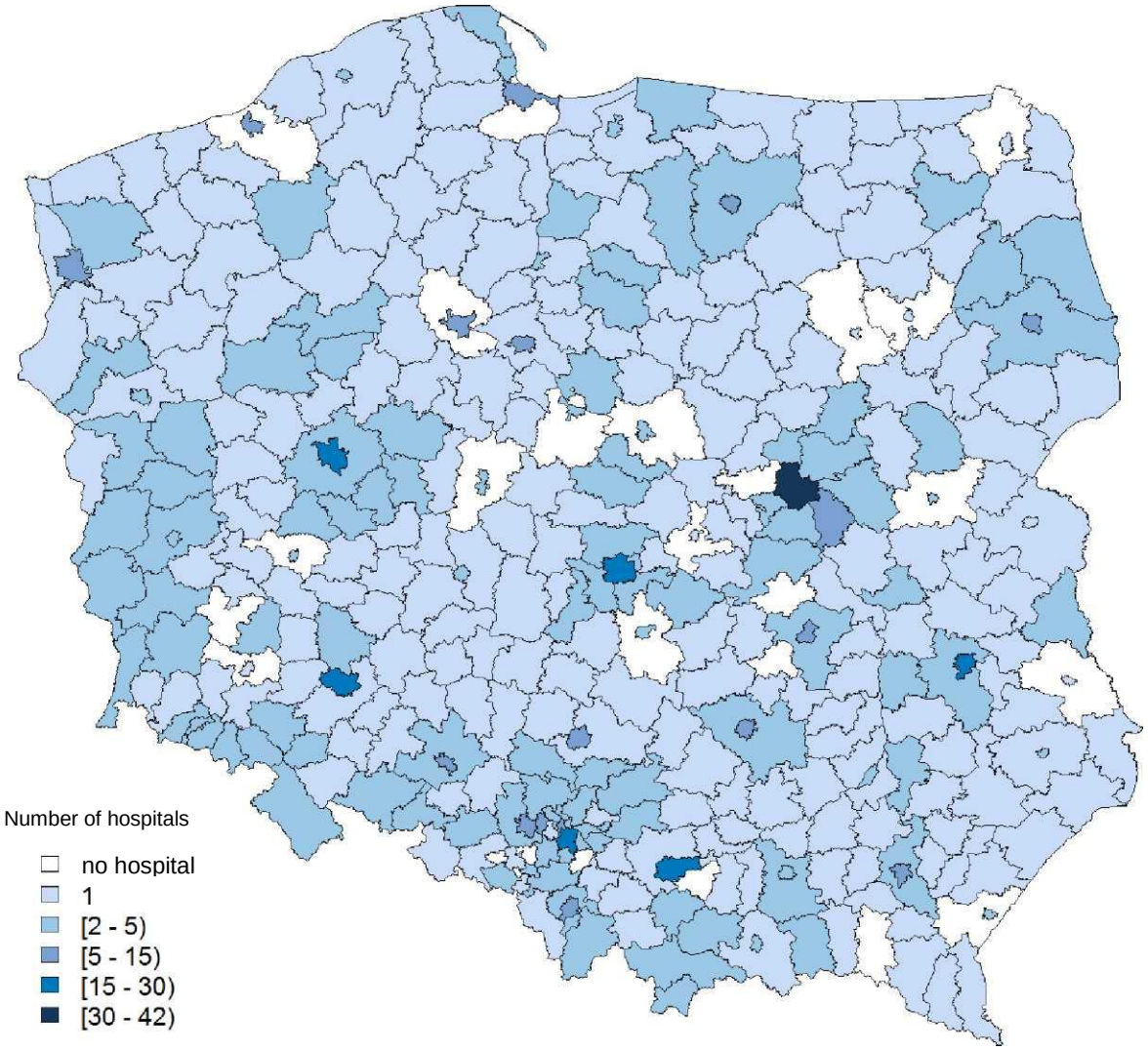
Attachments to Part II

Status and Use of Resources: the Analysis

2.1 Hospitalisation

Healthcare providers in Poland

Figure 66: Hospitals providing cancer treatment for the analysed group of cancers (2012)



Source: compiled by DAiS based on data provided by the NFZ (2012).

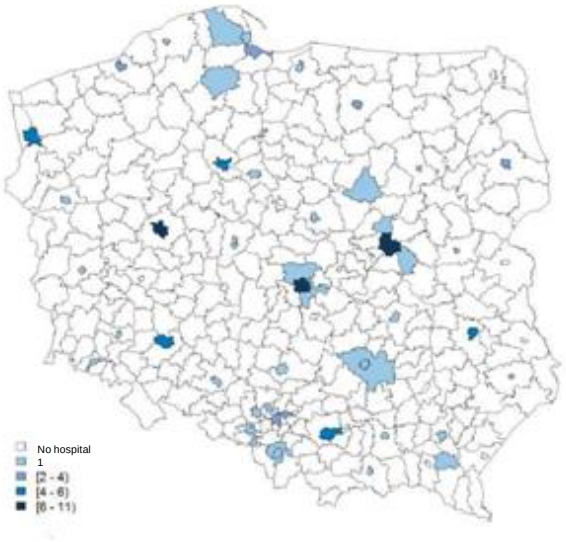
Table 2: Hospitals treating approx. 80% of cancer patients (2012)

No.	Name of the treatment provider	Number of patients	Percentage of patients	Cumulative percentage
1	Maria Skłodowska-Curie Institute of Oncology in Warsaw	11,324	4.8%	4.8%
2	M. Kopernik Regional Specialist Hospital in Łódź	6,737	2.9%	7.7%
3	Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz	6,377	2.7%	10.4%
4	Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań	5,685	2.4%	12.8%
5	Maria Skłodowska-Curie Institute of Oncology Gliwice Branch	5,455	2.3%	15.1%
6	Świętokrzyskie Oncology Centre in Kielce	4,899	2.1%	17.2%
7	University Clinical Centre in Gdańsk	4,483	1.9%	19.1%
8	Zachodniopomorskie Oncology Centre in Szczecin	4,231	1.8%	20.9%
9	Oncology Centre Hospital - Kraków Division Institute	3,915	1.7%	22.6%
10	University Hospital Healthcare in Kraków	3,910	1.7%	24.3%
11	Dolnośląskie Oncology Centre in Wrocław	3,829	1.6%	25.9%
12	Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre in Olsztyn	3,374	1.4%	27.3%
13	Military Institute of Medicine in Warsaw	2,942	1.3%	28.6%
14	St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre	2,702	1.2%	29.7%
15	"Zdrowie" Medical Centre/Oncology Hospital in Wieliszew	2,674	1.1%	30.9%
16	Polish Red Cross Maritime Hospital in Gdynia	2,604	1.1%	32.0%
17	Specialist Hospital in Brzozów, Bronisław Markiewicz Subcarpathian Oncology Centre	2,474	1.1%	33.0%
18	Fryderyk Chopin Regional Specialist Hospital in Rzeszów	2,426	1.0%	34.1%
19	Maria Skłodowska-Curie Oncology Centre in Białystok	2,388	1.0%	35.1%
20	Oncology Centre of Beskidy - John Paul II Municipal Hospital in Bielsko-Biała	2,224	0.9%	36.0%
21	Public Paediatric Central Clinical Hospital in Warsaw	2,168	0.9%	37.0%
22	Central Clinical Hospital of the Ministry of the Interior and Administration in Warsaw	2,147	0.9%	37.9%
23	Dolnośląskie Centre of Lung Diseases in Wrocław	2,126	0.9%	38.8%
24	National Institute of Tuberculosis and Lung Diseases in Warsaw	2,101	0.9%	39.7%
25	Saint Luke's Provincial Hospital in Tarnów Independent Public Healthcare Centre - Outpatient Care	2,086	0.9%	40.6%
26	Independent Public Clinical Hospital No. 4 in Lublin	2,008	0.9%	41.4%
27	WielkopolskieZeyland Pulmonology and Thoracic Surgery Centre in Poznań	1,992	0.8%	42.3%
28	Jan Mikulicz-Radecki University Teaching Hospital in Wrocław	1,988	0.8%	43.1%
29	Independent Public Clinical Hospital No. 2 of Pomeranian Medical University in Szczecin	1,806	0.8%	43.9%
30	Blessed Virgin Mary's Regional Specialist Hospital in Częstochowa	1,741	0.7%	44.6%
31	Magodent Non-Public Healthcare Centre in Warsaw	1,726	0.7%	45.4%
32	Regional Polyclinical Hospital in Elbląg	1,720	0.7%	46.1%
33	Centrum Medyczne Hep Sp. z o.o. Non-Public Healthcare Centre Centrum Medyczne HCP - Inpatient treatment in Poznań	1,716	0.7%	46.8%
34	Independent Public Healthcare Centre Regional Hospital in Zielona Góra	1,690	0.7%	47.5%
35	Professor Alfred Sokołowski Specialist Hospital in Szczecin	1,670	0.7%	48.3%
36	JanuszKorczak Regional Specialist Hospital in Słupsk	1,656	0.7%	49.0%
37	Independent Public Healthcare Centre - Professor Koszarowski Oncology Centre in Opole	1,652	0.7%	49.7%
38	Regional Specialist Hospital in Wrocław	1,641	0.7%	50.4%
39	Stanisław Leszczyński Hospital in Katowice	1,629	0.7%	51.1%
40	Military Memorial Medical Academy – Central Veterans' Hospital in Łódź	1,596	0.7%	51.7%
41	Independent Public Healthcare Centre Provincial Specialist Hospital No. 3 in Rybnik	1,582	0.7%	52.4%
42	LudwikRydygier Specialist Hospital in Kraków - Hospital Care	1,575	0.7%	53.1%
43	Saint Barbara's Regional Specialist Hospital No. 5 in Sosnowiec	1,499	0.6%	53.7%
44	John Paul II Independent Public Provincial Hospital in Zamość	1,498	0.6%	54.4%
45	Alfred Sokołowski Specialist Hospital in Wałbrzych	1,485	0.6%	55.0%
46	Heliodor Święcicki Clinical Hospital at the Karol Marcinkowski Medical University in Poznań	1,484	0.6%	55.6%
47	4 Military Clinical Hospital with Specialist Outpatient Clinic Independent Public Healthcare Centre in Wrocław	1,475	0.6%	56.2%
48	John Paul II Specialist Hospital of Kraków – Hospital Wards	1,467	0.6%	56.9%
49	Regional Polyclinical Hospital in Konin	1,446	0.6%	57.5%
50	Professor Michałowski Non-Public Healthcare Centre Specialist Hospital in Katowice	1,422	0.6%	58.1%
51	Karol Marcinkowski University Hospital of Lord's Transfiguration in Poznań	1,416	0.6%	58.7%
52	Maria Skłodowska-Curie Regional Specialist Hospital in Zgierz	1,385	0.6%	59.3%

53	Jerzy PopiełuszkoBielański Hospital – Independent Public Healthcare Centre in Warsaw	1,334	0.6%	59.9%
54	Nicolaus Copernicus Regional Hospital in Koszalin	1,334	0.6%	60.4%
55	LudwikRydygier Regional Polyclinical Hospital in Toruń	1,325	0.6%	61.0%
56	Medical University of Bialystok Clinical Hospital	1,301	0.6%	61.5%
57	Mazovian Specialist Hospital in Radom	1,277	0.5%	62.1%
58	Regional Polyclinical Hospital in Płock	1,274	0.5%	62.6%
59	Infant Jesus Clinical Hospital in Warsaw	1,244	0.5%	63.2%
60	Józef Struś Multidisciplinary City Hospital with Care and Curative Institution Independent Public Healthcare Centre located in Poznań, Szwajcarska St. 3	1,226	0.5%	63.7%
61	Independent Public Healthcare Centre Regional Specialist Hospital No. 4 in Bytom	1,214	0.5%	64.2%
62	KotlinaJelenionórska Regional Hospital Centre	1,192	0.5%	64.7%
63	Gabriel Narutowicz Municipal Specialist Hospital in Kraków	1,178	0.5%	65.2%
64	St. Adalbert Specialist Hospital Independent Public Healthcare Centre in Gdańsk	1,178	0.5%	65.7%
65	Regional Specialist Hospital in Legnica	1,176	0.5%	66.2%
66	St. Raphael Regional Specialist Hospital in Czerwona Góra	1,176	0.5%	66.7%
67	Wielospecjalistyczny Szpital Wojewódzki w Gorzowie Wlkp. Spółka z OgraniczonąOdpowiedzialnością	1,160	0.5%	67.2%
68	Nikolay Pirogov Regional Specialist Hospital in Łódź	1,120	0.5%	67.7%
69	Specialist Mother and Child Healthcare Complex in Poznań	1,119	0.5%	68.2%
70	Independent Public Clinical Hospital No. 1 in Lublin	1,096	0.5%	68.6%
71	Pulmonology and Thoracic Surgery Centre in Bystra	1,090	0.5%	69.1%
72	Mazovian Center for Treatment of Lung Diseases and Tuberculosis	1,083	0.5%	69.5%
73	Cardinal Stefan Wyszyński Regional Specialist Hospital Independent Public Healthcare Centre in Lublin	1,073	0.5%	70.0%
74	Regional Complex of Healthcare Facilities, Centre for Treatment of Lung Diseases and Rehabilitation in Łódź	1,070	0.5%	70.5%
75	Florian Ceynowa Specialist Hospital in Wejherowo	1,038	0.4%	70.9%
76	Specialist Hospital in Siedlce	1,021	0.4%	71.3%
77	Międzylesie Specialist Hospital in Warsaw	1,016	0.4%	71.8%
78	Specialist Hospital in Kościerzyna	1,007	0.4%	72.2%
79	Antoni Jurasz University Hospital No. 1 in Bydgoszcz	984	0.4%	72.6%
80	WładysławBiegański Regional Specialist Hospital in Grudziądz	966	0.4%	73.0%
81	Independent Public Complex of Tuberculosis and Lung Diseases in Olsztyn	962	0.4%	73.4%
82	Professor KornelGibiński Central Clinical Hospital No. 7 of the Silesian Medical University in Katowice	959	0.4%	73.8%
83	Municipal Polyclinical Hospital in Olsztyn	948	0.4%	74.2%
84	Regional Complex of Healthcare Facilities, Centre for Treatment of Lung Diseases and Rehabilitation in Łódź	939	0.4%	74.6%
85	Regional Specialist Hospital No. 2 in Jastrzębie-Zdrój	930	0.4%	75.0%
86	Independent Public Regional Polyclinical Hospital in Szczecin	926	0.4%	75.4%
87	AffideaOnkoterapia Spółka z Ograniczoną Odpowiedzialnością in Koszalin	924	0.4%	75.8%
88	Hospital Treatment Centre in NowySącz	903	0.4%	76.2%
89	Józef Psarski Mazovian Specialist Hospital in Ostrołęka	887	0.4%	76.6%
90	Professor Witold Orłowski Independent Public Clinical Hospital of the Medical Centre for Postgraduate Education in Warsaw	867	0.4%	77.0%
91	Independent Public Healthcare Centre of the Ministry of Internal Affairs in Łódź	863	0.4%	77.3%
92	JędrzejŚniadecki Independent Public Healthcare Centre Regional Hospital in Białystok	854	0.4%	77.7%
93	Jan Biziel University Hospital No. 2 in Bydgoszcz	850	0.4%	78.1%
94	Polyclinic of Bródno Clinical Centre in Warsaw	849	0.4%	78.4%
95	Regional Specialist Hospital in Ciechanów	840	0.4%	78.8%
96	Kujawsko-Pomorskie Pulmonology Center in Bydgoszcz	840	0.4%	79.1%
97	Norbert Barlicki Independent Public Healthcare Centre University Clinical Hospital No. 1 at the Łódź Medical University	832	0.4%	79.5%
98	Sosnowiecki Szpital Miejski Spółka z Ograniczoną Odpowiedzialnością	832	0.4%	79.8%
	TOTAL:	234,880	100.0%	

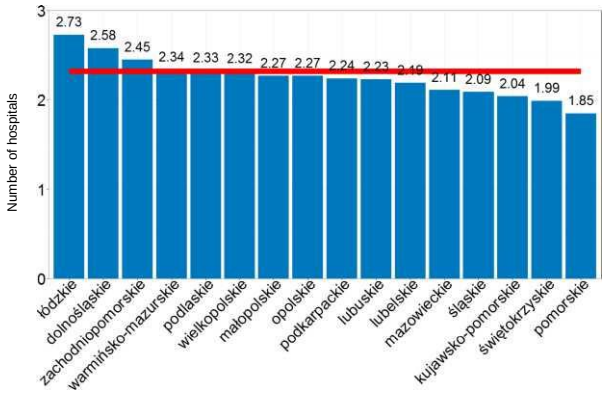
Source: compiled by DAiS based on data provided by the NFZ.

Figure 67: Hospitals jointly treating approx. 80% of all cancer patients (2012)



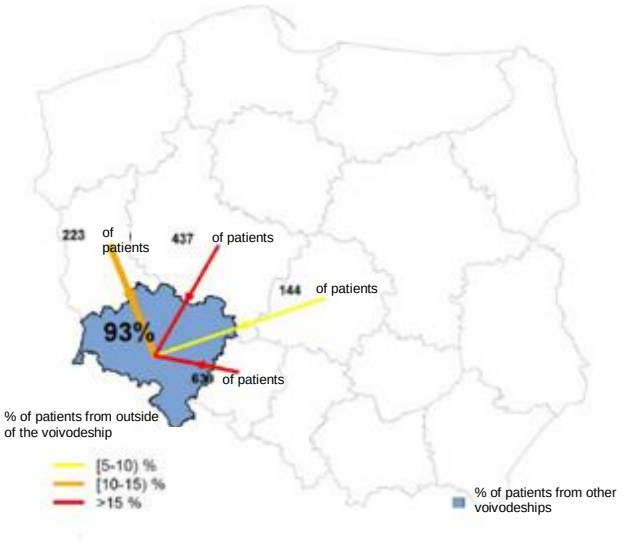
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 68: Average number of hospitalisations per one patient in voivodeships (2012)



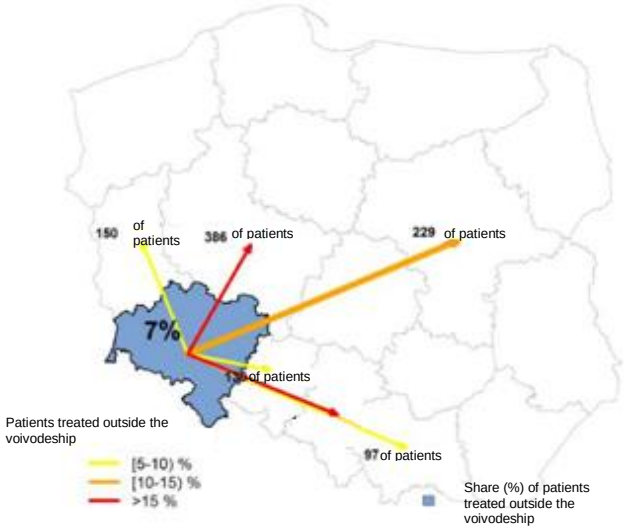
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 69: Migrations of cancer patients to Dolnośląskie Voivodeship



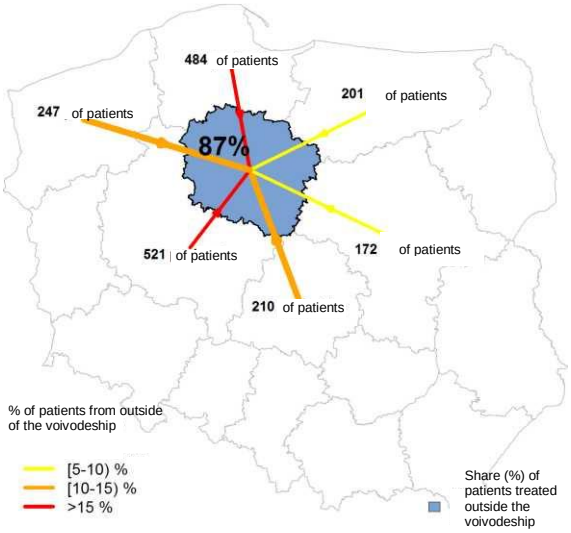
Source: compiled by DAiS based on data provided by the KRN and the

Figure 70: Migrations of cancer patients from Dolnośląskie Voivodeship (2012)



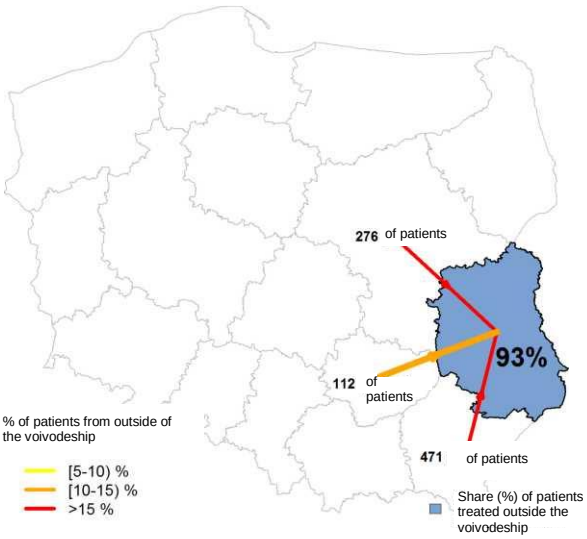
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 71: Migrations of cancer patients to Kujawsko-Pomorskie Voivodeship (2012)



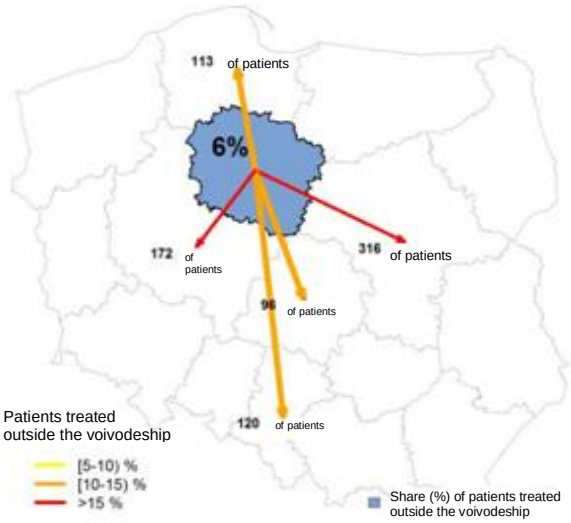
Source: compiled by DAiS based on data provided by the NFZ.

Figure 73: Migrations of cancer patients to Lubelskie Voivodeship (2012)



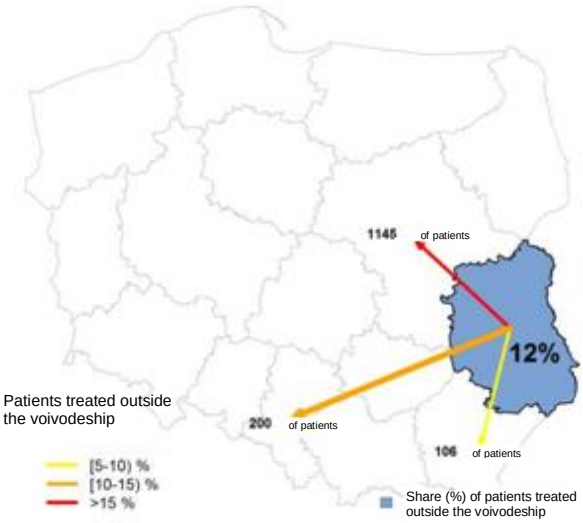
Source: compiled by DAiS based on data provided by the NFZ.

Figure 72: Migrations of cancer patients from Kujawsko-Pomorskie Voivodeship (2012)



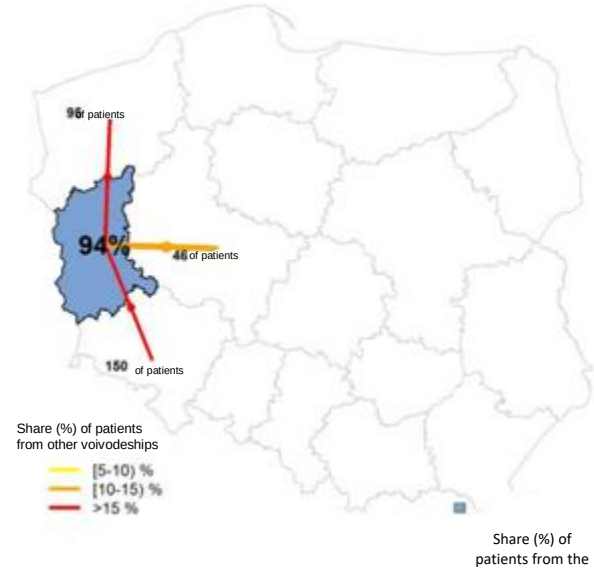
Source: compiled by DAiS based on data provided by the NFZ.

Figure 74: Migrations of cancer patients from Lubelskie Voivodeship (2012)



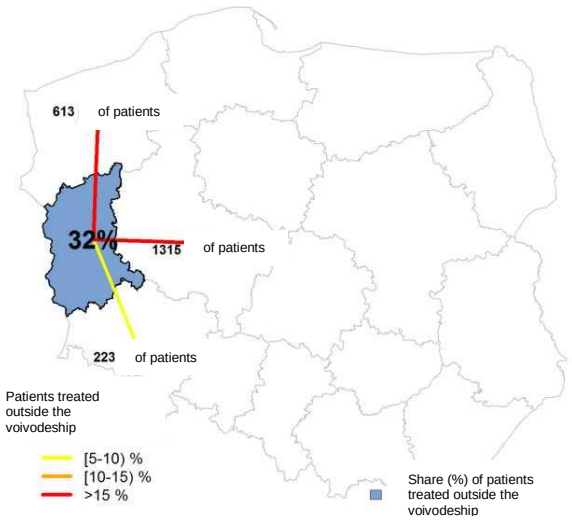
Source: compiled by DAiS based on data provided by the NFZ.

Figure 75: Migrations of cancer patients to Lubuskie Voivodeship (2012)



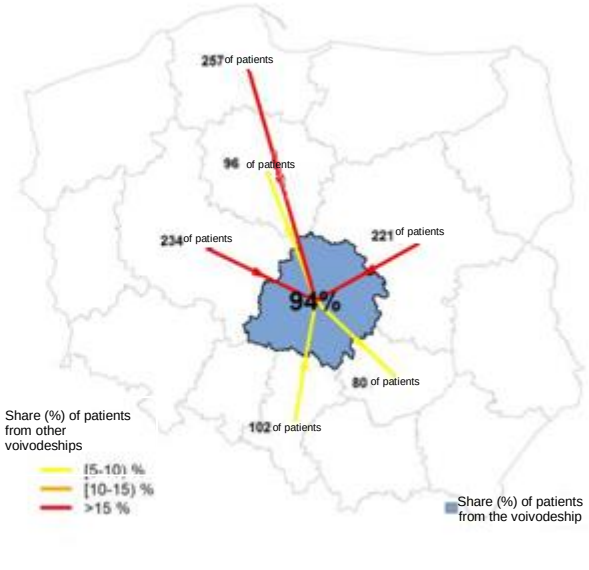
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 76: Migrations of cancer patients from Lubuskie Voivodeship (2012)



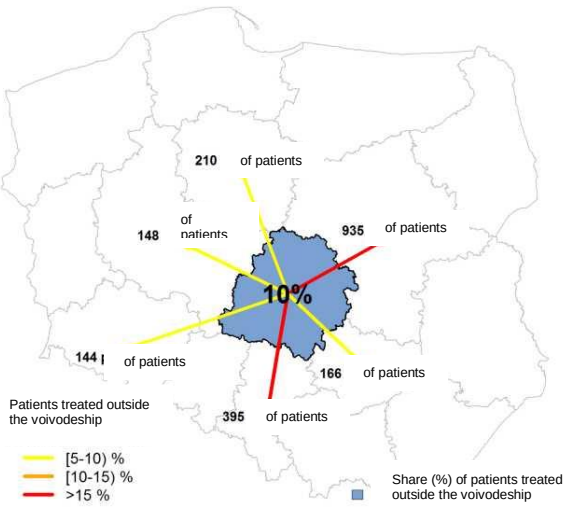
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 77: Migrations of cancer patients to Łódzkie Voivodeship (2012)



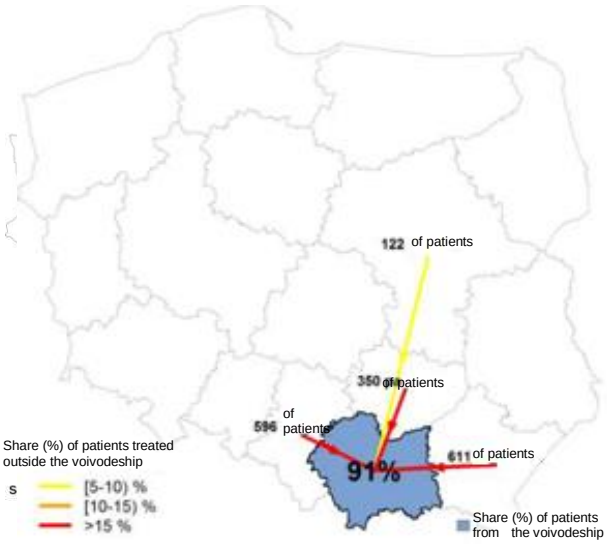
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 78: Migrations of cancer patients from Łódzkie Voivodeship (2012)



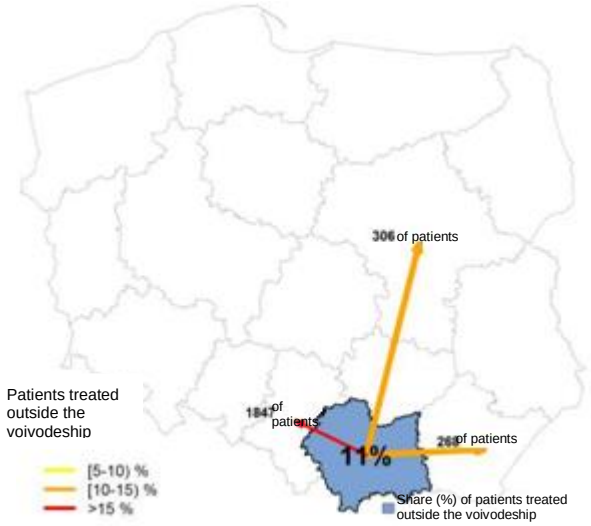
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 79: Migrations of cancer patients to Małopolskie Voivodeship (2012)



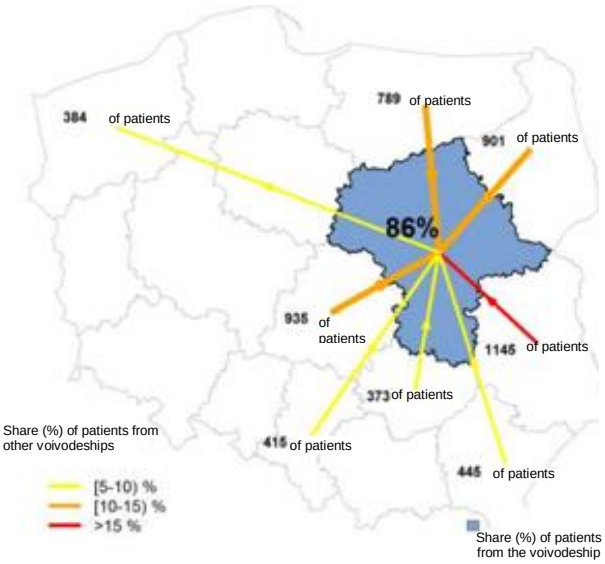
Source: compiled by DAiS based on data provided by the NFZ.

Figure 80:Migrations of cancer patients from Małopolskie Voivodeship (2012)



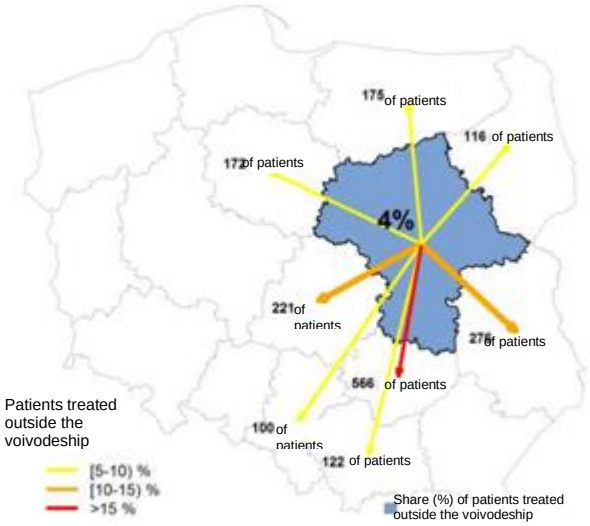
Source: compiled by DAiS based on data provided by the NFZ.

Figure 81: Migrations of cancer patients to Mazowieckie Voivodeship (2012)



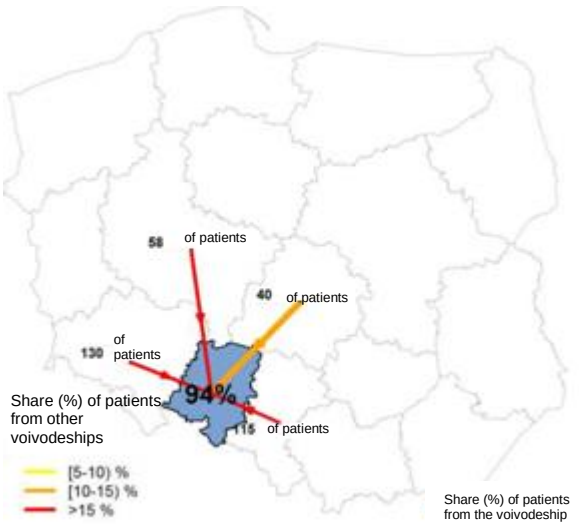
Source: compiled by DAiS based on data provided by the NFZ.

Figure 82: Migrations of cancer patients from Mazowieckie Voivodeship (2012)



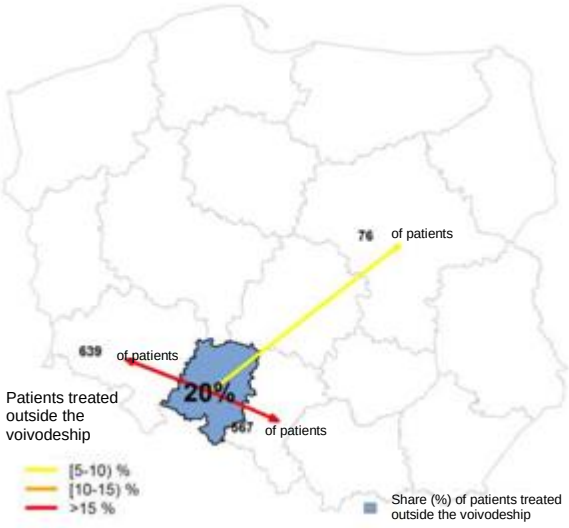
Source: compiled by DAiS based on data provided by the NFZ.

Figure 83: Migrations of cancer patients to Opolskie Voivodeship (2012)



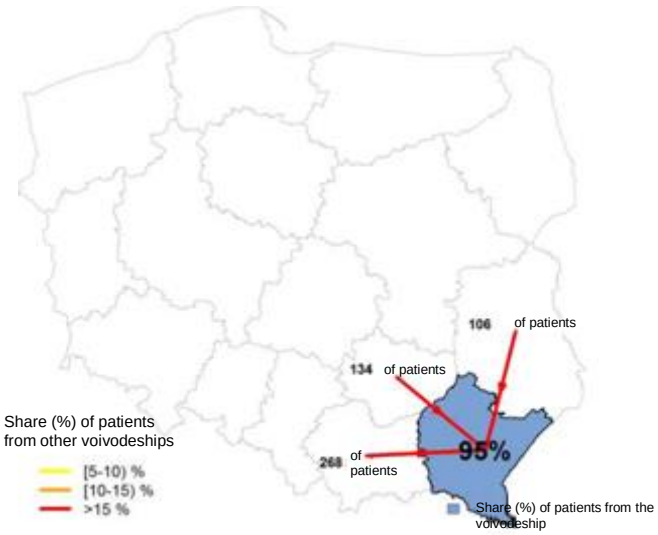
Source: compiled by DAiS based on data provided by the NFZ.

Figure 84:Migrations of cancer patients from Opolskie Voivodeship (2012)



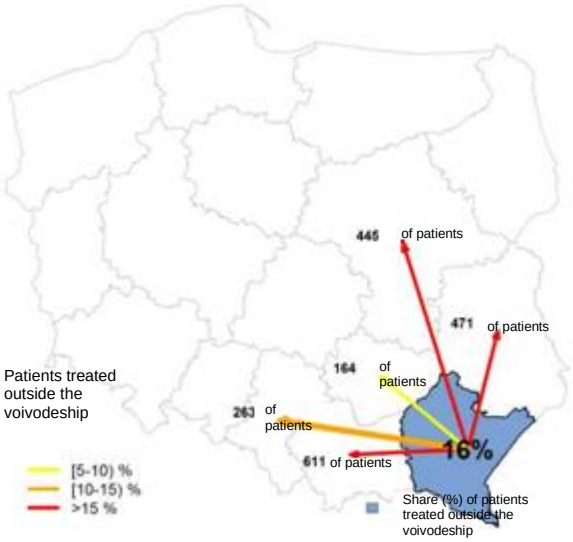
Source: compiled by DAiS based on data provided by the NFZ.

Figure 85: Migrations of cancer patients to Podkarpackie Voivodeship (2012)



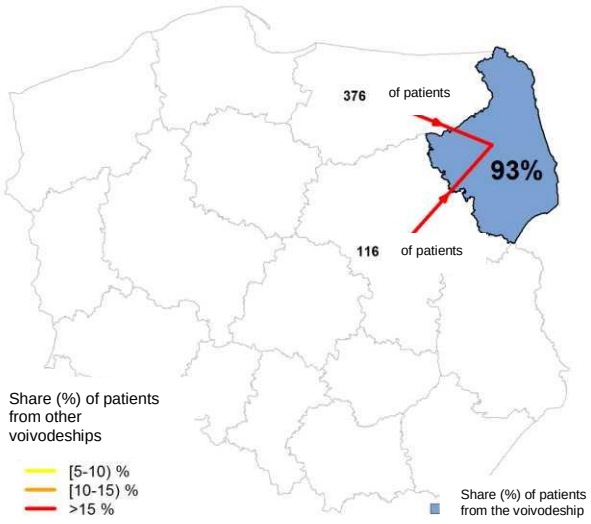
Source: compiled by DAiS based on data provided by the NFZ.

Figure 86: Migrations of cancer patients from Podkarpackie Voivodeship (2012)



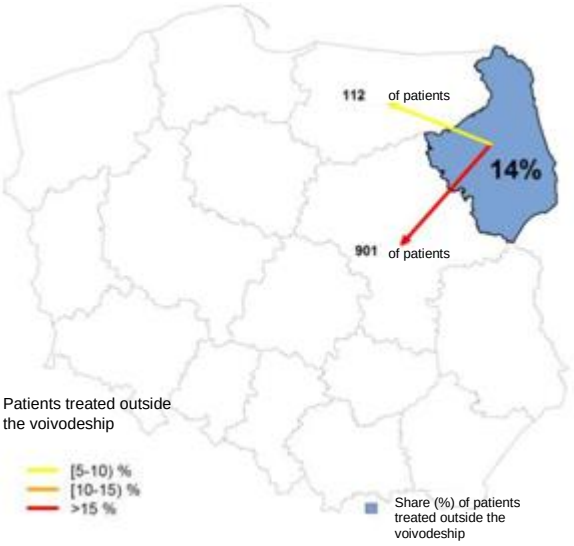
Source: compiled by DAiS based on data provided by the NFZ.

Figure 87:Migrations of cancer patients to Podlaskie Voivodeship (2012)



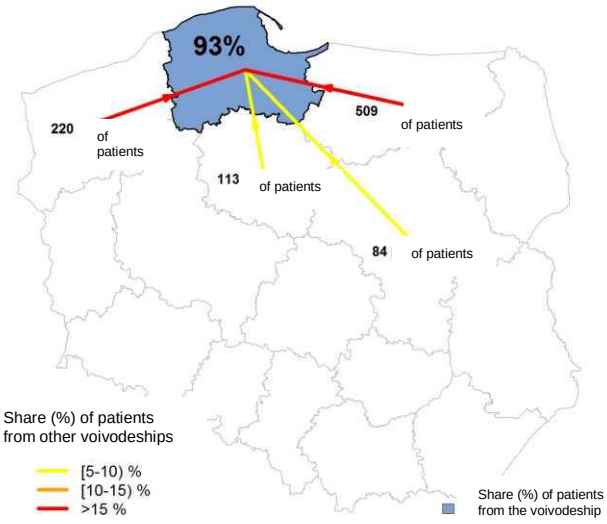
Source: compiled by DAiS based on data provided by the NFZ.

Figure 88: Migrations of cancer patients from Podlaskie Voivodeship (2012)



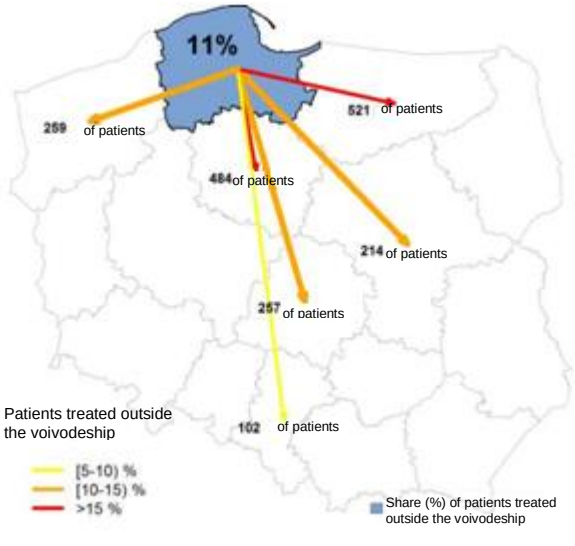
Source: compiled by DAiS based on data provided by the NFZ.

Figure 89: Migrations of cancer patients to Pomorskie Voivodeship (2012)



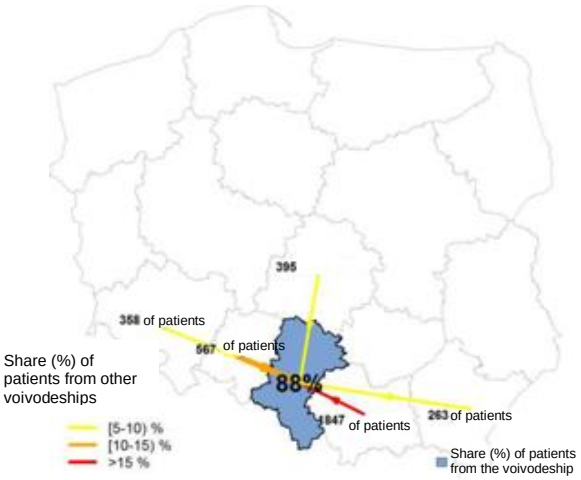
Source: compiled by DAiS based on data provided by the NFZ.

Figure 90: Migrations of cancer patients from Pomorskie Voivodeship (2012)



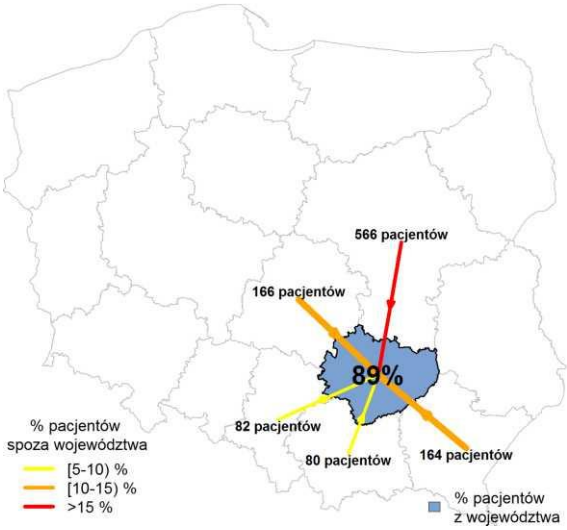
Source: compiled by DAiS based on data provided by the NFZ.

Figure 91: Migrations of cancer patients to Śląskie Voivodeship (2012)



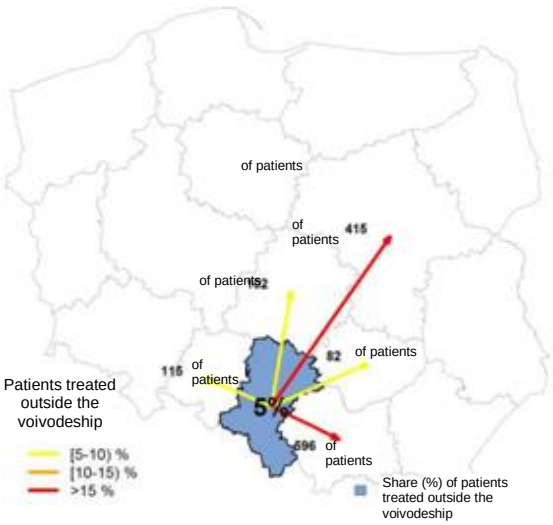
Source: compiled by DAiS based on data provided by the NFZ.

Figure 92: Migrations of cancer patients from Śląskie Voivodeship (2012)



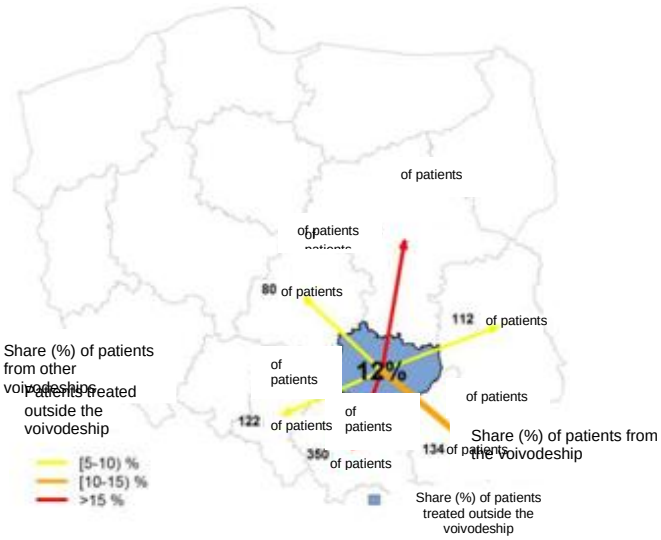
Source: compiled by DAiS based on data provided by the NFZ.

Figure 93: Migrations of cancer patients to Świętokrzyskie Voivodeship (2012)



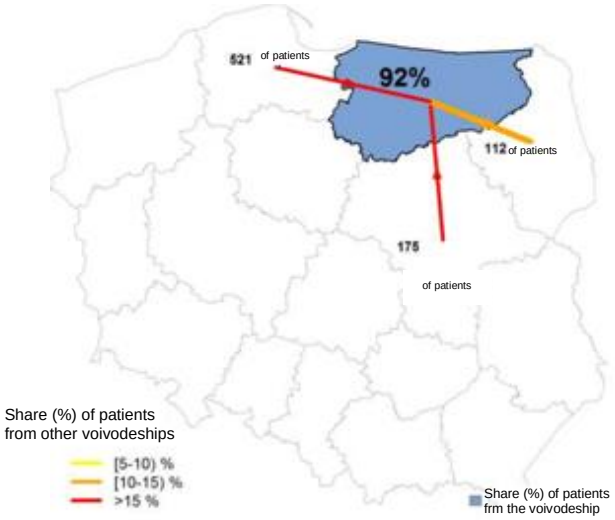
Source: compiled by DAiS based on data provided by the NFZ.

Figure 94: Migra Świętokrzyskie



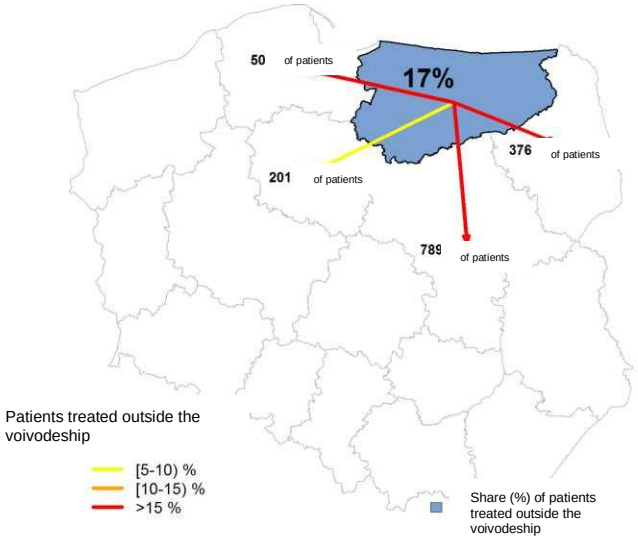
Source: compiled by DAiS based on data provided by the NFZ.

Figure 95: Migrations of cancer patients to Warmińsko-Mazurskie Voivodeship (2012)



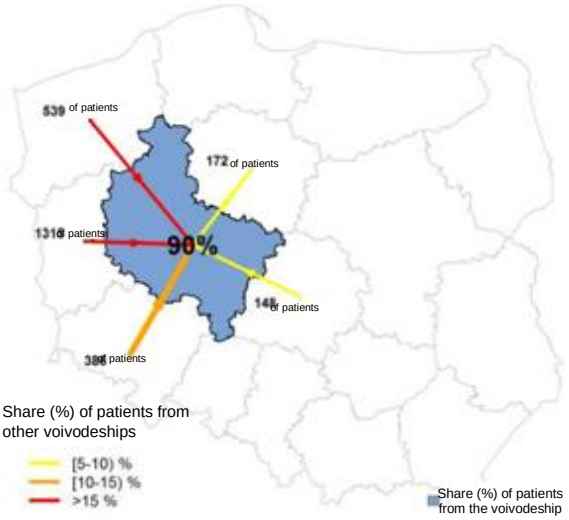
Source: compiled by DAiS based on data provided by the NFZ.

Figure 96: Migrations of cancer patients from Warmińsko-Mazurskie Voivodeship (2012)



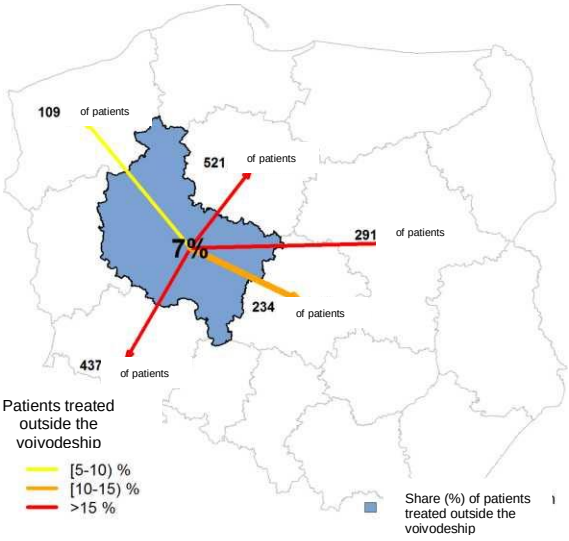
Source: compiled by DAiS based on data provided by the NFZ.

Figure 97: Migrations of cancer patients to Wielkopolskie Voivodeship (2012)



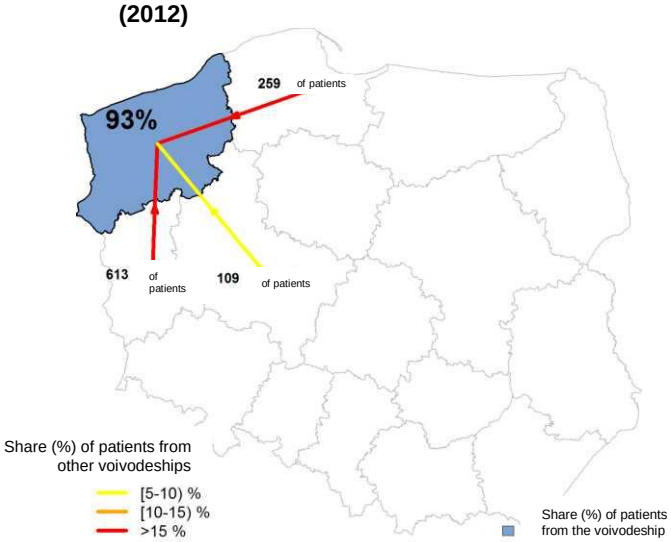
Source: compiled by DAiS based on data provided by the NFZ.

Figure 98: Migrations of cancer patients from Wielkopolskie Voivodeship (2012)



Source: compiled by DAiS based on data provided by the NFZ.

Figure 99: Migrations of cancer patients to Zachodniopomorskie Voivodeship (2012)



Source: compiled by DAiS based on data provided by the NFZ.

Figure 100: Migrations of cancer patients from Zachodniopomorskie Voivodeship (2012)

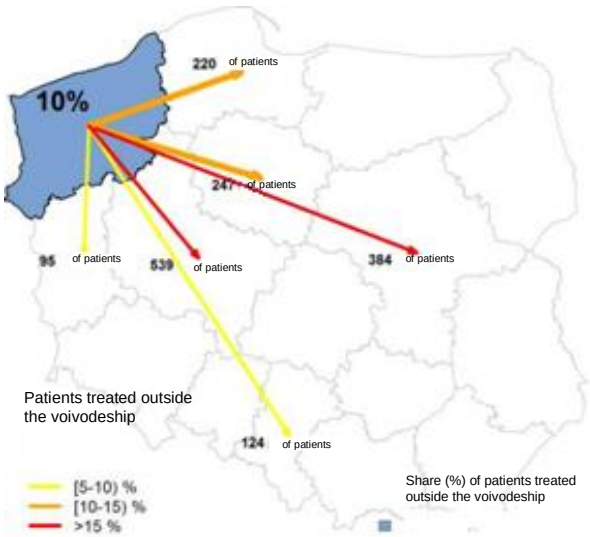
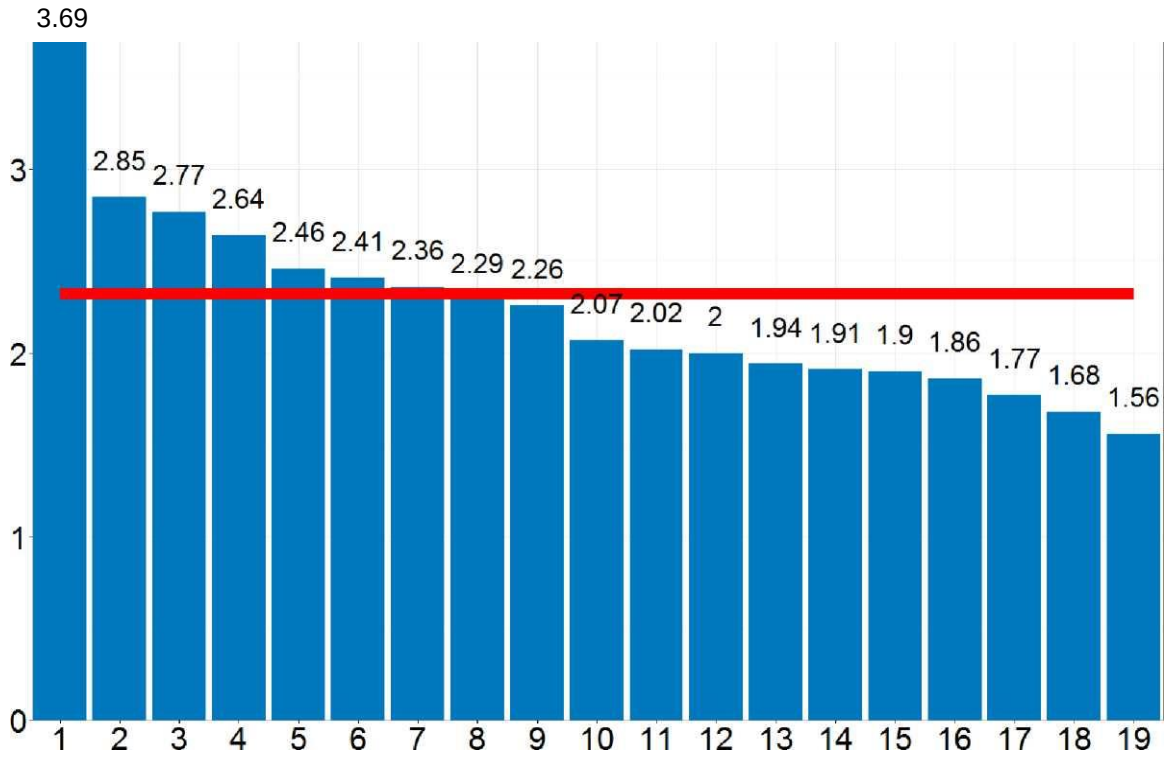


Figure 101: Average number of hospitalisations per patient in individual hospitals (2012)



Item	Name of the treatment provider	Number of patients	Hospitalisations per patient
1	M. Kopernik Regional Specialist Hospital in Łódź	6,737	3.69
2	Specialist Hospital in Brzozów, Bronisław Markiewicz Subcarpathian Oncology Centre	2,474	2.85
3	Zachodniopomorskie Oncology Centre	4,231	2.77
4	Maria Skłodowska-Curie Oncology Centre in Białystok	2,388	2.64
5	Dolnośląskie Oncology Centre in Wrocław	3,829	2.46
6	St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre	2,702	2.41
7	Fryderyk Chopin Regional Specialist Hospital	2,426	2.36
8	Military Institute of Medicine	2,942	2.29
9	University Hospital Healthcare	3,910	2.26
10	Oncology Centre Hospital - Kraków Division Institute	3,915	2.07
11	Świętokrzyskie Oncology Centre in Kielce	4,899	2.02
12	Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz	6,377	2
13	Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre in Olsztyn	3,374	1.94
14	Maria Skłodowska-Curie Institute of Oncology Gliwice Branch	5,455	1.91
15	Maria Skłodowska-Curie Wielkopolskie Oncology Centre	5,685	1.9
16	Maria Skłodowska-Curie Institute of Oncology	11,324	1.86
17	University Clinical Centre	4,483	1.77
18	"Zdrowie" Medical Centre/Oncology Hospital in Wieliszew/Clinic of the Oncology Hospital in Wieliszew	2,674	1.68
19	Polish Red Cross Maritime Hospital	2,604	1.56

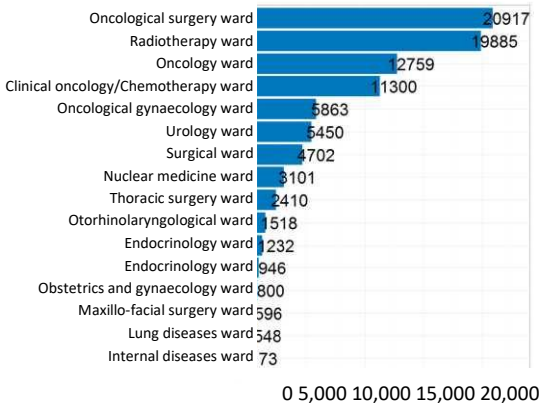
Source: compiled by DAiS based on data provided by the NFZ.

Table 3: Share of patients from other voivodeships in the population of cancer patients by healthcare provider (2012)

Item	Name of the treatment provider	Percentage of patients from other regions
1	Maria Skłodowska-Curie Institute of Oncology in Warsaw	22.2%
2	M. Kopernik Regional Specialist Hospital in Łódź	4.4%
3	Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz	19.7%
4	Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań	15.2%
5	Maria Skłodowska-Curie Institute of Oncology Gliwice Branch	39.3%
6	Świętokrzyskie Oncology Centre in Kielce	14.6%
7	University Clinical Centre in Gdańsk	10.7%
8	Zachodniopomorskie Oncology Centre in Szczecin	3.5%
9	Oncology Centre Hospital – Kraków Division Institute	6.4%
10	University Hospital Healthcare in Kraków	19.2%
11	Dolnośląskie Oncology Centre in Wrocław	10.3%
12	Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre in Olsztyn	7.3%
13	Military Institute of Medicine in Warsaw	25.1%
14	St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre in Lublin	9.6%
15	"Zdrowie" Medical Centre/Oncology Hospital in Wieliszew	7.0%
16	Polish Red Cross Maritime Hospital in Gdynia	3.8%
17	Specialist Hospital in Brzozów, Bronisław Markiewicz Subcarpathian Oncology Centre	5.2%
18	Fryderyk Chopin Regional Specialist Hospital in Rzeszów	3.2%
19	Maria Skłodowska-Curie Oncology Centre in Białystok	8.6%

Source: compiled by DAiS based on data provided by the NFZ.

Figure 102: Number of cancer patients in wards of particular hospitals (2012)



Source: compiled by DAiS based on data provided by the NFZ.

Table 4: Number of cancer patients in particular hospitals by ward (2012)

Healthcare provider/Ward name	Surgical ward	Thoracic surgery ward	Oncological surgery ward	Maxillo-facial surgery ward	Internal diseases ward	Endocrinology ward	Nuclear medicine ward	Lung diseases ward	Obstetrics and gynaecology ward	Gynaecology ward	Otorhinolaryngological ward	Urology ward	Oncological gynaecology ward	Oncology ward	Clinical oncology/Chemotherapy ward	Radiotherapy ward	Other	TOTAL	Unique patients
Maria Skłodowska-Curie Institute of Oncology in Warsaw		668	3,439	671			1,080					474	644	3,901		1,712	604	13,193	11,324
M. Kopernik Regional Specialist in Łódź		544	1,139		85						94	636	397		3,366	1,075	376	7,750	6,737
Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz		746	1,863									771	640	971	983	1,327		7,301	6,377
Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań	1,295		1,430								441		373		983	1,312	13	6,352	5,685
Maria Skłodowska-Curie Institute of Oncology Gliwice Branch			1,589			38	1,821							1,936	693		4	6,031	5,455
Świętokrzyskie Oncology Centre in Kielce			1,428			495	136				311	560	274	745		1,949	36	5,934	4,899
University Clinical Centre in Gdańsk	479	452	823	42	32	28					183	520	475	1,013			554	4,909	4,483
Zachodniopomorskie Oncology Centre in Szczecin			1,632												314	2,632	1	5,129	4,231
Oncology Centre Hospital - Kraków Division Institute			1,160				15					374	524	878		1,670		4,621	3,910
University Hospital Healthcare in Kraków	1,111				101	238	49	117	635		200	510		424			260	4,188	3,915
Dolnośląskie Oncology Centre in Wrocław			1,406										419		995	1,807	1	4,628	3,829
Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre in Olsztyn	284		997		140						67		103		650	1,756	52	4,073	3,374
Military Institute of Medicine in Warsaw	612			49		433		196		173	92	386		1,091			383	3,417	2,942
St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre in Lublin			1,099										572		426	910	6	3,013	2,702
"Zdrowie" Medical Centre/Oncology Hospital/Clinic of the Oncology Hospital in Wieliszew	26		587									56		220		1,623		3,042	2,474
Polish Red Cross Maritime Hospital in Gdynia			628		159			283	1				323	1,530			87	3,061	2,674
Specialist Hospital in Brzozów, Bronisław Markiewicz Subcarpathian Oncology Centre	288		704		31				70						1,144	618	23	3,043	2,604
Fryderyk Chopin Regional Specialist Hospital in Rzeszów	607			38					240		130	333	206		552	790		2,950	2,388
Maria Skłodowska-Curie Oncology Centre in Białystok			943										408		694	704		2,749	2,426

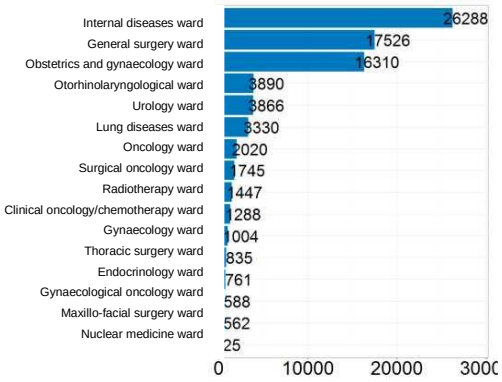
Source: compiled by DAiS based on data provided by the NFZ.

Table 5: **Share of cancer patients in particular hospitals by ward (2012)**

Healthcare provider/Ward name	Surgical ward	Thoracic surgery ward	Oncological surgery ward	Maxillo-facial surgery ward	Internal diseases ward	Internal diseases ward	Nuclear medicine ward	Lung diseases ward	Obstetrics and gynaecology ward	Gynaecology ward	Otorhinolaryngological ward	Urology ward	Oncological gynaecology ward	Oncology ward	Clinical oncology/Chemotherapy ward	Radiotherapy ward	Other	TOTAL:
Maria Skłodowska-Curie Institute of Oncology in Warsaw		5%	26%	5%			5%					4%	5%	30%		13%	5%	100%
M. Kopernik Regional Specialist Hospital in Łódź		7%	15%		1%						1%	3%	5%		43%	14%	5%	**100%**
Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz		10%	26%									11%	9%	13%	14%	18%		**100%**
Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań	20%		23%								7%		14%		16%	21%		**100%**
Maria Skłodowska-Curie Institute of Oncology Gliwice Branch			26%			1%	30%							32%	11%			**100%**
Świętokrzyskie Oncology Centre in Kielce			24%			5%	2%				5%	9%	5%	13%		33%	1%	***100%***
University Clinical Centre in Gdańsk	10%	9%	17%	1%	1%	1%					4%	17%	10%	21%				**100%**
Zachodniopomorskie Oncology Centre in Szczecin			33%												16%	51%		**100%**
Oncology Centre Hospital - Kraków Division Institute			25%									3%	11%	19%		36%		**100%**
University Hospital Healthcare in Kraków	27%				2%	6%	1%	3%	15%		5%	12%		10%			6%	**100%**
Dolnośląskie Oncology Centre in Wrocław			30%										9%		22%	39%		***100%***
Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre in Olsztyn	7%		25%		1%						2%		3%		16%	43%	1%	**100%**
Military Institute of Medicine in Warsaw	18%			1%		13%		6%		5%	33%	11%		32%			11 %	**100%**
St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre in Lublin			37%										19%		14%	30%		**100%**
"Zdrowie" Medical Centre/Oncology Hospital/Clinic of the Oncology Hospital in Wieliszew	1%		19%									19%		7%		53%		**100%**
Polish Red Cross Maritime Hospital in Gdynia			21%		5%			3%					11%	52%			3%	
Specialist Hospital in Brzozów, Bronisław Markiewicz Subcarpathian Oncology Centre	10%		23%		1%				2%						38%	20%	1%	**100%**
Fryderyk Chopin Regional Specialist Hospital in Rzeszów	21%			1%					8%		4%	11%	7%		19%	27%	2%	**100%**
Maria Skłodowska-Curie Oncology Centre in Białystok			34%										15%		25%	26%		**100%**

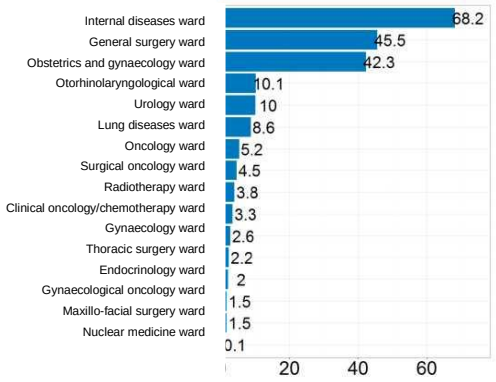
Source: compiled by DAiS based on data provided by the NFZ.

Figure 103: Number of beds in wards [as at 30 June 2012]



Source: compiled by DAiS based on data provided by the NFZ and the Register of Entities Offering Therapeutic Services (RPWDL)

Figure 104: Number of beds in wards per 100,000 people [as at 30 June 2012]



Source: compiled by DAiS based on data provided by the NFZ and the Register of Entities Offering Therapeutic Services (RPWDL)

Table 6. Number of beds in particular hospitals by ward [as at 30 June 2012]

Healthcare provider/Ward name	Surgical ward	Thoracic surgery ward	Oncological surgery ward	Maxillo-facial surgery ward	Internal diseases ward	Internal diseases ward	Nuclear medicine ward	Lung diseases ward	Obstetrics and gynaecology	Gynaecology ward	Otorhinolaryngological ward	Urology ward	Oncological gynaecology ward	Oncology ward	Clinical oncology/Chemotherapy ward	Radiotherapy ward
Maria Skłodowska-Curie Institute of Oncology in Warsaw		25	137	35		13	10					18	40	241		90
M. Kopernik Regional Specialist Hospital in Łódź		20	53		20						14	38	21		109	75
Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz		35	63									25	35	26	35	78
Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań	42		53								25		61		52	98
Maria Skłodowska-Curie Institute of Oncology Gliwice Branch			79											216	64	
Świętokrzyskie Oncology Centre in Kielce			46			20	5				26	21	29	44		82
University Clinical Centre in Gdańsk	41	24	24	6	13	22					23	24	48	55	10	
Zachodniopomorskie Oncology Centre in Szczecin			53												62	103
Oncology Centre Hospital - Kraków Division Institute			36									3	32	33		81
University Hospital Healthcare in Kraków	104				60	45	4	46	146		62	38		26	16	
Dolnośląskie Oncology Centre in Wrocław			76										23		54	272
Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre in Olsztyn	32		38		38						12		14	19	34	60
Military Institute of Medicine in Warsaw	75			8		12		34		32	34	30		56		
St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre in Lublin			36										32		35	89
"Zdrowie" Medical Centre/Oncology Hospital/Clinic of the Oncology Hospital in Wieliszew	2	2	16									15	2	10		14
Polish Red Cross Maritime Hospital in Gdynia			30		28			31	58				20	106		
Specialist Hospital in Brzozów, Bronisław Markiewicz Subcarpathian Oncology Centre	50		50		60				33						80	43
Fryderyk Chopin Regional Specialist Hospital in Rzeszów	50			17					86		34	42	35		25	50
Maria Skłodowska-Curie Oncology Centre in Białystok			40										30		43	41

Source: compiled by DAiS based on data provided by the NFZ.

Table 7: Number of hospitalised patients in particular hospitals by scope of treatment (2012)

Healthcare provider/Scope of treatment	Brachytherapy	Chemotherapy – hospitalisation with combined treatment	Thoracic surgery – hospitalisation	General surgery – hospitalisation	Oncological surgery – hospitalisation	Lung diseases – hospitalisation	Endocrinology – hospitalisation	Oncological gynaecology –	Ophthalmology – hospitalisation	Clinical oncology – hospitalisation	Otolaryngology – hospitalisation	Obstetrics and gynaecology – hospitalisation ref. level II	Teleradiotherapy	Isotope therapy	Urology – hospitalisation	Urology – scheduled hospitalisation	Other	TOTAL	Unique patients
Maria Skłodowska-Curie Institute of Oncology in Warsaw	890	2,267	535	35	3,732		152	538		2,393	317		837	947	474		849	13,966	11,324
M. Kopernik Regional Specialist Hospital in Łódź	3	3,650	437	226	1,378					1,303	94		1		636		600	8,328	6,737
Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz		1,835	589		1,863			640		1,560					771		181	7,439	6,377
Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań		1,166		102	2,593			321		2,043	441						13	6,679	5,685
Maria Skłodowska-Curie Institute of Oncology Gliwice Branch		1,382			1,589		1,817			1,691								6,479	5,455
Świętokrzyskie Oncology Centre in Kielce	492	902	174	1	1,189		494	274		1	311		1,790	136	560		160	6,484	4,899
University Clinical Centre in Gdańsk		361	296	501	823	161	16	380	5	970	183		1		820		681	5,198	4,483
Zachodniopomorskie Oncology Centre in Szczecin		814			1,682								2,632				1	5,129	4,231
Oncology Centre Hospital - Kraków Division Institute	111	1,073			1,160			366		123			1,623	15	374			4,845	3,910
University Hospital Healthcare in Kraków	256	713		336	1,100	111	229		297	87	200	359		49	510		379	4,626	3,915
Dolnośląskie Oncology Centre in Wrocław	46	995			1,406			419					1,774				1	4,641	3,829
Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre in Olsztyn	214	641		219	997			103		17	67		1,604				292	4,154	3,374
Military Institute of Medicine in Warsaw		661		172	456	192	433	8		822	92				386		599	3,821	2,942
St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre in Lublin		915			1,099					1,056							6	3,076	2,702
"Zdrowie" Medical Centre/Oncology Hospital/Clinic of the Oncology Hospital in Wieliszew	217	178		26	587					71			1,530		586			3,195	2,474
Polish Red Cross Maritime Hospital in Gdynia	59	331			628	283	3	323		934			394				244	3,199	2,674
Specialist Hospital in Brzozów, Bronisław Markiewicz Subcarpathian Oncology Centre		1,070		66	704					733						224	296	3,093	2,604
Fryderyk Chopin Regional Specialist Hospital in Rzeszów		639		9	602					861	130	240	1		333		92	2,907	2,388
Maria Skłodowska-Curie Oncology Centre in Białystok		791			943					1,290								3,024	2,426

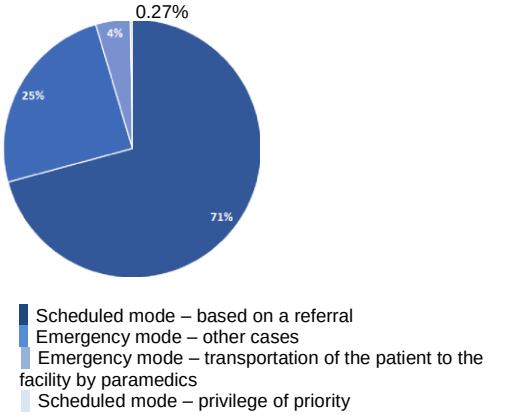
Source: compiled by DAiS based on data provided by the NFZ.

Table 8: Share of hospitalised patients in particular hospitals by scope of treatment (2012)

Healthcare provider/Scope of treatment		Chemotherapy – hospitalisation with combined treatment	Thoracic surgery – hospitalisation	General surgery – hospitalisation	Oncological surgery – hospitalisation	Lung diseases – hospitalisation	Endocrinology – hospitalisation	Oncological gynaecology – hospitalisation	Ophthalmology – hospitalisation	Clinical oncology – hospitalisation	Otolaryngology – hospitalisation	Obstetrics and gynaecology – hospitalisation ref. level III	Teleradiotherapy	Isotope therapy	Urology – hospitalisation	Urology – scheduled hospitalisation	Other	TOTAL
Maria Skłodowska-Curie Institute of Oncology in Warsaw	6%	16%	4%		27%		1%	4%		17%	2%		6%	7%	3%		6%	100%
M. Kopernik Regional Specialist Hospital in Łódź		44%	5%	3%	17%					16%	1%				8%		7%	100%
Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz		25%	8%		25%			9%		21%					10 %		2%	100%
Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań		18%		2%	39%			5%		31%	7%							100%
Maria Skłodowska-Curie Institute of Oncology Gliwice Branch		21%			25%		28 %			26%								100%
Świętokrzyskie Oncology Centre in Kielce	8%	14%	3%		18%		8%	4%			5%		28%	2%	9%		3%	100%
University Clinical Centre in Gdańsk		7%	6%	10%	16%	3%		7%		19%	4%				16 %		13 %	100%
Zachodniopomorskie Oncology Centre in Szczecin		16%			33%								51%					100%
Oncology Centre Hospital - Kraków Division Institute	2%	22%			24%			8%		3%			34%		8%			100%
University Hospital Healthcare *in* Kraków	6%	15%		7%	24%	2%	5%		6%	2%	4%	8%		1%	11 %		8%	100%
Dolnośląskie Oncology Centre in Wrocław	1%	21%			30%			9%					38%					100%
Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre in Olsztyn	5%	15%		5%	24%			3%			2%		39%				7%	100%
Military Institute of Medicine in Warsaw		17%		5%	12%	5%	11 %			22%	2%				10 %		16 %	100%
St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre in Lublin		30%			36%					34%								100%
"Zdrowie" Medical Centre/Oncology Hospital/Clinic of the Oncology Hospital in Wieliszew	7%	6%		1%	18%					2%			48%		18 %			100%
Polish Red Cross Maritime Hospital *in* Gdynia	2%	10%			20%	9%		10%		29%			12%				8%	100%
Specialist Hospital in Brzozów, Bronisław Markiewicz Subcarpathian Oncology Centre		35%		2%	23%					24%						7%	10 %	100%
Fryderyk Chopin Regional Specialist Hospital in Rzeszów		22%			21%					30%	5%	8%			12 %		3%	100%
Maria Skłodowska-Curie Oncology Centre in Białystok		26%			31%					43%								100%

Source: compiled by DAiS based on data provided by the NFZ.

Figure 105: Percentage of patients admitted in individual modes in Poland (2012)



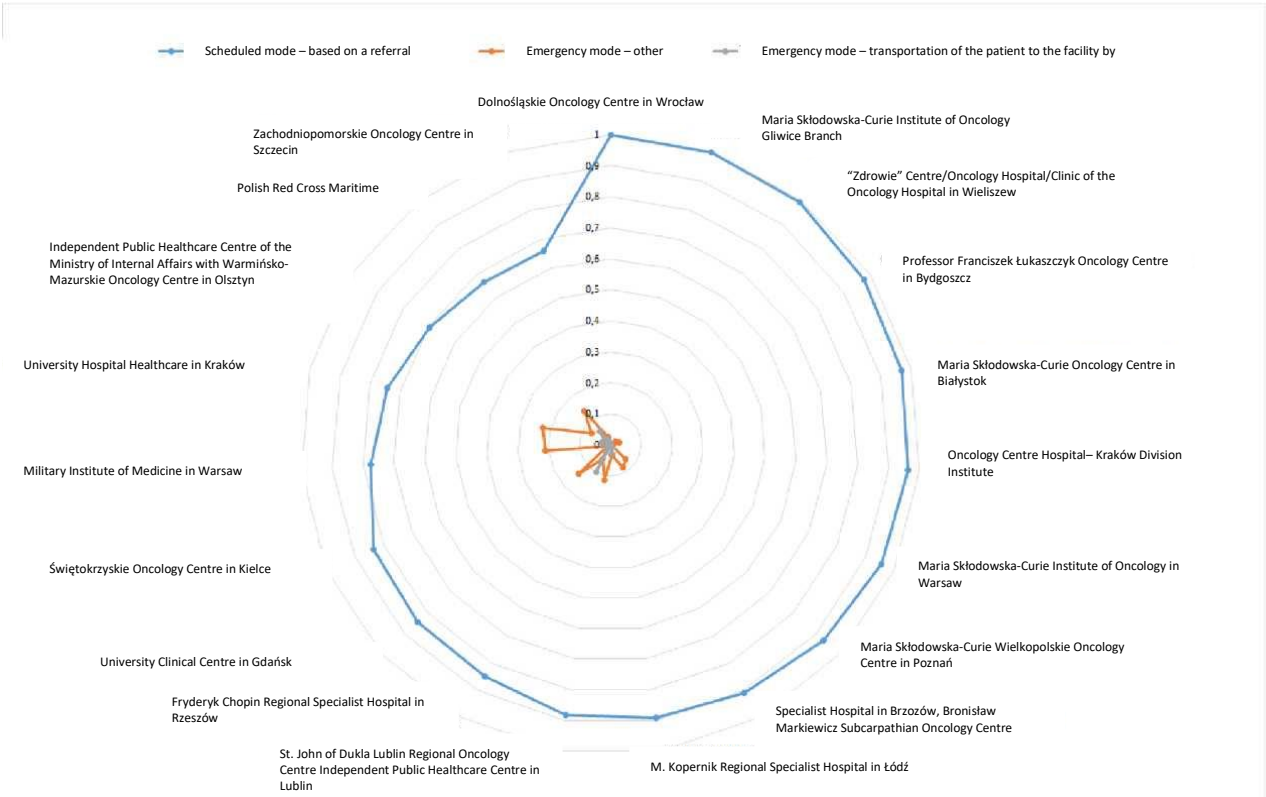
Source: compiled by DAiS based on data provided by the NFZ.

Table 9: Number of patients by hospital admission mode (2012)

Healthcare provider/Admission mode	Scheduled mode – based on a referral	Emergency mode – other cases	Emergency mode – transportation of the patient to the facility by paramedics	Scheduled mode – privilege of priority	Transfer from another hospital	No data available	TOTAL	Unique patients
Maria Skłodowska-Curie Institute of Oncology in Warsaw	10,983	63	11	2		459	11,536	11,324
M. Kopernik Regional Specialist Hospital in Łódź	6,467	243	212	339			7,261	6,737
Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz	6,300	130	6	11			6,447	6,377
Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań	5,438	391	5				5,834	5,685
Maria Skłodowska-Curie Institute of Oncology Gliwice Branch	5,448	4	9				5,461	5,455
Świętokrzyskie Oncology Centre in Kielce	4,413	63	7	2	*2*	796	5,283	4,899
University Clinical Centre in Gdańsk	4,071	668	82	1	4		4,826	4,483
Zachodniopomorskie Oncology Centre in Szczecin	3,122	121	91	3		1,387	4,724	4,231
Oncology Centre Hospital–Kraków Division Institute	3,876	34		1		107	4,018	3,910
University Hospital Healthcare in Kraków	3,216	979	128	2	3		4,328	3,915
Dolnośląskie Oncology Centre in Wrocław	3,829						3,829	3,829
Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre in Olsztyn	2,641	268	87			803	3,799	3,374
Military Institute of Medicine in Warsaw	*2,527*	687	39				3,253	2,942
St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre in Lublin	2,600	343	1	3			2,947	2,702
"Zdrowie" Centre/Oncology Hospital/Clinic of the Oncology Hospital in Wieliszew	2,670	17		1			2,688	2,474
Polish Red Cross Maritime Hospital in Gdynia	1,982	408	162	1		*431*	2,984	2,674
Specialist Hospital in Brzozów, Bronisław Markiewicz Subcarpathian Oncology Centre	2,380	216	21	1	2		2,620	2,604
Fryderyk Chopin Regional Specialist Hospital in Rzeszów	2,230	133	261	4			*2,628*	2,388
Maria Skłodowska-Curie Oncology Centre in Białystok	2,364	*73*		1			2,438	2,426

NFZ.

Figure 106: Percentage of patients admitted in particular hospitals including their admission mode (2012)



Source: compiled by DAiS based on data provided by the NFZ.

Table 10: Number of patients in particular hospitals by cancer site (2012)

Healthcare provider/Cancer type	CNS	Melanoma	Lower GI tract	Gynaecological	Head and neck	Upper GI tract	Testis	Kidney	Bladder	Breast	Lung	Prostate	Thyroid	Other	TOTAL	Unique patients
Maria Skłodowska-Curie Institute of Oncology in Warsaw	308	398	849	1,590	848	625	136	146	234	2,195	1,233	333	1,156	2,201	12,252	11,324
M. Kopernik Regional Specialist Hospital in Łódź	125	256	950	724	342	547	67	204	458	1,510	952	355	98	448	7,036	6,737
Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz	132	150	844	885	210	450	82	271	297	1,346	940	431	21	544	6,603	6,377
Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań	127	218	1,023	830	525	486	63	20	52	1,516	56	311	80	490	5,797	5,685
Maria Skłodowska-Curie Institute of Oncology Gliwice Branch	218	94	498	467	431	265	35	36	35	791	299	219	1,780	538	5,706	5,455
Świętokrzyskie Oncology Centre in Kielce	61	133	409	590	325	217	42	153	269	837	595	439	443	928	5,441	4,899
University Clinical Centre in Gdańsk	111	189	284	542	310	442	27	184	441	630	701	313	34	513	4,721	4,483
Zachodniopomorskie Oncology Centre in Szczecin	76	177	629	430	291	265	36	40	79	1,030	613	285	12	794	4,757	4,231
Oncology Centre Hospital - Kraków Division Institute	79	218	286	632	158	130	64	107	187	1,180	309	409	18	249	4,026	3,910
University Hospital Healthcare in Kraków	139	18	511	471	198	520	14	75	401	313	161	68	249	902	4,040	3,915
Dolnośląskie Oncology Centre in Wrocław	101	101	638	903	267	218	41	23	20	1,102	48	116	7	457	4,042	3,829
Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre in Olsztyn	66	71	511	339	228	295	14	61	106	739	583	172	69	222	3,476	3,374
Military Institute of Medicine in Warsaw	102	11	400	247	132	382	31	241	251	217	286	83	393	455	3,231	2,942
St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre in Lublin	72	103	268	512	198	135	41	30	37	811	210	90	29	368	2,904	2,702
"Zdrowie" Centre/Oncology Hospital/Clinic of the Oncology Hospital in Wieliszew	23	32	272	243	111	89	25	107	306	514	169	578	15	286	2,770	2,474
Polish Red Cross Maritime Hospital in Gdynia	55	68	307	474	117	176	23	28	28	473	491	166	31	270	2,707	2,674
Specialist Hospital in Brzozów, Bronisław Markiewicz Subcarpathian Oncology Centre	51	81	442	265	82	234	15	61	105	317	302	282	21	312	2,570	2,604
Fryderyk Chopin Regional Specialist Hospital in Rzeszów	16	73	274	507	259	179	18	105	185	386	268	101	8	123	2,502	2,388
Maria Skłodowska-Curie Oncology Centre in Białystok	55	62	407	434	155	140	12	16	43	479	249	209	14	224	2,499	2,426

Source: compiled by DAiS based on data provided by the NFZ.

Table 11: Share of patients in particular hospitals by cancer site (2012)

Healthcare provider/Cancer type	CNS	Melanoma	Lower GI tract	Gynaecological	Head and neck	Upper GI tract	Testis	Kidney	Bladder	Breast	Lung	Prostate	Thyroid	Other	TOTAL
Maria Skłodowska-Curie Institute of Oncology in Warsaw			7%	13%	7%	5%				18%	10%		9%	18%	100%
M. Kopernik Regional Specialist Hospital in Łódź			14%	10%		8%			7%	22%	14%			6%	100%
Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz			13%	13%		7%				20%	14%	7%		8%	100%
Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań			18%	14%	9%	8%				26%		5%		9%	100%
Maria Skłodowska-Curie Institute of Oncology Gliwice Branch			9%	8%	8%					14%	5%		31%	9%	100%
Świętokrzyskie Oncology Centre in Kielce			8%	11%	6%					15%	11%	8%	8%	17%	100%
University Clinical Centre in Gdańsk			6%	12%	7%	9%			9%	13%	15%	7%		11%	100%
Zachodniopomorskie Oncology Centre ***in*** Szczecin			13%	9%	6%	6%				22%	13%	6%		17%	100%
Oncology Centre Hospital - Kraków Division Institute		5%	7%	16%						29%	8%	10%		6%	100%
University Hospital Healthcare in Kraków			13%	12%		13%			10%	8%			6%	22%	100%
Dolnośląskie Oncology Centre in Wrocław			16%	22%	7%	5%				27%				11%	100%
Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre in Olsztyn			15%	10%	7%	9%				21%	17%			6%	100%
Military Institute of Medicine in Warsaw			12%	8%		12%		8%	8%	7%	9%		12%	14%	100%
St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre ***in*** Lublin			9%	18%	7%					28%	7%			13%	100%
"Zdrowie" Medical Centre/Oncology Hospital/Clinic of the Oncology Hospital in Wieliszew			10%	9%					11%	19%	6%	21%		10%	100%
Polish Red Cross Maritime Hospital in Gdynia			11%	18%		7%				18%	18%	6%		10%	100%
Specialist Hospital in Brzozów, Bronisław Markiewicz Subcarpathian Oncology Centre			17%	10%		9%				12%	12%	11%		12%	100%
Fryderyk Chopin Regional Specialist Hospital in Rzeszów			11%	20%	10%	7%			7%	15%	11%				100%
Maria Skłodowska-Curie Oncology Centre ***in*** Białystok			16%	17%	6%	6%				19%	10%	8%		9%	100%

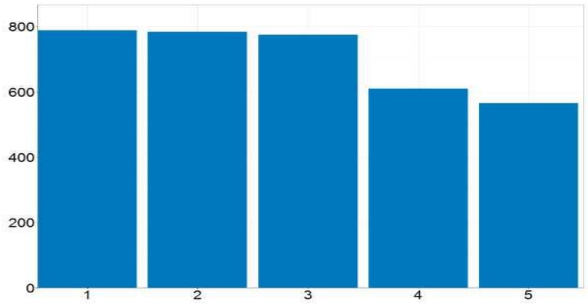
Source: compiled by DAiS based on data provided by the NFZ.

Service Providers Analysis by Cancer Group

Kidney cancer (C64–C66)

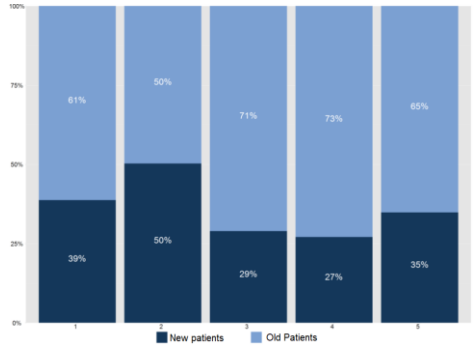
item	Name of healthcare provider:
1	Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz
2	Military Institute of Medicine in Warsaw
3	Józef Struś Multidisciplinary City Hospital with Care and Curative Institution Independent Public Healthcare Centre located in Poznań, Szwajcarska St. 3
4	Central Clinical Hospital of the Ministry of the Interior and Administration in Warsaw
5	Jan Mikulicz-Radecki University Teaching Hospital in Wrocław

Figure 107: Number of kidney cancer patients by hospital (2010–2012)



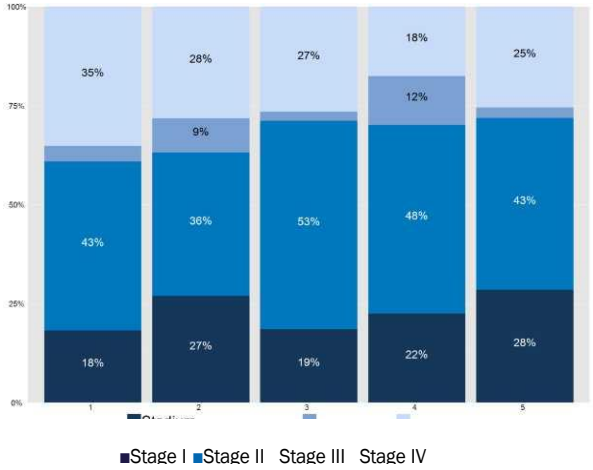
Source: compiled by DAiS based on data provided by the NFZ.

Figure 108: Structure of "old" and "new" patients by individual hospitals (2010–2012)



Source: compiled by DAiS based on data provided by the NFZ.

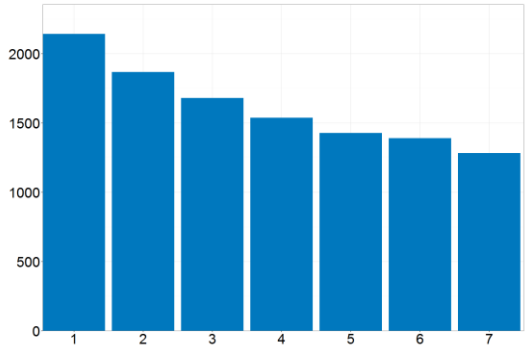
Figure 109: Share of patients in individual hospitals by cancer stage (2010–2012)



Source: compiled by DAiS based on data provided by the NFZ.

Upper gastrointestinal tract cancers (C15, C16, C22–C26)

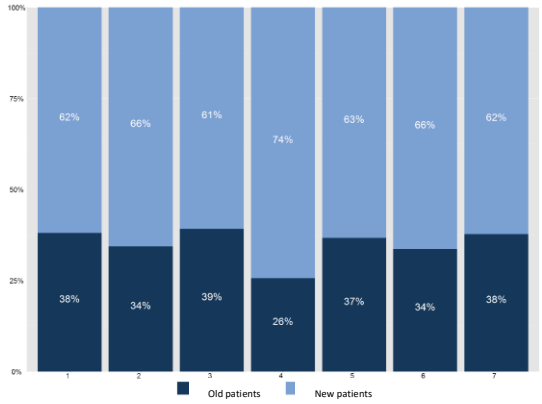
Figure 110: Number of upper gastrointestinal tract cancer patients by hospital (2010–2012)



item	Name of the treatment provider
1	Public Paediatric Central Clinical Hospital in Warsaw
2	Maria Skłodowska-Curie Institute of Oncology in Warsaw
3	M. Kopernik Regional Specialist Hospital in Łódź
4	University Hospital Healthcare
5	University Clinical Centre
6	Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań
7	Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz

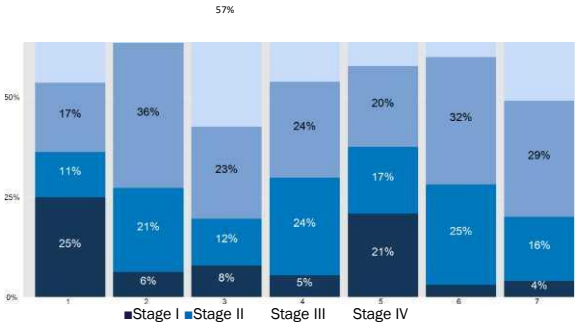
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry and NFZ.

Figure 111: Figure 111: Structure of “old” and “new” patients by individual hospitals (2010–2012)



Source: compiled by DAiS based on data provided by the KRN, NFZ.

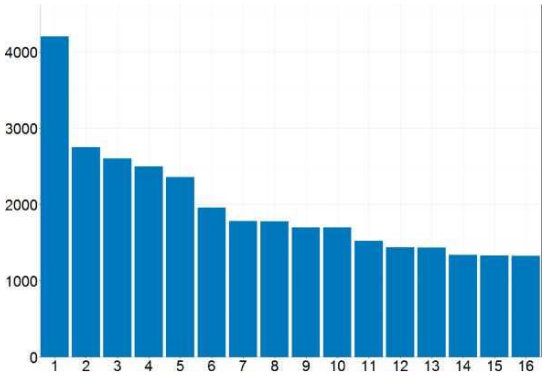
Figure 112: Share of patients in particular hospitals by cancer stage (2010-2012)



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry and NFZ.

Gynaecological cancers (C53, C54, C56, C57)

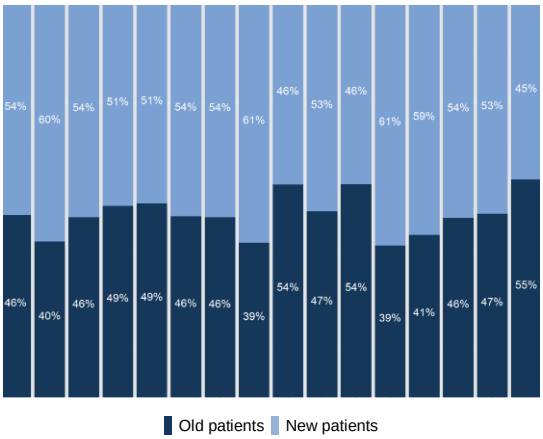
Figure 113: Number of gynaecological cancer patients by hospital (2010–2012)



1	Maria Skłodowska-Curie Institute of Oncology in Warsaw
2	Dolnośląskie Oncology Centre in Wrocław
3	M. Kopernik Regional Specialist Hospital in Łódź
4	Maria Skłodowska-Curie Wielkopolskie Oncology Centre
5	Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz
6	Oncology Centre Hospital - Kraków Division Institute
7	Świętokrzyskie Oncology Centre in Kielce
8	Gynecology and Obstetrics Hospital, Karol Marcinkowski University of Medical Sciences
9	Maria Skłodowska-Curie Institute of Oncology Gliwice Branch
10	University Clinical Centre
11	St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre
12	Polish Red Cross Maritime Hospital
13	Fryderyk Chopin Regional Specialist Hospital
14	Zachodniopomorskie Oncology Centre
15	University Hospital Healthcare
16	Maria Skłodowska-Curie Oncology Centre in Białystok

Source: compiled by DAiS based on data provided by the NFZ.

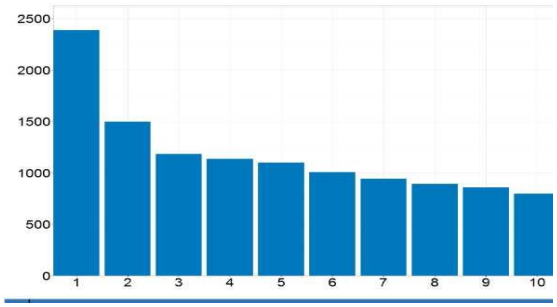
Figure 114: Structure of "old" and "new" patients by hospital (2010–2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Head and neck cancers (C00–C14, C30–C32)

Figure 116: Number of head and neck cancer patients by hospital (2010–2012)



	Name of the treatment provider
1	Maria Skłodowska-Curie Institute of Oncology in Warsaw
2	Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań
3	Heliodor Święcicki Clinical Hospital at the Karol Marcinkowski Medical University in Poznań
4	Maria Skłodowska-Curie Institute of Oncology Gliwice Branch
5	M. Kopernik Regional Specialist Hospital in Łódź
6	Świętokrzyskie Oncology Centre in Kielce
7	University Clinical Centre
8	Fryderyk Chopin Regional Specialist Hospital
9	Zachodniopomorskie Oncology Centre
10	Dolnośląskie Oncology Centre in Wrocław

Figure 115: Share of patients in particular hospitals by cancer stage (2010–2012)

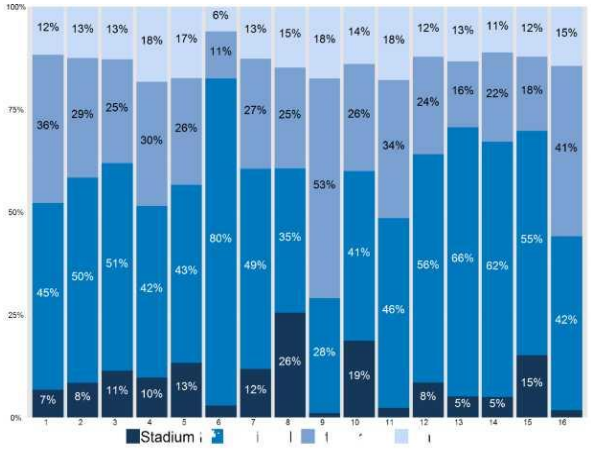
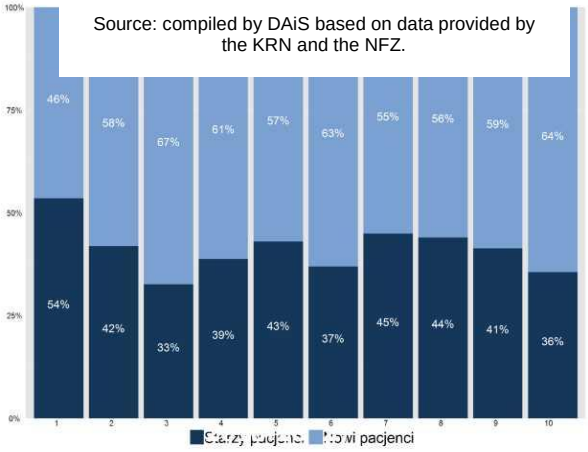
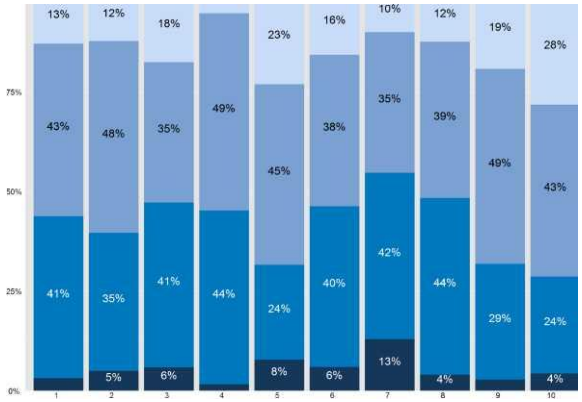


Figure 117: Structure of “old” and “new” patients by individual hospitals(2010–2012)

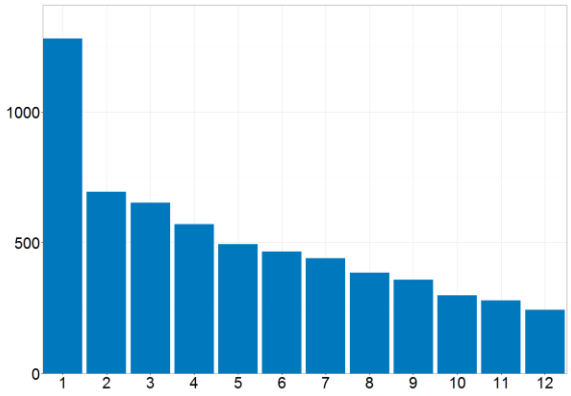


Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 118: Share of patients in particular hospitals by cancer stage (2010–2012)

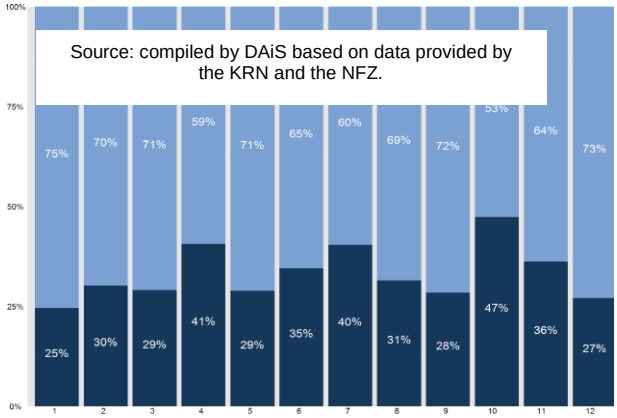


Source: compiled by DAiS based on data provided by the KRN and the NFZ.



Melanoma (C43)

Figure 119: Number of melanoma patients by hospital (2010–2012)

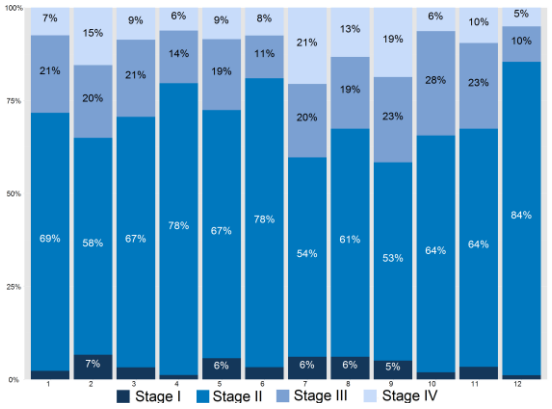


Source: compiled by DAiS based on data provided by the KRN and the NFZ.

	Healthcare provider
1	Maria Skłodowska-Curie Institute of Oncology in Warsaw
2	M. Kopernik Regional Specialist Hospital in Łódź
3	Maria Skłodowska-Curie Wielkopolskie Oncology Centre
4	Oncology Centre Hospital - Kraków Division Institute
5	University Clinical Centre
6	ZachodniopomorskieOncologyCentre
7	Professor Franciszek Łukaszczyk Oncology Centrein Bydgoszcz
8	Świętokrzyskie Oncology Centre in Kielce
9	Dolnośląskie Oncology Centre in Wrocław
10	Maria Skłodowska-Curie Institute of Oncology Gliwice Branch
11	St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre
12	Independent Public Healthcare Centre – Professor Koszarowski Oncology Centre in Opole

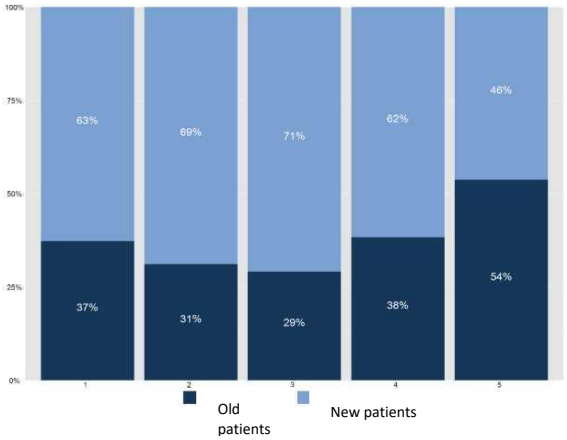
Source: compiled by DAiS based on data provided by the NFZ.

Figure 121: Share of patients in particular hospitals by cancer stage (2010–2012)



Central nervous system cancer (C70–C72)

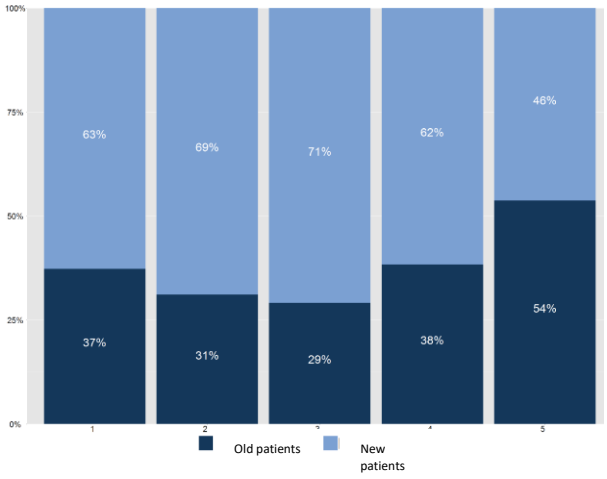
Figure 122: Number of central nervous system cancer patients by hospital (2010–2012)



Item	Name of the treatment provider
1	Independent Public Healthcare Centre No. 10 Military Research Hospital and Polyclinic
2	Maria Skłodowska-Curie Institute of Oncology in Warsaw
3	Independent Public Clinical Hospital No. 4 in Lublin
4	Saint Barbara's Regional Specialist Hospital No. 5 in Sosnowiec
5	Maria Skłodowska-Curie Institute of Oncology Gliwice Branch

Source: compiled by DAiS based on data provided by the NFZ

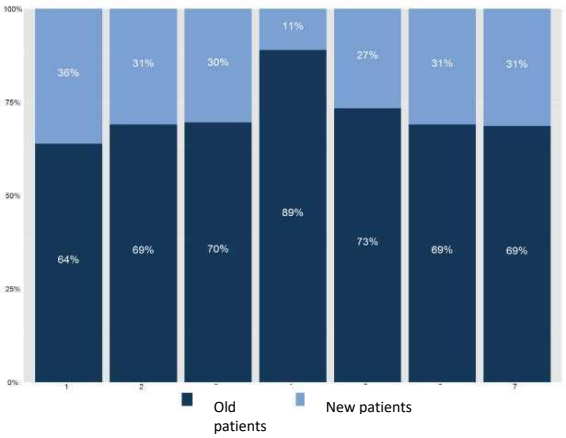
Figure 123: Structure of "old" and "new" patients by hospital (2010–2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Thyroid cancer (C73)

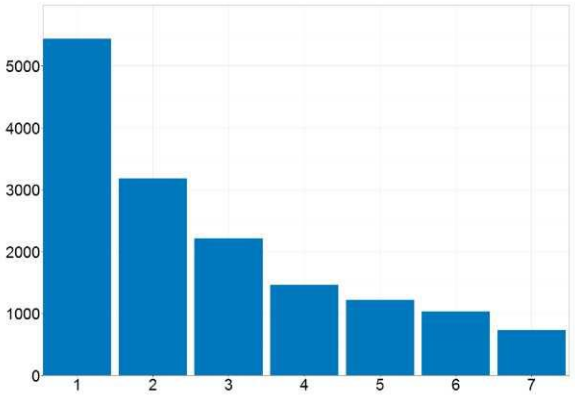
Figure 124: Number of thyroid cancer patients by hospital (2010–2012)



1	Maria Skłodowska-Curie Institute of Oncology Gliwice Branch
2	Maria Skłodowska-Curie Institute of Oncology in Warsaw
3	Maria Skłodowska-Curie Regional Specialist Hospital in Zgierz
4	Heliodor Święcicki Clinical Hospital at the Karol Marcinkowski Medical University in Poznań
5	Świętokrzyskie Oncology Centre in Kielce
6	Military Institute of Medicine in Warsaw
7	University Hospital Healthcare

Source: compiled by DAiS based on data provided by the NFZ

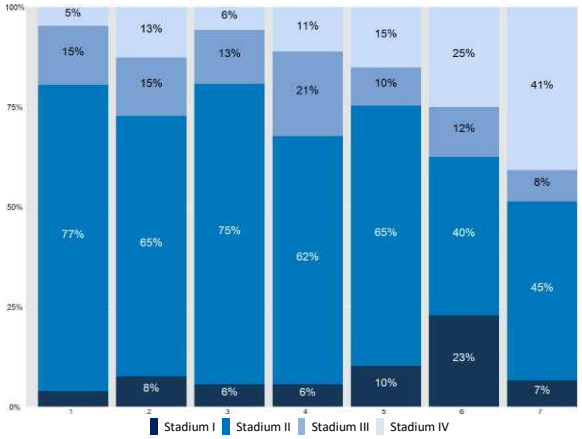
Figure 125: Structure of "old" and "new" patients by hospital



(2010–2012)

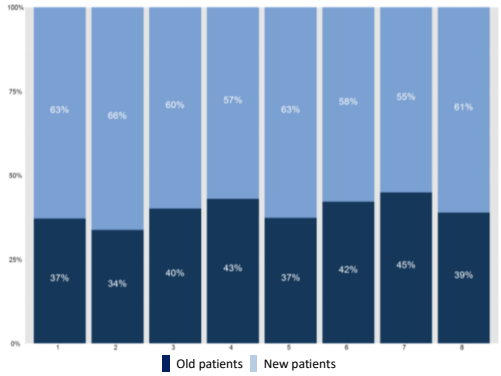
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 126: Share of patients in particular hospitals by cancer stage (2010–2012)



Source: compiled by DAiS based on data provided by the KRN and the

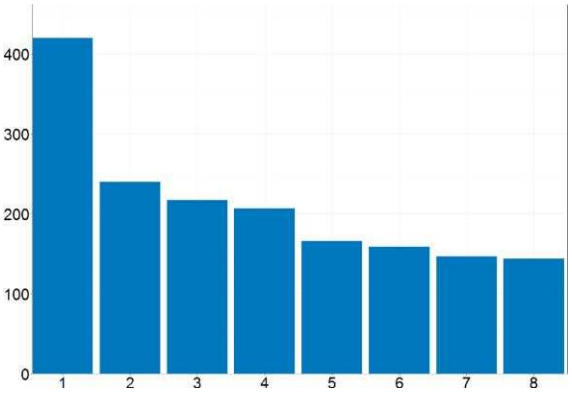
Figure 128: Structure of "old" and "new" patients by hospital (2010–2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Testicular cancer (C62)

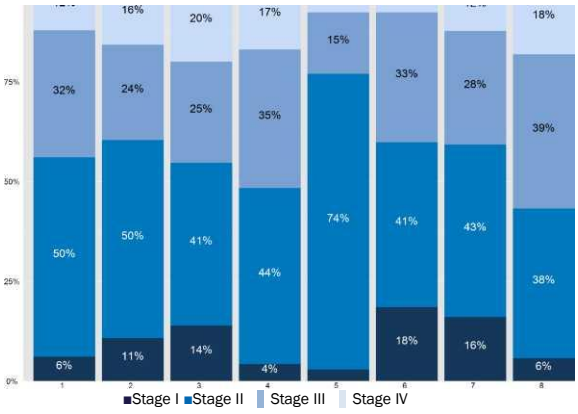
Figure 127: Number of testis cancer patients by hospital (2010–2012)



Item	Healthcare provider
1	Maria Skłodowska-Curie Institute of Oncology in Warsaw
2	Professor Franciszek Łukaszczyk Oncology Centre in Bydgoszcz
3	M. Kopernik Regional Specialist Hospital in Łódź
4	Maria Skłodowska-Curie Wielkopolskie Oncology Centre in Poznań
5	Oncology Centre Hospital - Kraków Division Institute
6	Central Clinical Hospital of the Ministry of the Interior and Administration in Warsaw
7	4 Military Clinical Hospital with Specialist Outpatient Clinic Independent Public Healthcare Centre in Wrocław
8	Dolnośląskie Oncology Centre in Wrocław

Source: compiled by DAiS based on data provided by the NFZ.

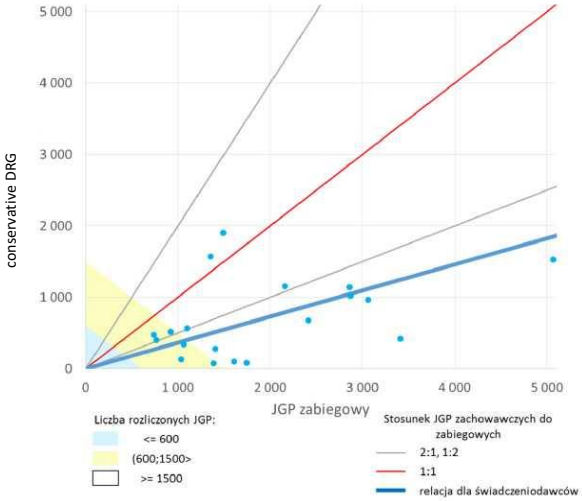
Figure 129: Share of patients in individual hospitals by cancer stage (2010–2012)



Source: compiled by DAiS based on data provided by the NFZ.

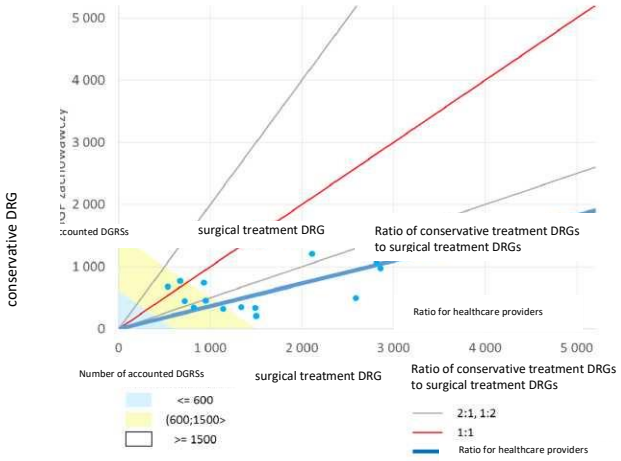
2.1.1 Surgical and Conservative Treatment Analysis

Figure 130: Ratio of reported conservative treatment DRGs to surgical treatment DRGs (real-world data) (2012)



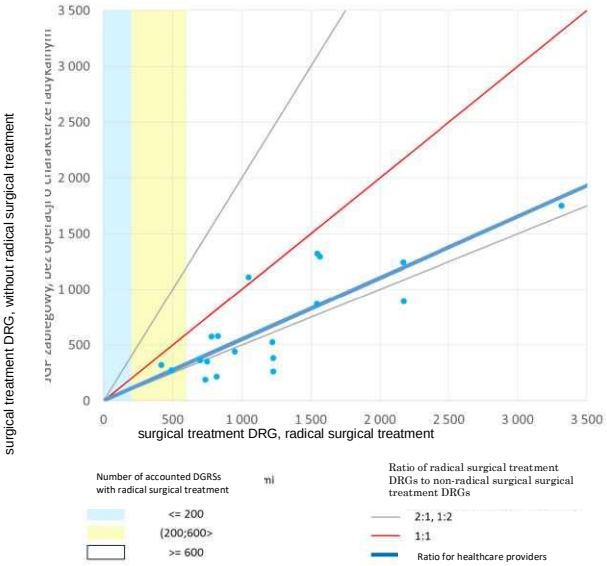
Source: compiled by DAiS based on data provided by the NFZ.

Figure 131: Ratio of reported conservative treatment DRGs to surgical treatment DRGs (data standardised by cancer type and stage) (2012)



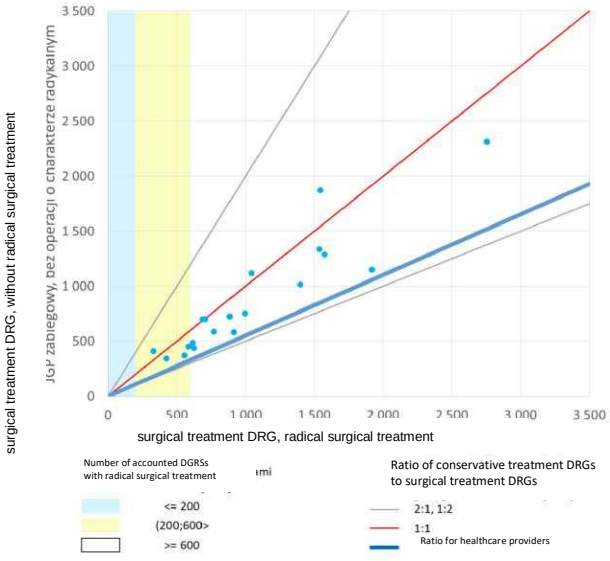
Source: compiled by DAiS based on data provided by the NFZ.

Figure 132: Ratio of reported radical surgical treatment DRGs to non-radical surgical surgical treatment DRGs (real-world data) (2012)



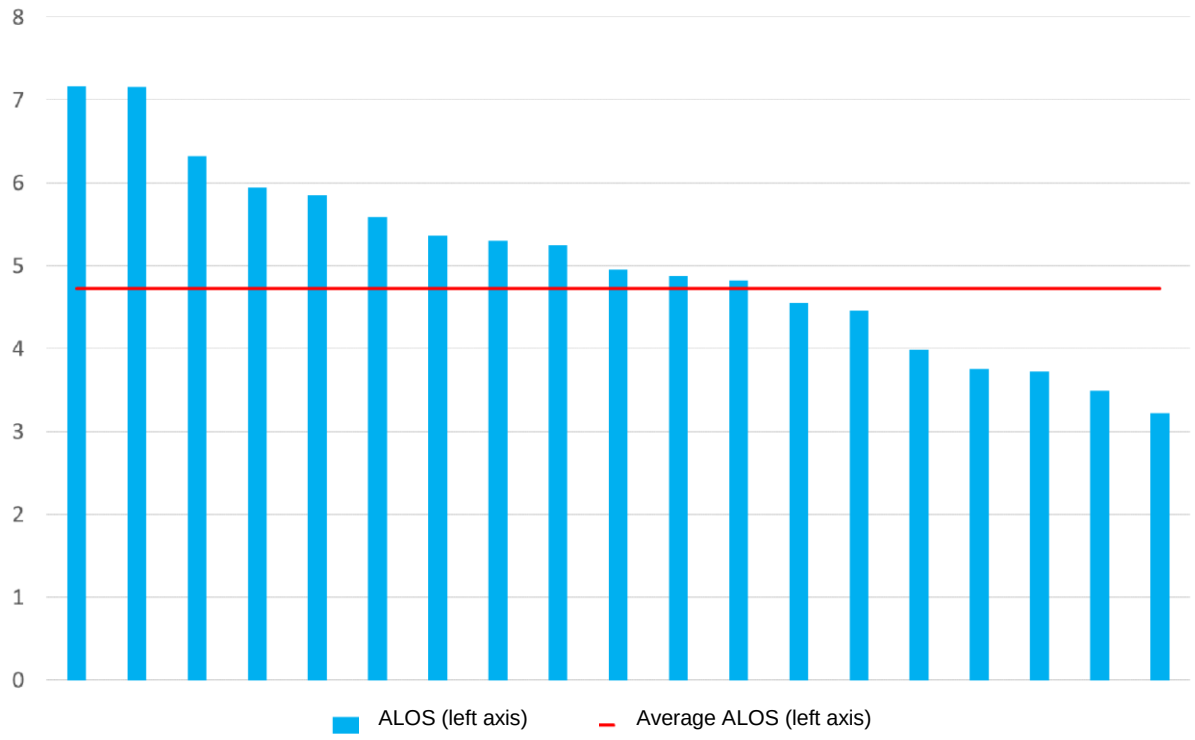
Source: compiled by DAiS based on data provided by the NFZ.

Figure 133: Ratio of reported radical surgical treatment DRGs to non-radical surgical surgical treatment DRGs (data standardised by cancer type and stage) (2012)



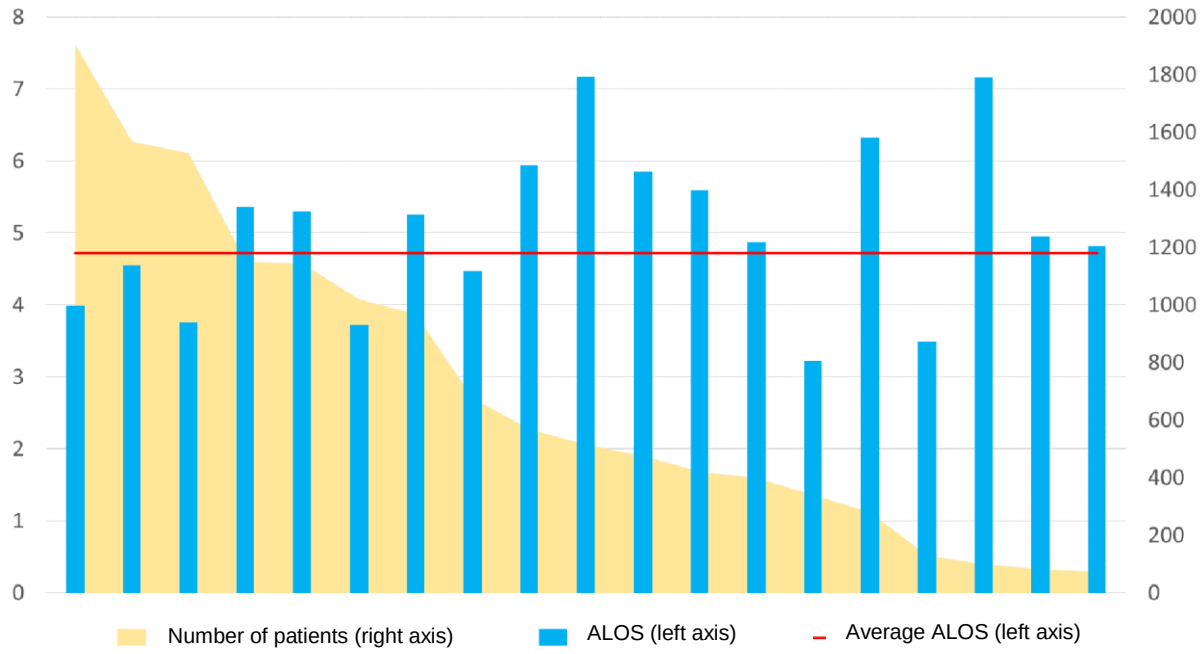
Source: compiled by DAiS based on data provided by the NFZ.

Figure 134: Average length of stay for conservative treatment DRGs by hospital (2012)



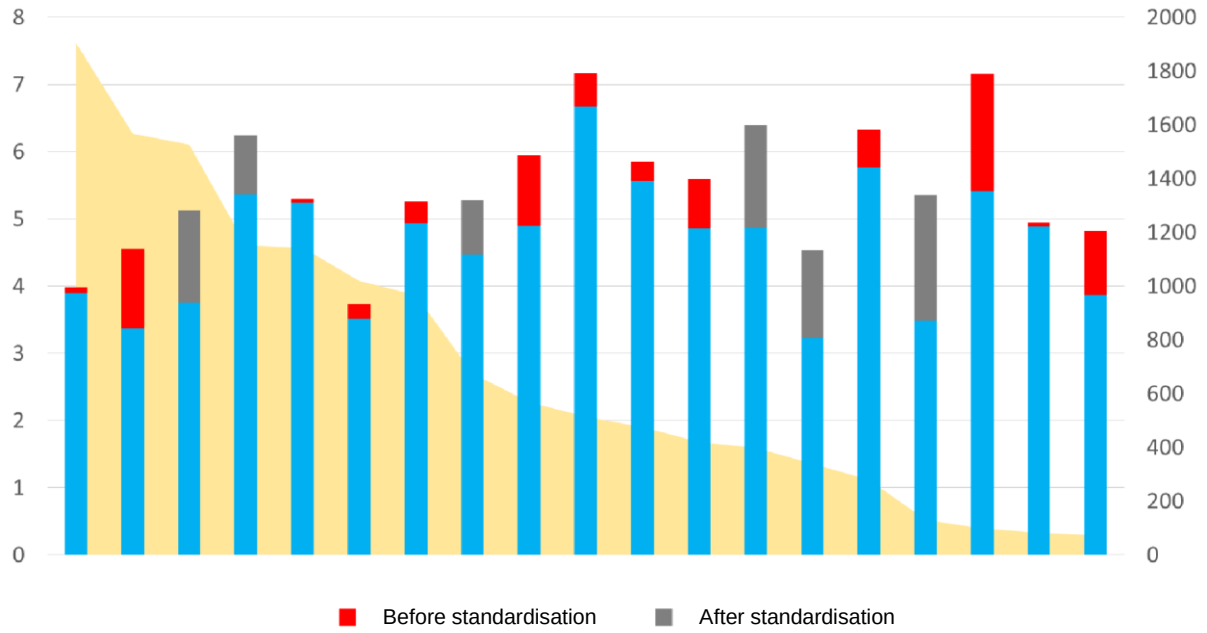
Source: compiled by DAiS based on data provided by the NFZ.

Figure 135: Average length of stay and the number of hospitalised patients for selected healthcare providers within reported conservative treatment DRGs (2012)



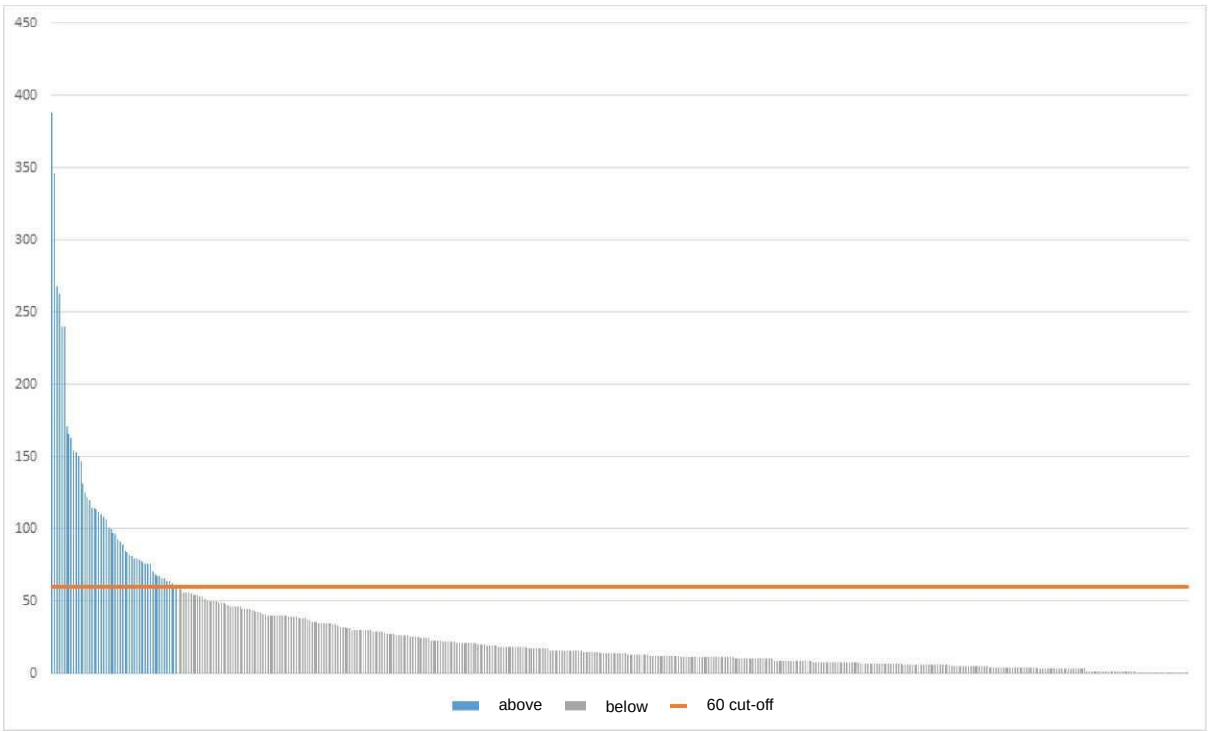
Source: compiled by DAiS based on data provided by the NFZ.

Figure 136: Average length of stay (cancer breakdown standardised and voivodeship severity standardised) and the number of hospitalised patients (yellow area) for selected healthcare providers within reported conservative treatment DRGs (2012)



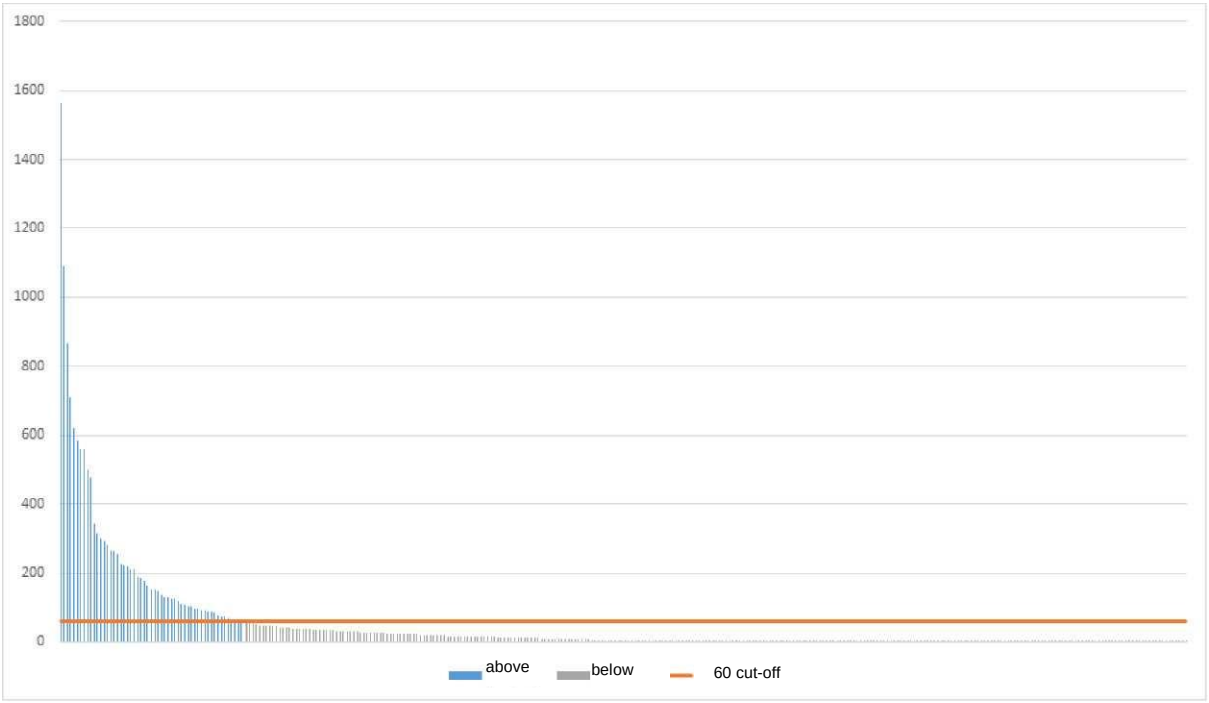
Source: compiled by DAiS based on data provided by the NFZ.

Figure 137: Number of reported radical surgeries due to upper gastrointestinal tract cancer per healthcare provider in Poland (2012)



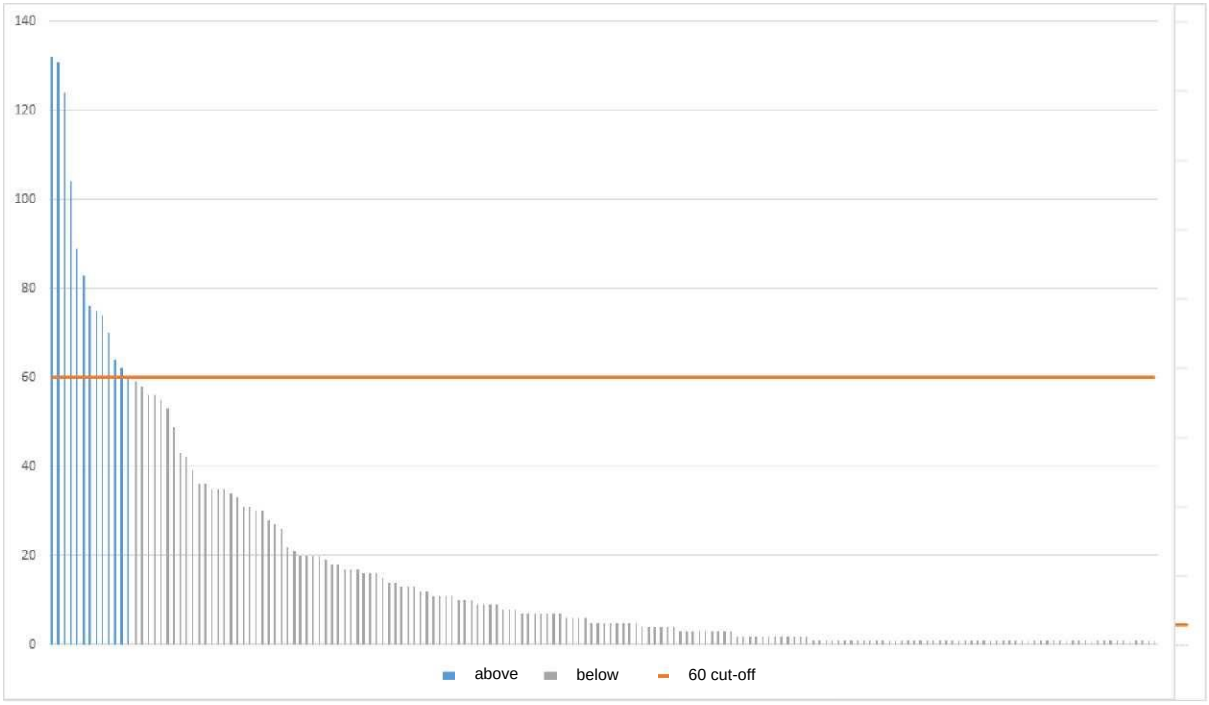
Source: compiled by DAiS based on data provided by the NFZ.

Figure 138: Number of reported radical surgeries due to breast cancer per healthcare provider in Poland (2012)



Source: compiled by DAiS based on data provided by the NFZ.

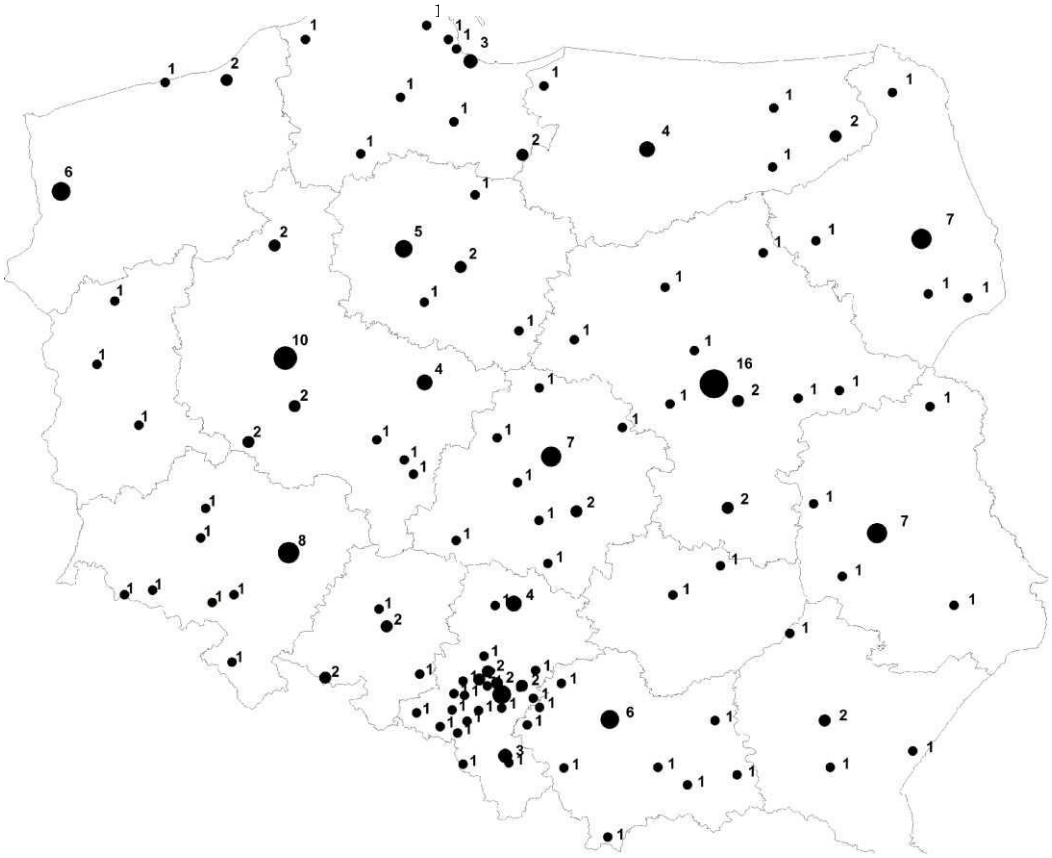
Figure 139: Number of reported radical surgeries due to prostate cancer per healthcare provider in Poland (2012)



Source: compiled by DAiS based on data provided by the NFZ.

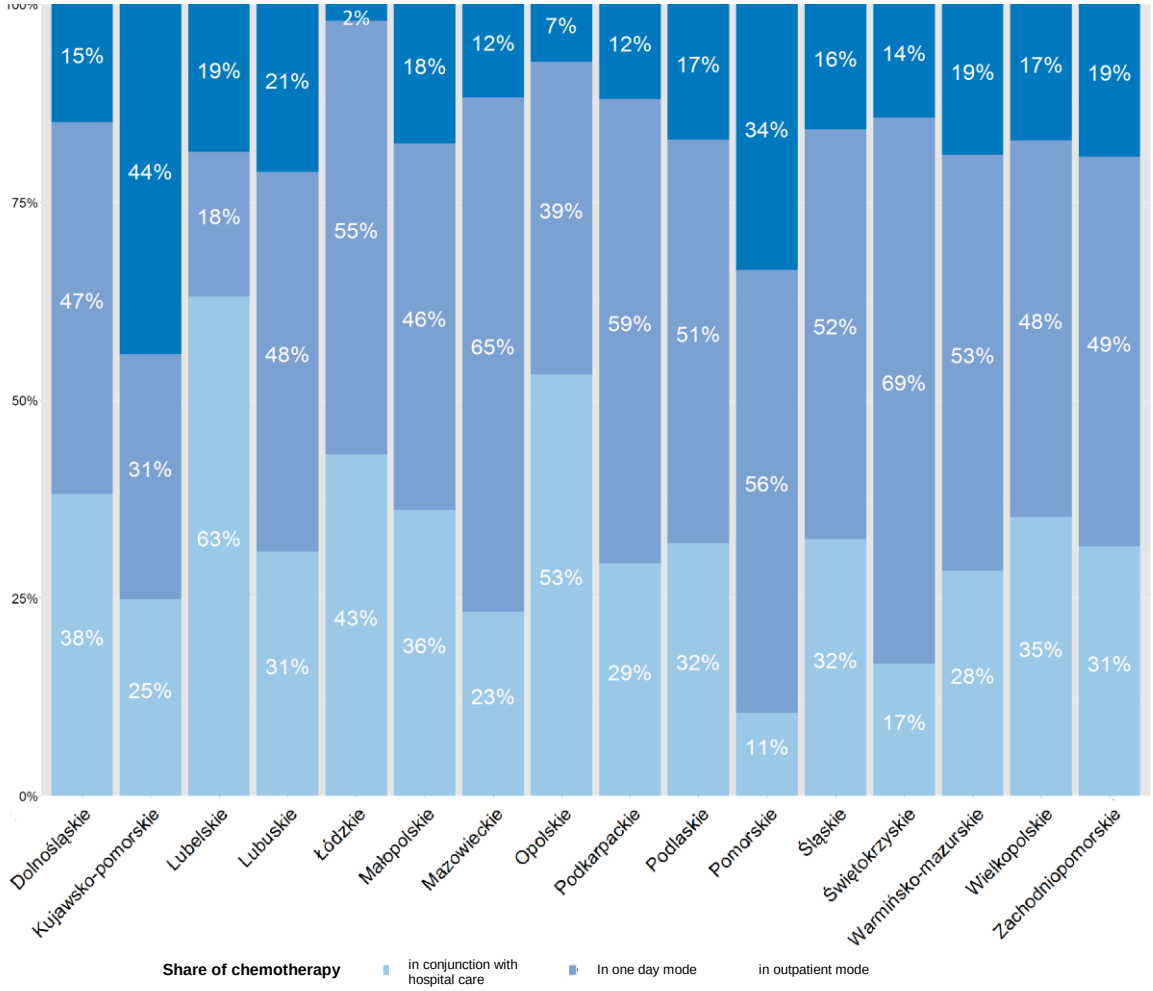
2.1.2 Chemotherapy Treatments Analysis

Figure 140: Distribution of facilities providing chemotherapy treatment as part of NFZ healthcare services (2012)



Source: compiled by DAiS based on data provided by the NFZ.

Figure 141: Structure of reported chemotherapy treatments by voivodeship (2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

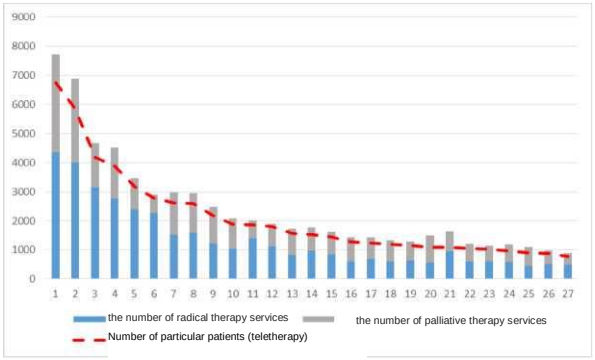
2.1.3 Radiotherapy Treatments Analysis

Table 12: Patients admitted for brachytherapy, teletherapy and isotope therapy (2012)

voivodeship	city	treatment provider	teletherapy	brachytherapy	Isotope therapy	radiotherapy
Dolnośląskie	Wałbrzych	Alfred Sokołowski Specialist Hospital	1,051	231		1,196
	Wrocław	Dolnośląskie Oncology Centre	3,174	419		3,246
Kujawsko-Pomorskie	Bydgoszcz	Professor Franciszek Łukaszczyk Oncology Centre	3,894	746		4,305
Lubelskie	Lublin	St. John of Dukla Lublin Regional Oncology Centre Independent Public Healthcare Centre	2,588	395		2,750
Lubuskie	Zielona Góra	Provincial Hospital Independent Public Healthcare Centre	968	118		1,008
Łódzkie	Łódź	Central Teaching Hospital Institute of Dentistry of the Medical University Independent Public Healthcare Centre			13	13
		Nicolaus Copernicus Regional Specialist Hospital	2,784	430		2,932
	Zgierz	Maria Skłodowska-Curie Provincial Specialist Hospital			498	498
Małopolskie	Kraków	Oncology Centre Hospital - Kraków Division Institute	1,868	391	22	2,102
		Children's Hospital	781			781
		University Hospital Healthcare		397	208	605
	Tarnów	Saint Luke's Provincial Hospital Independent Public Healthcare Centre	1,019	90		1,043
Mazowieckie	Warsaw	Central Clinical Hospital of the Ministry of the Interior and Administration			99	99
		Maria Skłodowska-Curie Institute of Oncology	6,755	834	1,562	8,846
		Military Institute of Medicine			165	165
	Wieliszew	Mazovian Oncology Hospital	1,540	220		1,635
Opolskie	Opole	Professor Koszarowski Oncology Centre in Opole Independent Public Healthcare Centre	878	144		950
Podkarpackie	Brzozów	Bronisław Markiewicz Subcarpathian Oncology Centre	1,091	321		1,292
	Rzeszów	Fryderyk Chopin Regional Specialist Hospital	1,273	91		1,315
Podlaskie	Białystok	Maria Skłodowska-Curie Oncology Centre in Białystok	1,439	239		1,570
Pomorskie	Gdańsk	University Clinical Centre	1,801	207		1,838
	Gdynia	Polish Red Cross Maritime Hospital	1,205	174		1,255
Śląskie	Bielsko-Biała	John Paul II Oncology Centre of Beskidy	1,243	65		1,251
	Częstochowa	Blessed Virgin Mary's Regional Specialist Hospital	1,087	87		1,103
	Gliwice	Maria Skłodowska-Curie Institute of Oncology	5,850	780	1,162	7,414
	Katowice	StanisławLeszczyński Hospital	2,178	143		2,230
Świętokrzyskie	Kielce	Świętokrzyskie Oncology Centre	1,885	465	136	2,170
Warmińsko-Mazurskie	Olsztyn	Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre	1,580	231		1,736
Wielkopolskie	Poznań	Centrum Medyczne HCP to z o.o. Non-Public Healthcare Centre Centrum Medyczne HCP - Inpatient treatment	1,147	429		1,280
		Heliodor Święcicki Clinical Hospital at the Karol Marcinkowski Medical University			645	645
		Karol Marcinkowski University Hospital of Lord's Transfiguration		4		4
		Maria Skłodowska-Curie Wielkopolskie Oncology Centre	4,173	742		4,506
Zachodniopomorskie	Koszalin	EuromedicOnkoterapia - International Oncology Centre	897	80		924
	Szczecin	Zachodniopomorskie Oncology Centre	2,626	297		2,699

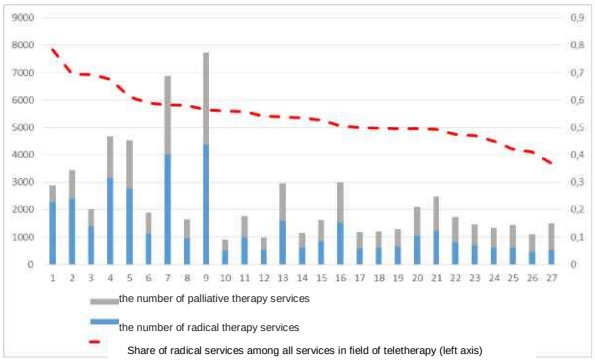
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 142: Number of reported radical and palliative teletherapy services and the number of patients who received teletherapy (2012)



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 143: Number of radical treatments in all reported radicaland teletherapyservices palliative teletherapy (2012) servives and the share of



Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 144: Number of (radical and palliative) teletherapy services per 100 cancer patients in Polish voivodeships – data standardised for cancer type and stage (2012)

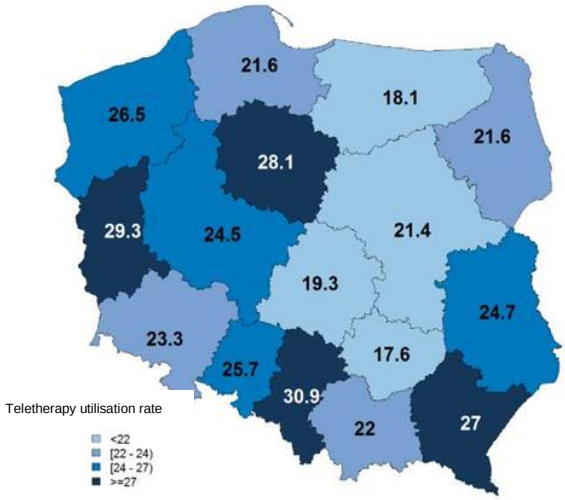
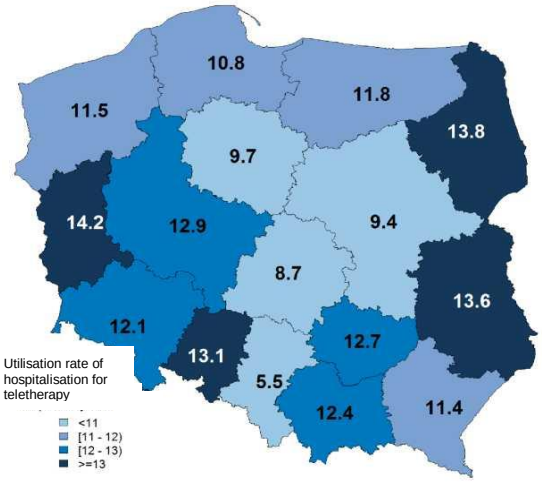
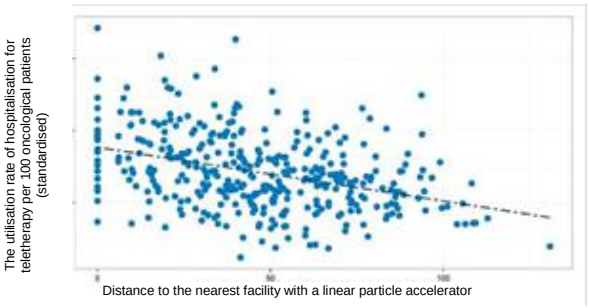


Figure 145: Utilisation rate of hospitalisation for teletherapy in Polish voivodeships – data standardised for cancer type and stage (2012)



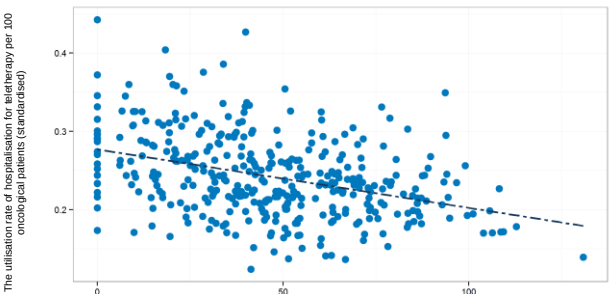
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 146: Correlation between the standardised number of (radical and palliative) teletherapy services per 100 cancer patients and the distance to the nearest facility with a linear particle accelerator in Polish counties (2012)



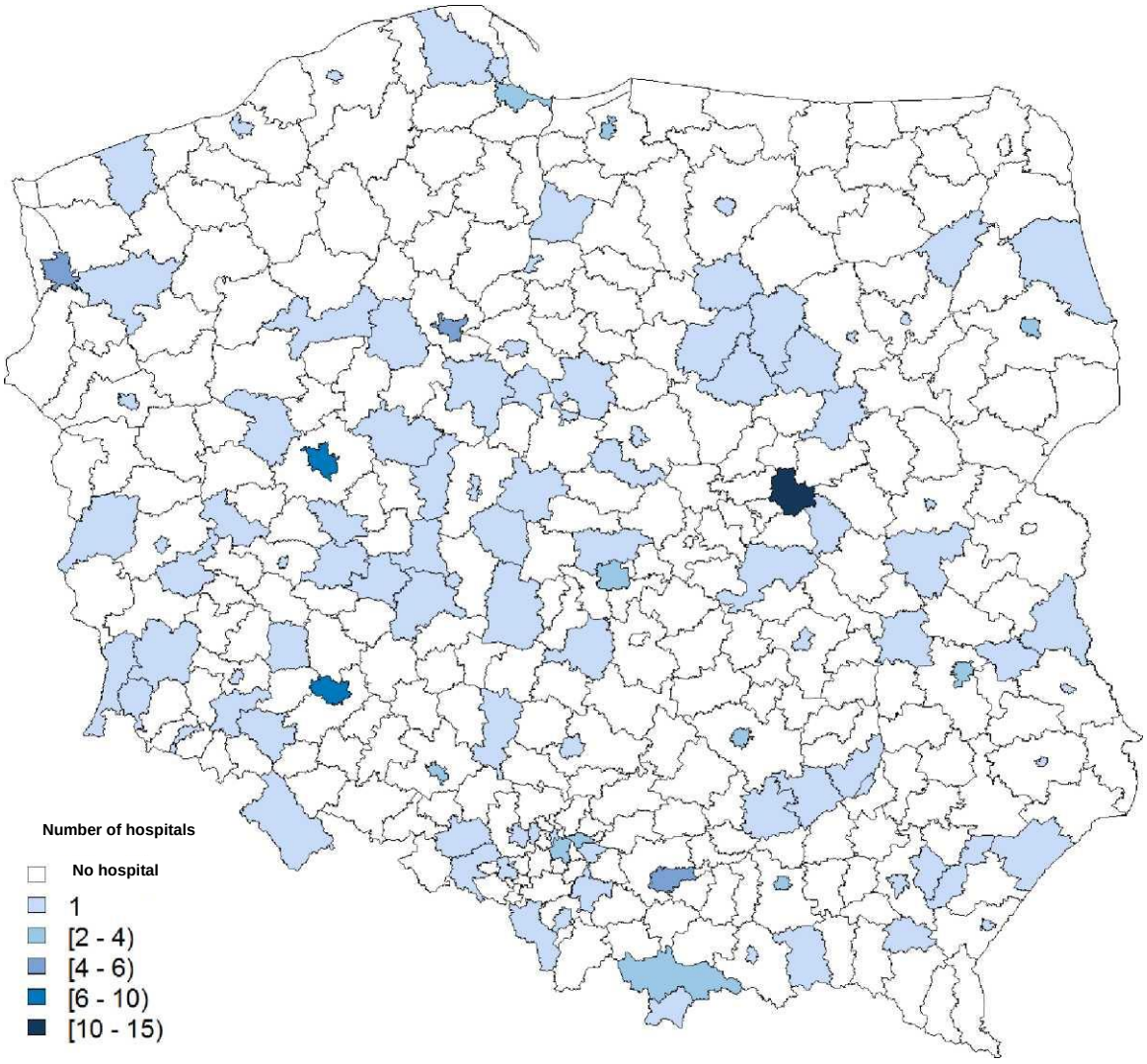
Source: compiled by DAiS based on data provided by the KRN and the NFZ.

Figure 147: Correlation between the utilisation rate of hospitalisation for teletherapy and the distance to the nearest facility with a linear particle accelerator in Polish counties (2012)



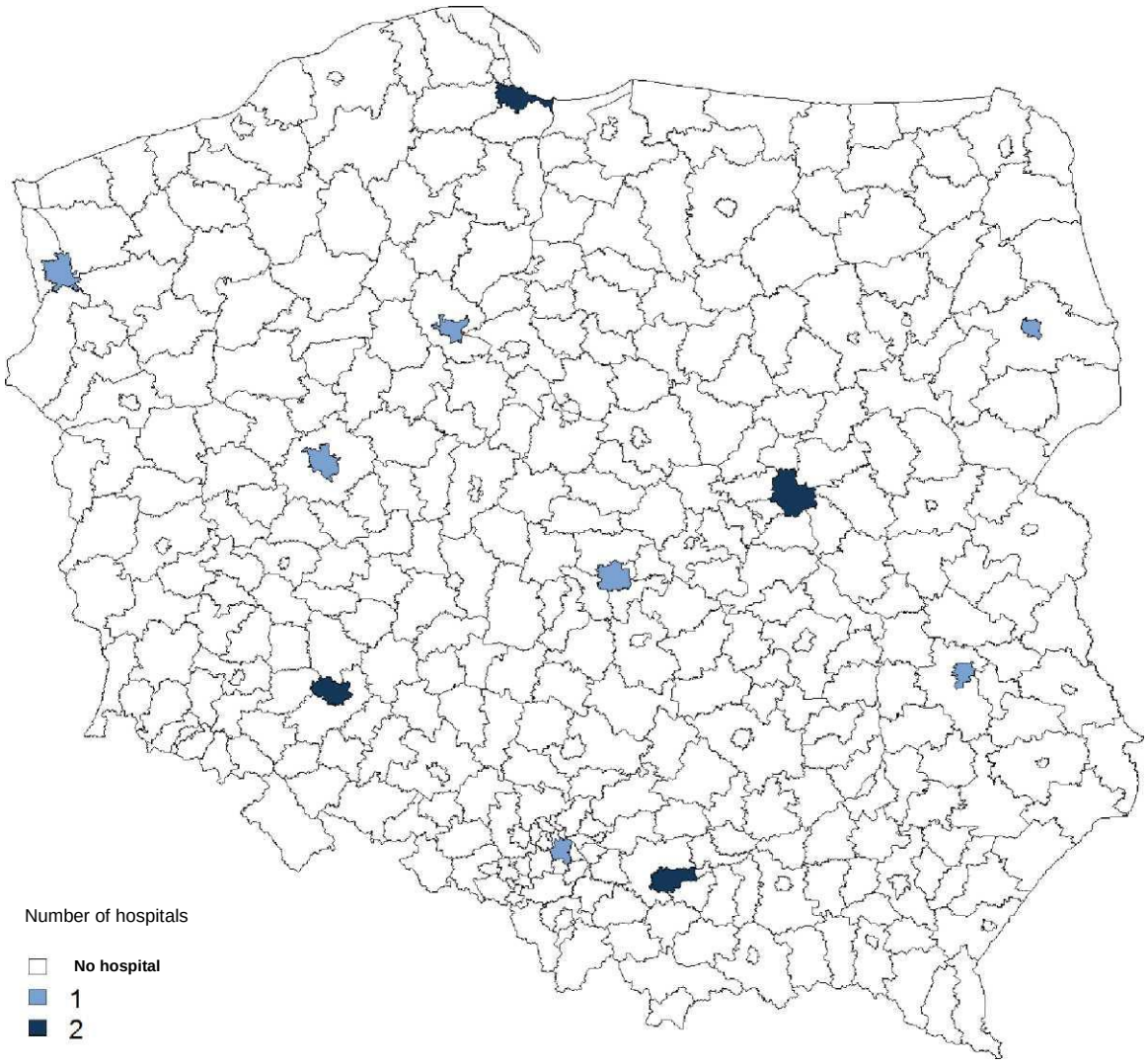
2.1.4 Hospitalisation – children aged below 18 years

Figure 148: Geographical distribution of hospitals providing oncological treatments to patients of up to 18 years of age



Source: compiled by DAiS based on data provided by the NFZ.

Figure 149: Geographic distribution of hospitals treating over 2% of patients aged below 18 years, diagnosed with cancer in Poland (2012)



Source: compiled by DAiS based on data provided by the NFZ.

Table 13: Hospitals jointly treating over 2% of patients aged below 18 years, diagnosed with cancer in Poland (2012)

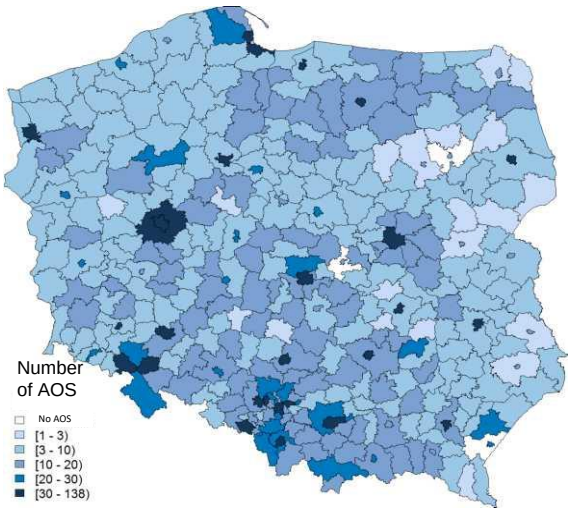
Item	Name of the treatment provider	Number of patients	Percentage of patients	Cumulative percentage of patients
1	Children's Memorial Health Institute in Warsaw	470	21.0%	21.0%
2	Independent Public Clinical Hospital No. 1 in Wrocław	263	11.7%	32.7%
3	Institute of Mother and Child in Warsaw	203	9.1%	41.8%
4	Independent Public Clinical Hospital No. 6 of the Górnośląskie Child Healthcare Centre in Katowice	156	7.0%	48.7%
5	Independent Public Healthcare Centre Maria Konopnicka Clinical Hospital No. 4 of the Medical University in Łódź	155	6.9%	55.7%
6	Children Hospital in Kraków	147	6.6%	62.2%
7	Karol Jonscher Clinical Hospital at the Karol Marcinkowski Medical University in Poznań	146	6.5%	68.7%
8	Professor Alfred Sokołowski Specialist Hospital of the Pomeranian Medical University	141	6.3%	75.0%
9	University Clinical Centre in Gdańsk	136	6.1%	81.1%
10	Tadeusz Marciniak Lower Silesian Specialist Hospital - Emergency Medical Centre	108	4.8%	85.9%
11	Antoni Jurasz University Hospital No. 1 in Bydgoszcz	98	4.4%	90.3%
12	Ludwik Zamenhof University Paediatric Clinical Hospital in Białystok	76	3.4%	93.7%
13	MikołajKopernik Hospital in Gdańsk	67	3.0%	96.7%
14	Professor Gębala Paediatric Clinical Hospital in Lublin	65	2.9%	99.6%
15	University Hospital Healthcare in Kraków	49	2.2%	101.8%
	TOTAL (unique patients):	2,240	100.0%	**X**

Source: compiled by DAiS based on data provided by the NFZ.

2.2 Specialist Outpatient Care

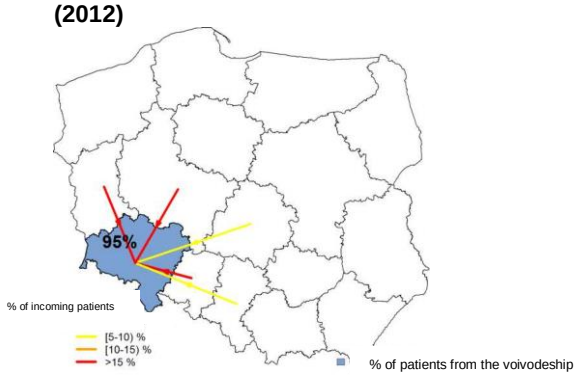
Healthcare providers in Poland

Figure 150: Counties with specialist outpatient care facilities treating cancer patients in Poland (2012)



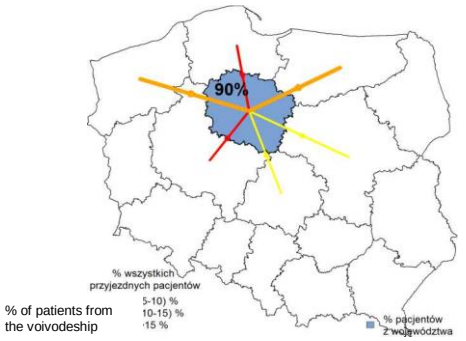
Source: compiled by DAiS based on data provided by the NFZ.

Figure 151: Migrations of patients using specialist outpatient care services to Dolnośląskie Voivodeship (2012)



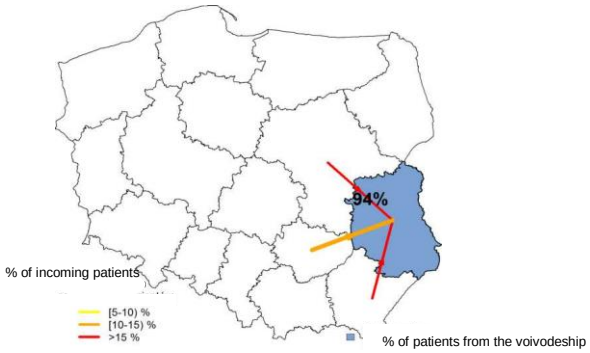
Source: compiled by DAiS based on data provided by the NFZ.

Figure 152: Migrations of patients using specialist outpatient care services to Kujawsko-Pomorskie Voivodeship (2012)



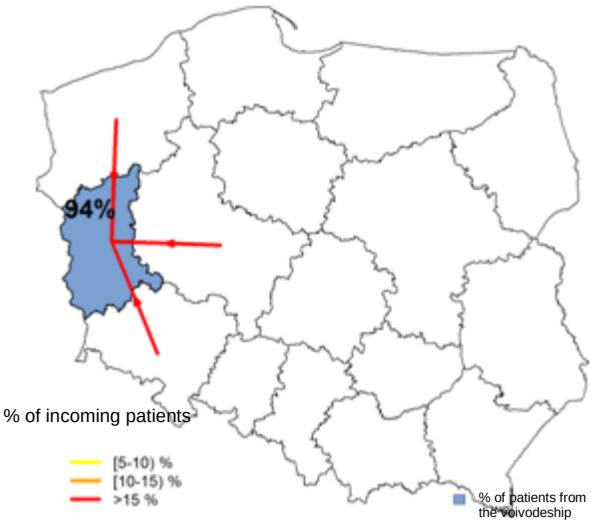
Source: compiled by DAiS based on data provided by the NFZ.

Figure 153: Migrations of patients using specialist outpatient care services to Lubelskie Voivodeship (2012)



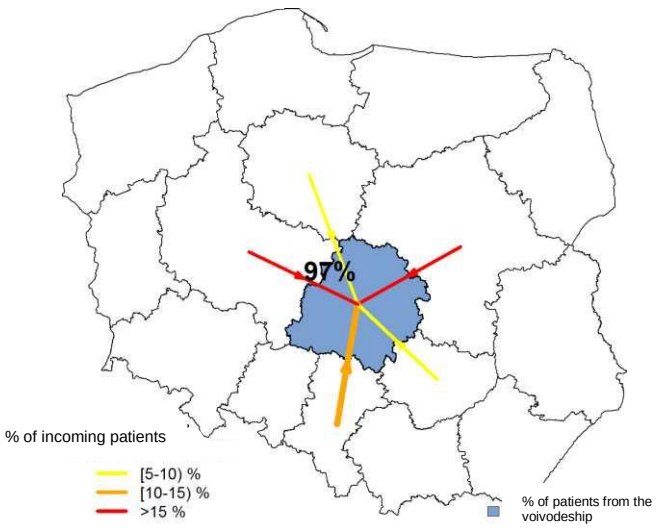
Source: compiled by DAiS based on data provided by the NFZ.

Figure 154: Migrations of patients using specialist outpatient care services to Lubuskie Voivodeship (2012)



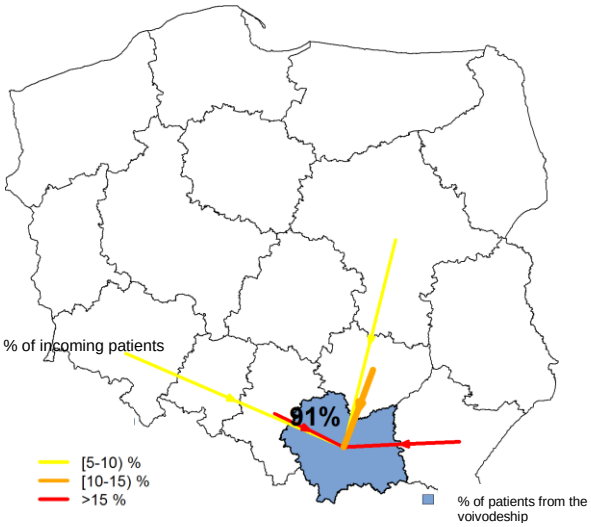
Source: compiled by DAiS based on data provided by the NFZ.

Figure 155: Migrations of patients using specialist outpatient care services to Łódzkie Voivodeship (2012)



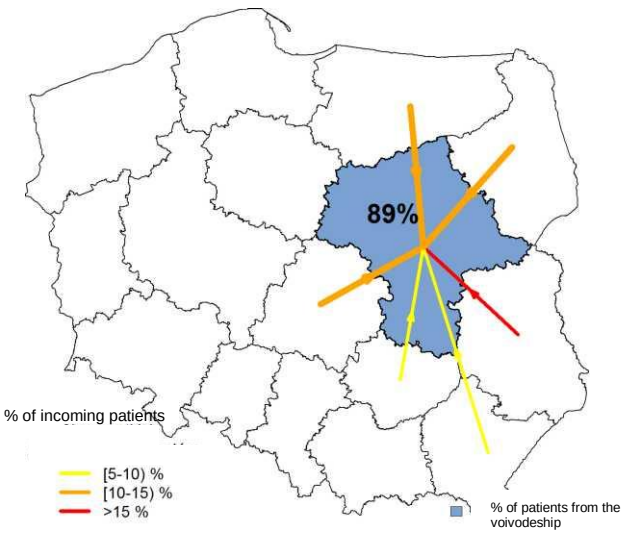
Source: compiled by DAiS based on data provided by the NFZ.

Figure 156: Migrations of patients using specialist outpatient care services to Małopolskie Voivodeship (2012)



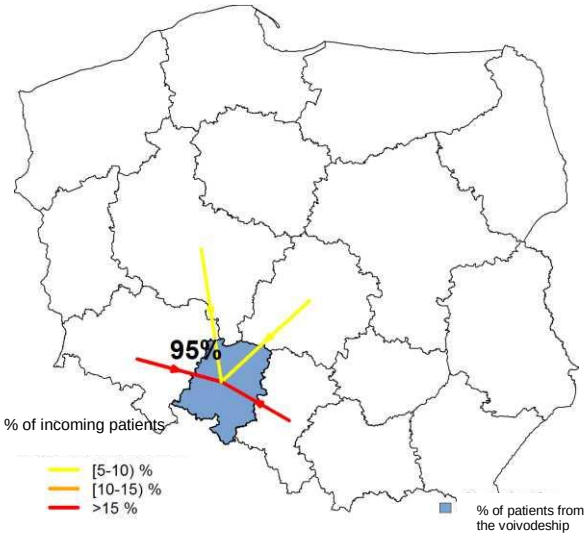
Source: compiled by DAiS based on data provided by the NFZ.

Figure 157: Migrations of patients using specialist outpatient care services to Mazowieckie Voivodeship (2012)



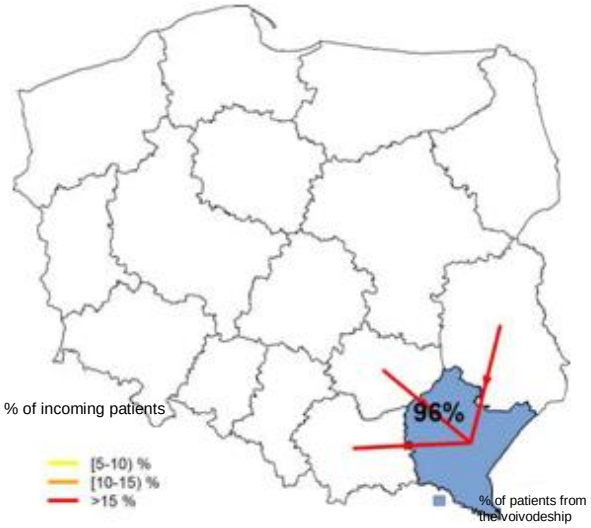
Source: compiled by DAiS based on data provided by the NFZ.

Figure 158: Migrations of patients using specialist outpatient care services to Opolskie Voivodeship (2012)



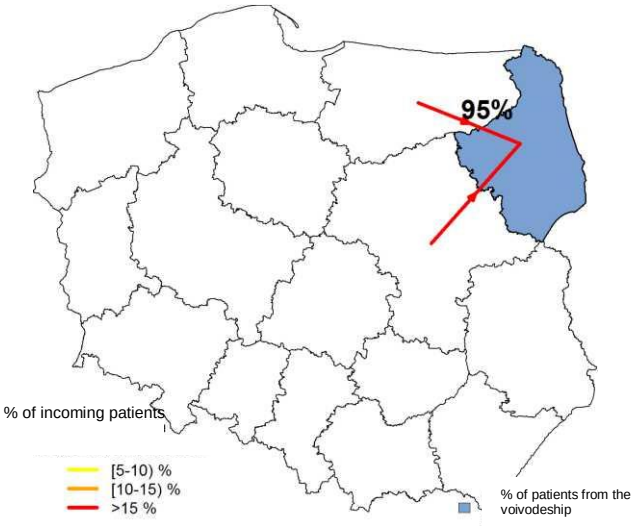
Source: compiled by DAiS based on data provided by the NFZ.

Figure 159: Migrations of patients using specialist outpatient care services to Podkarpackie Voivodeship (2012)



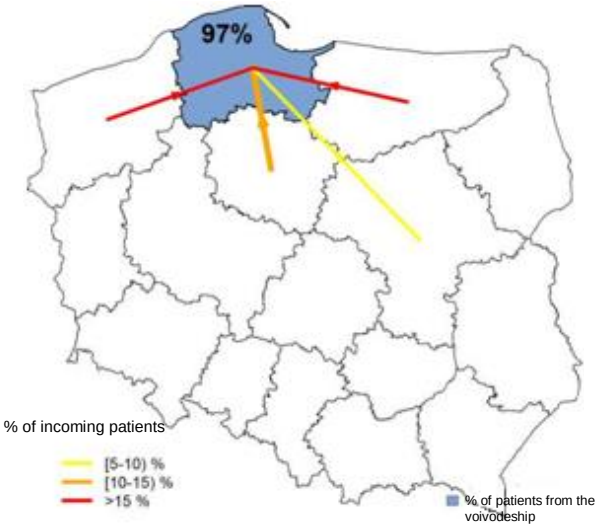
Source: compiled by DAiS based on data provided by the NFZ.

Figure 160: Migrations of patients using specialist outpatient care services to Podlaskie Voivodeship (2012)



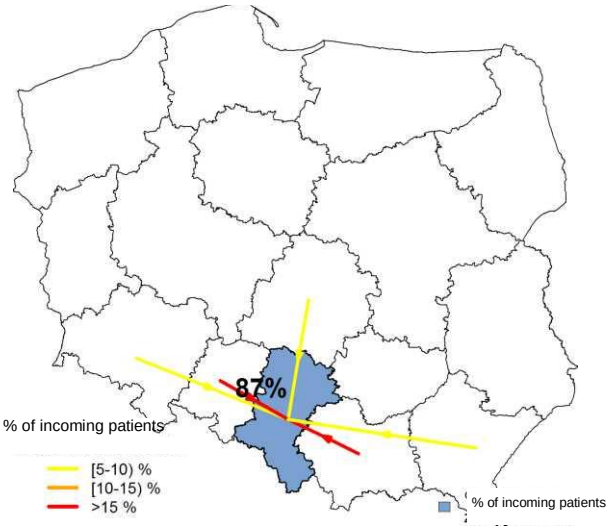
Source: compiled by DAiS based on data provided by the NFZ.

Figure 161: Migrations of patients using specialist outpatient care services to Pomorskie Voivodeship (2012)



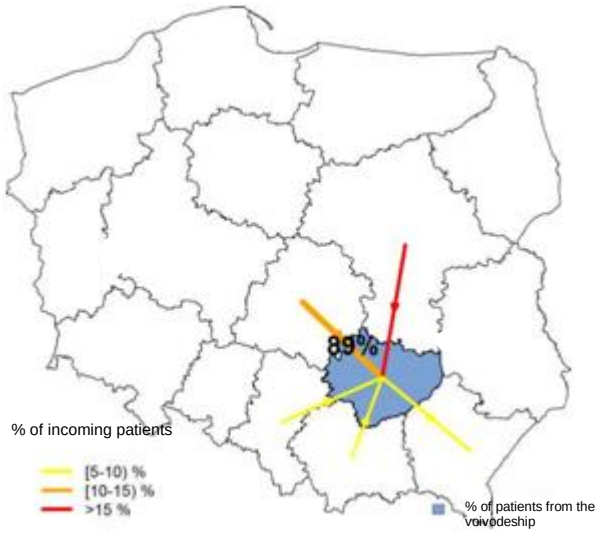
Source: compiled by DAiS based on data provided by the NFZ.

Figure 162: Migrations of patients using specialistoutpatient care services to Śląskie Voivodeship (2012)



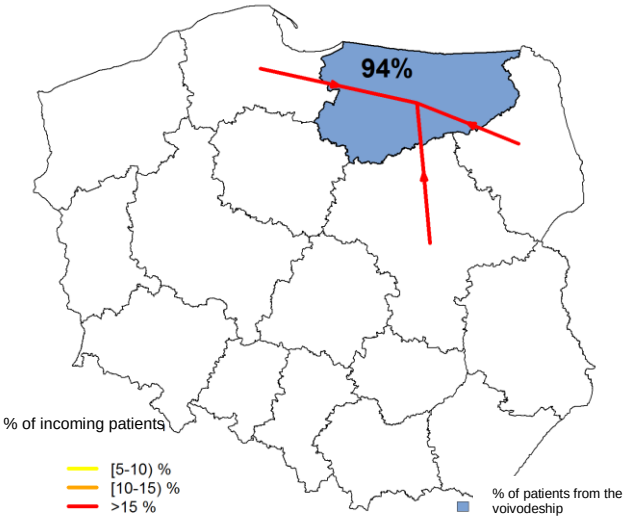
Source: compiled by DAiS based on data provided by the NFZ.

Figure 163: Migrations of patients using specialist outpatient care services to Świętokrzyskie Voivodeship (2012)



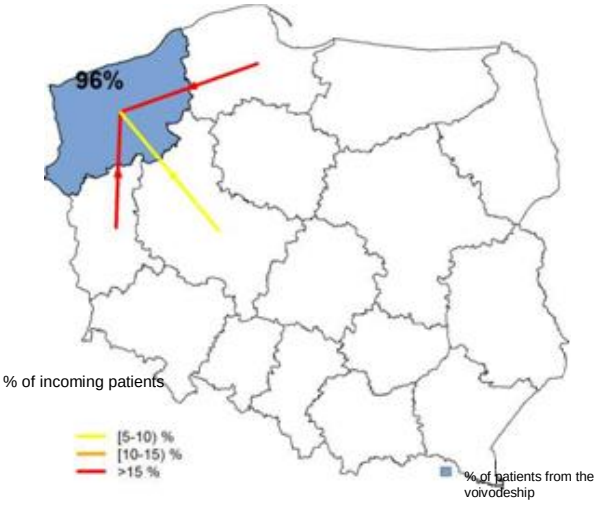
Source: compiled by DAiS based on data provided by the NFZ.

Figure 164: Migrations of patients using specialist outpatient care services to Warmińsko-Mazurskie Voivodeship (2012)



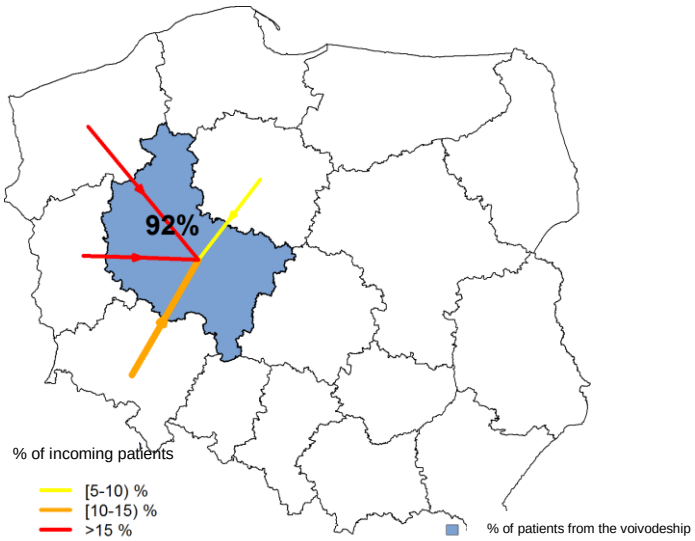
Source: compiled by DAiS based on data provided by the NFZ.

Figure 165: Migrations of patients using specialist outpatient care services to Wielkopolskie Voivodeship (2012)



Source: compiled by DAiS based on data provided by the NFZ

Figure 166: Migrations of patients using specialist outpatient care services to Zachodniopomorskie Voivodeship (2012)



Source: compiled by DAiS based on data provided by the NFZ.

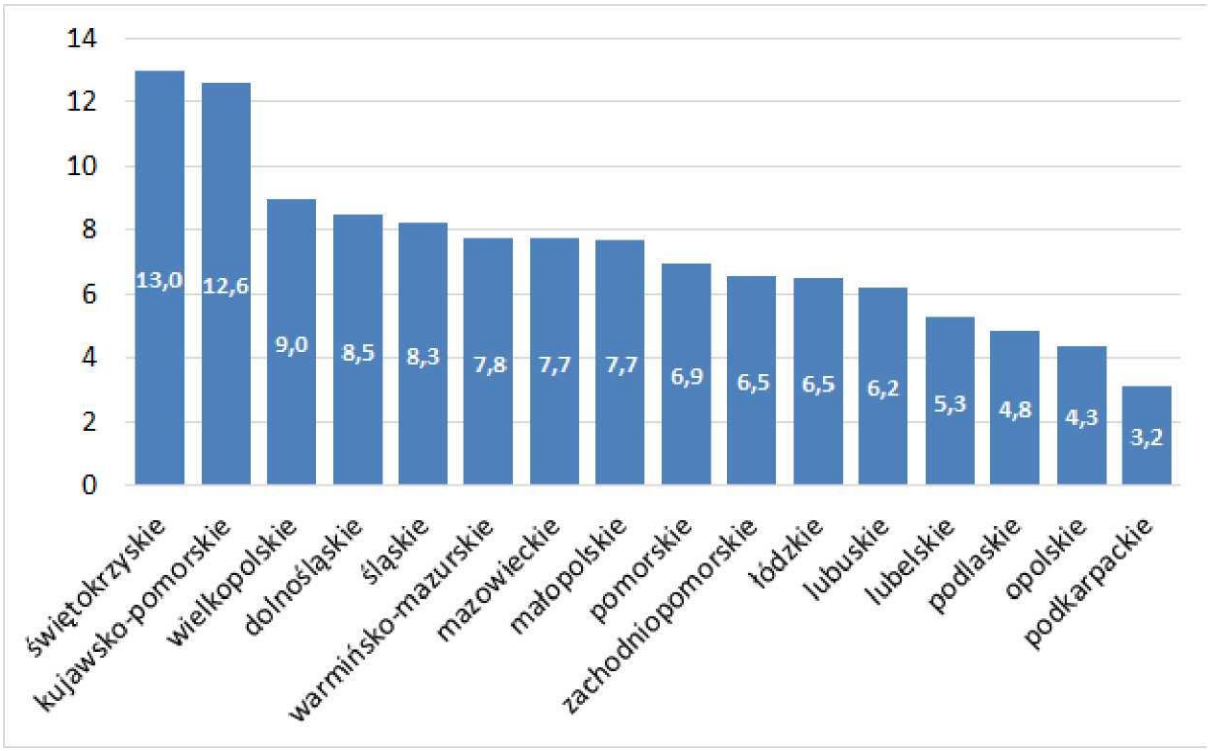
2.3 Positron Emission Tomography (PET)

Figure 167: Migrations of patients to other voivodeships for the purpose of receiving PET scans (2012) (columns: the patient's voivodeship of residence, lines: voivodeship where the scan was performed)

Voivodeship	Dolnośląskie	Kujawsko-pomorskie	Lubelskie	Lubuskie	Łódzkie	Małopolskie	Mazowieckie	Opolskie	Podkarpackie	Podlaskie	Pomorskie	Śląskie	Świętokrzyskie	Warmińsko-mazurskie	Wielkopolskie	Zachodniopomorskie
Dolnośląskie	2,294		2	129	38	30	4	220	6	2	3	136	2	2	107	16
Kujawsko-Pomorskie	25	2,562	151	38	175	50	100	1	25	15	517	7	8	218	165	530
Lubelskie	2		213				6		13	1		2	1	2		
Łódzkie	2	4	1		1,089	1	11		1	3	1	6	2	1	7	3
Małopolskie	7	1	5		2	1,951	7	7	206		2	68	29	1	1	
Mazowieckie	38	30	668	17	189	48	3,772	18	107	457	45	90	62	109	56	39
Pomorskie	2	6	4		1		3		1	1	891			28	1	39
Śląskie	42	15	24	8	59	379	21	185	56	20	7	3,394	56	6	21	18
Świętokrzyskie	6	2	74		65	114	146	1	254	3	4	106	1,496	14	1	3
Warmińsko-Mazurskie	1				1		26	1		75	97	2		741		
Wielkopolskie	51	26	5	444	23	4	12	5	2	4	24	5	1	3	2,755	479

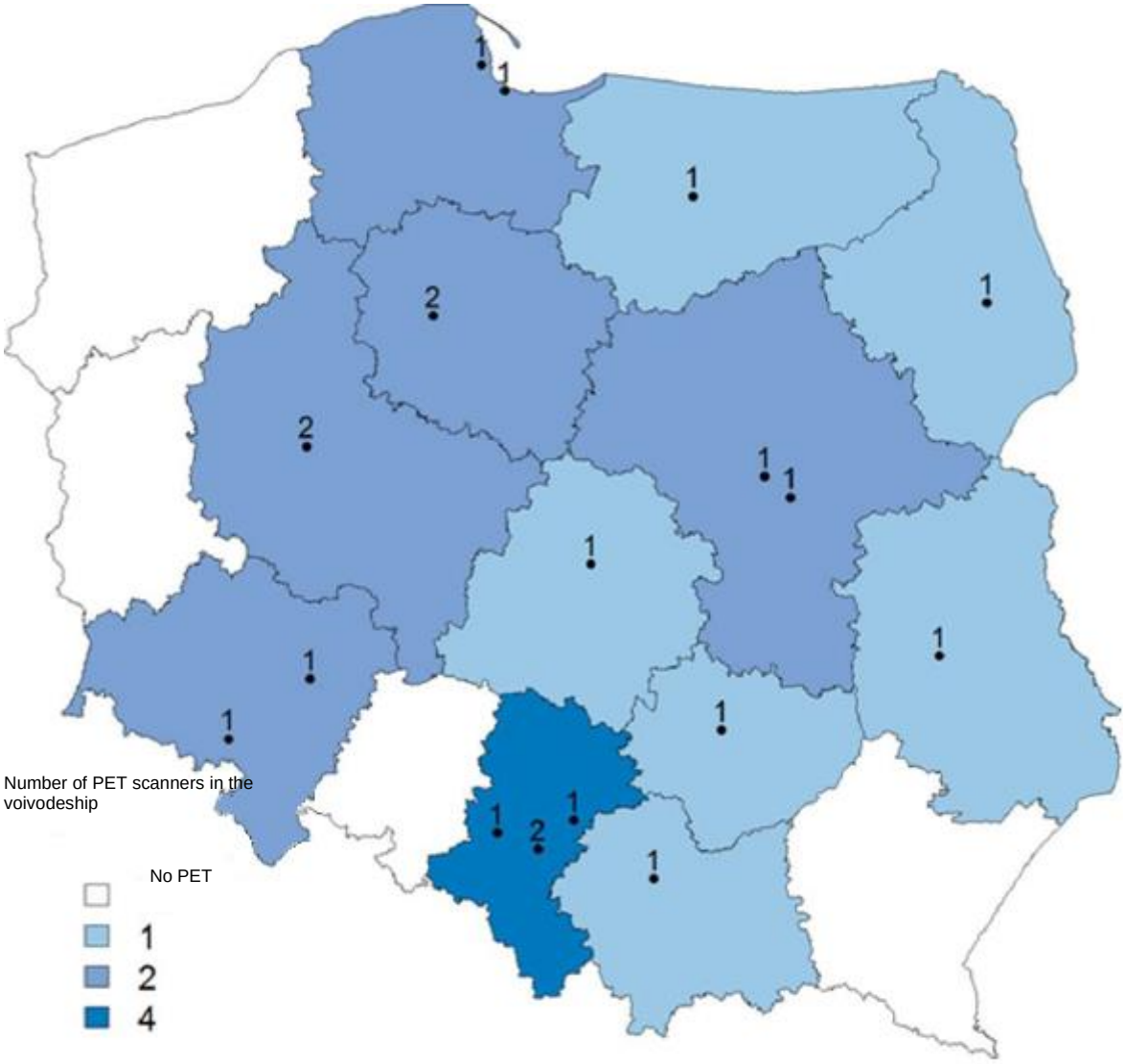
Source: compiled by DAiS based on data provided by the NFZ.

Figure 168: Number of services per 10,000 inhabitants by voivodeships of residence (2012)



Source: compiled by DAiS based on data provided by the NFZ.

Figure 169: Distribution of PET scanners in cancer facilities in Poland (as at 31 December 2014)

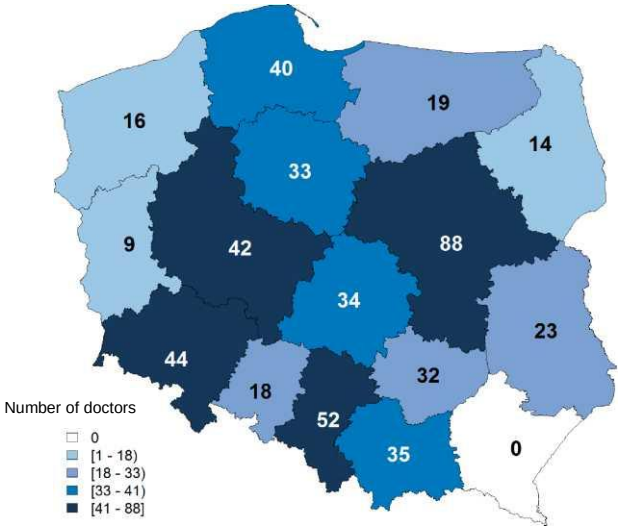


Source: compiled by DAiS based on data provided by the NFZ.

2.4 Medical Staff

Surgical oncologists

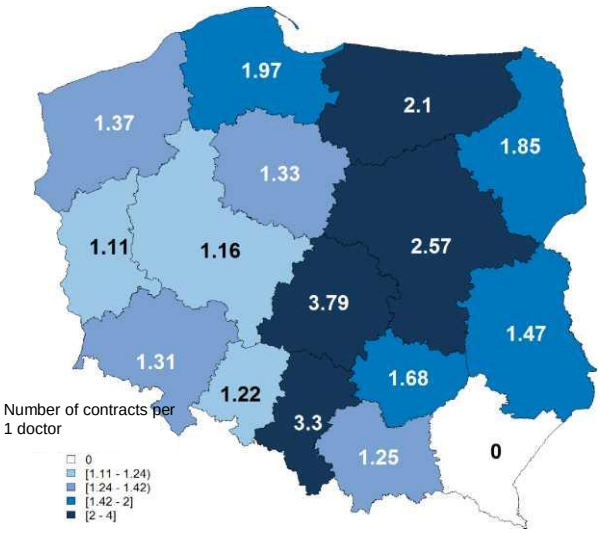
Figure 170: Number of surgical oncologists in individual voivodeships in 2012



Source: compiled by DAiS based on data provided by the Supreme Medical Chamber

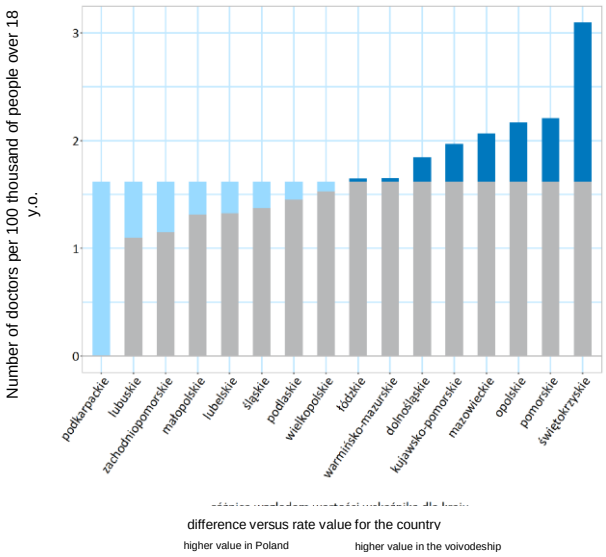
Figure 171: Number of surgical oncologists per 100, 000 adults in individual voivodeships in 2012

Figure 172: Number of contracts with healthcare providers contracted with the public payer per one surgical oncologist in individual voivodeships in 2012

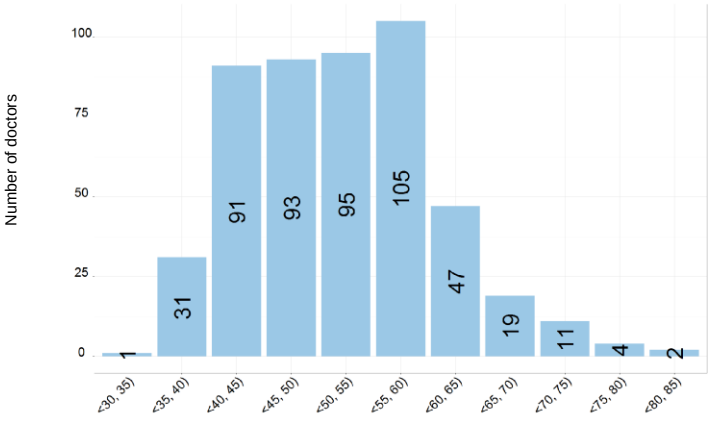


Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and the NFZ.

Figure 173: Age structure of surgical oncologists in Poland in 2012



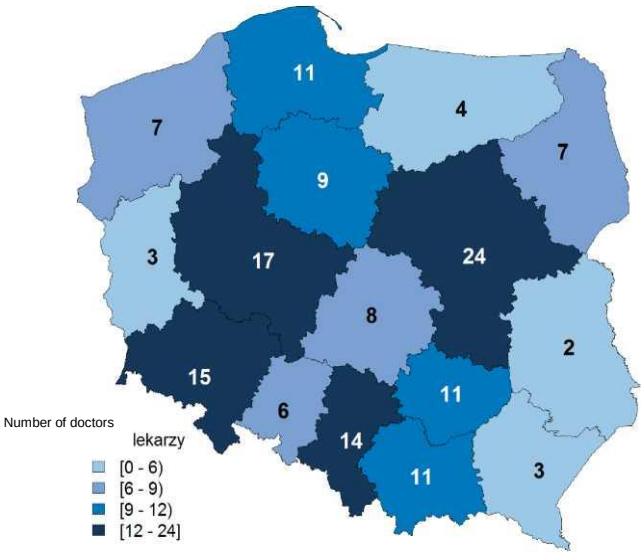
Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and Central Statistical Office



Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and the NFZ.

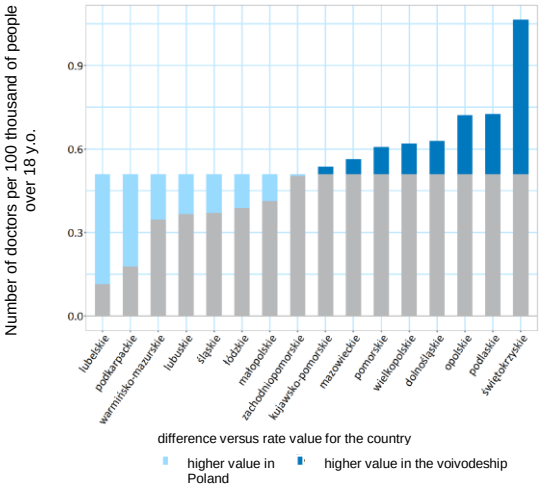
Gynaecologic oncologists

Figure 174: Number of gynaecologic oncologists in individual voivodeships in 2012



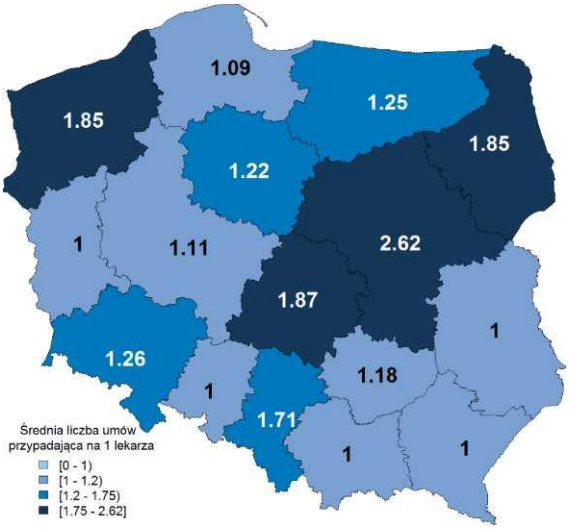
Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and the NFZ.

Figure 175: Number of gynaecologic oncologists per 100,000 adults in individual voivodeships in 2012



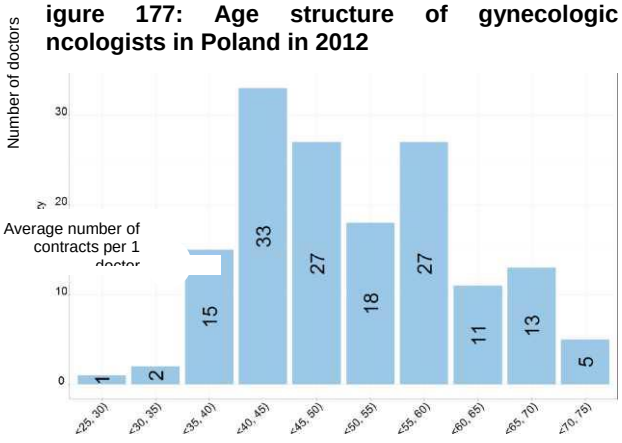
Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and the NFZ.

Figure 176: Number of contracts with healthcare providers contracted with the public payer per one oncological gynecologist in individual voivodeships in 2012



Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and the NFZ.

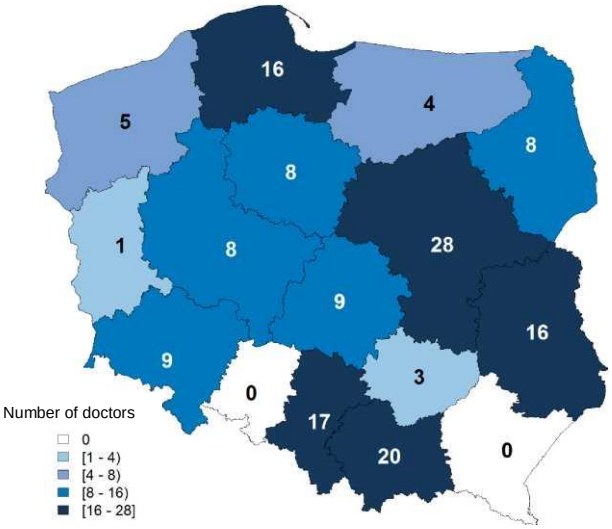
igure 177: Age structure of gynecologic ncologists in Poland in 2012



Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and the NFZ.

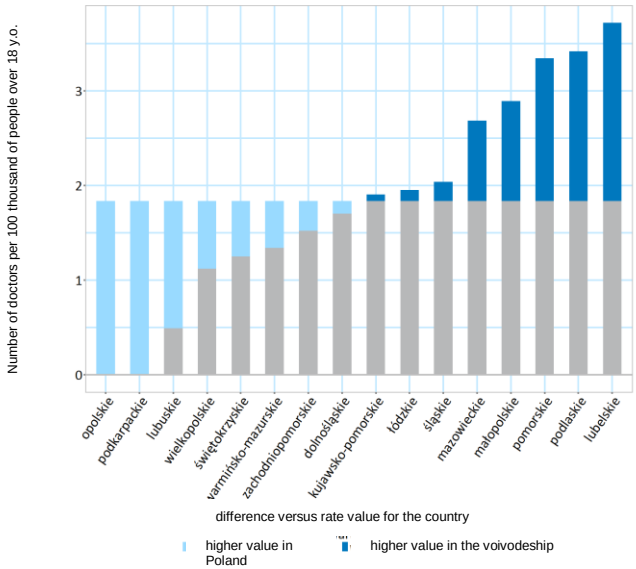
Paediatriconcologists and haematologists

Figure 178: Number of paediatric oncologists and haematologists in individual voivodeships in 2012



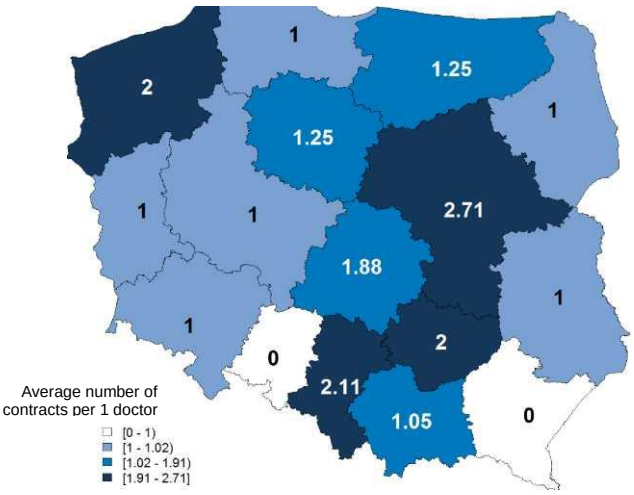
Source: compiled by DAiS based on data provided by the Supreme Medical Chamber

Figure 179: Number of paediatric oncologists and haematologists per 100,000 minors in individual voivodeships in 2012



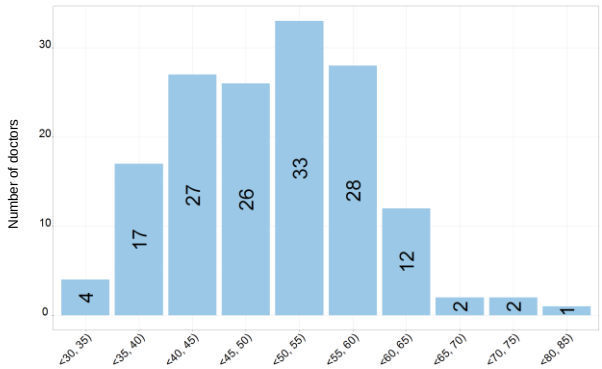
Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and Central Statistical Office.

Figure 180: Number of contracts with healthcare providers contracted with the public payer per one paediatric oncologist and haematologist in individual voivodeships in 2012



Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and the NFZ.

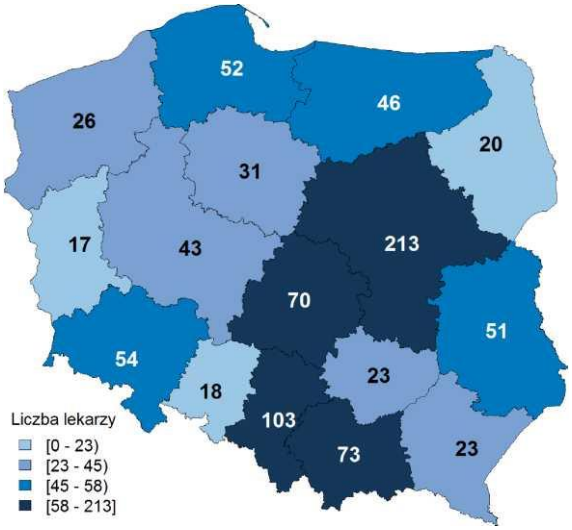
Figure 181: Age structure of paediatric oncologists and haematologists in Poland in 2012



Source: compiled by DAiS based on data provided by the Supreme Medical Chamber.

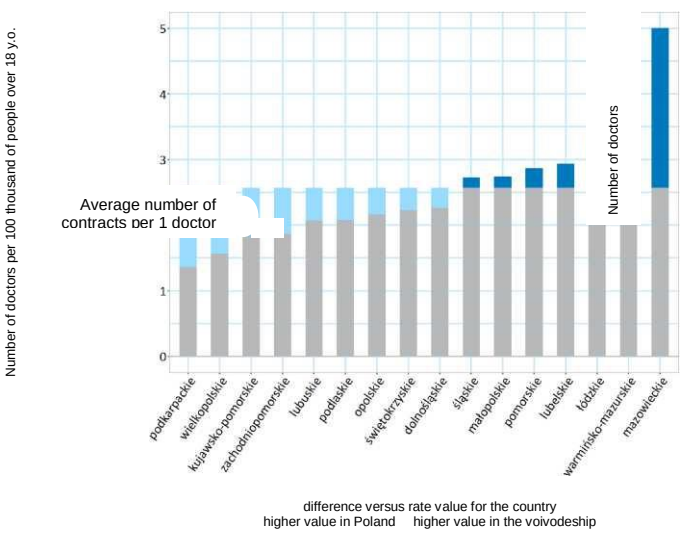
Clinical oncologists

Figure 182: Number of clinical oncologists in individual voivodeships in 2012



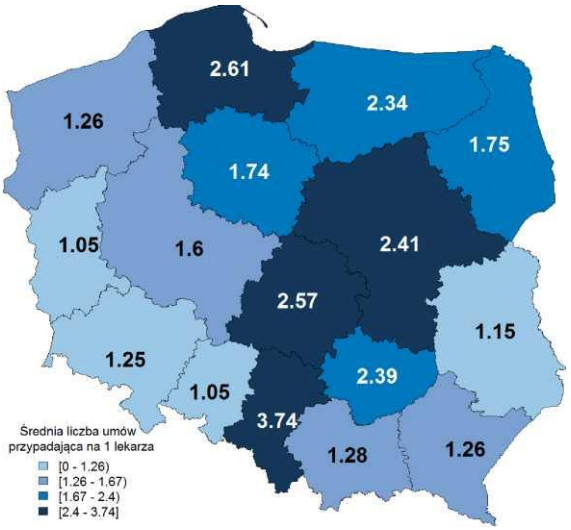
Source: compiled by DAiS based on data provided by the Supreme Medical Chamber

Figure 183: Number of clinical oncologists per 100,000 adults in individual voivodeships in 2012



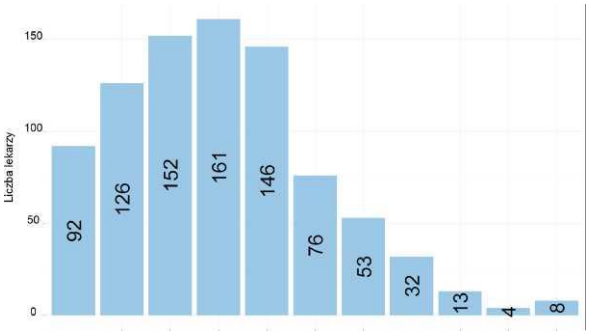
Source: compiled by DAiS based on data provided by the Supreme Medical Chamberand Central Statistical Office

Figure 184: Number of contracts with healthcare providers contracted with the public payer per one clinical oncology specialist in individual voivodeships in 2012



Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and the NFZ.

Figure 185: Age structure of clinical oncologists in Poland in 2012



<25,30; <30,35; <35,40;<40,45;<45,50; <50,55; <55,60; <60,65; <65,70; <70,75; <75,80

Source: compiled by DAiS based on data provided by the Supreme Medical Chamber

Pathologists

Figure 186: Number of pathologists in individual voivodeships in 2012

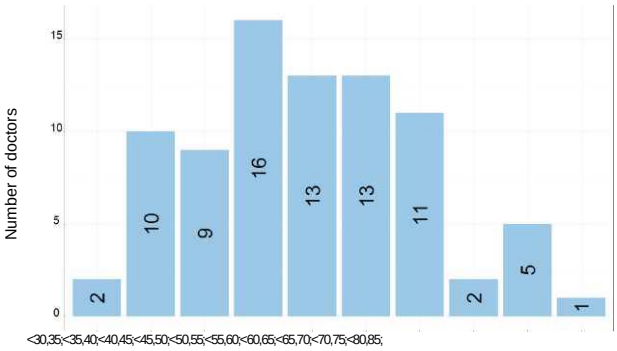
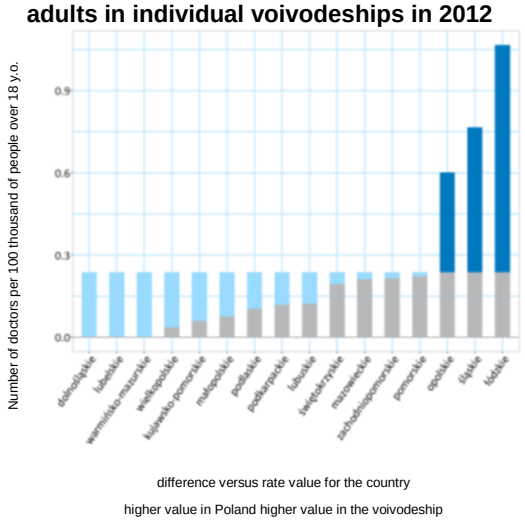
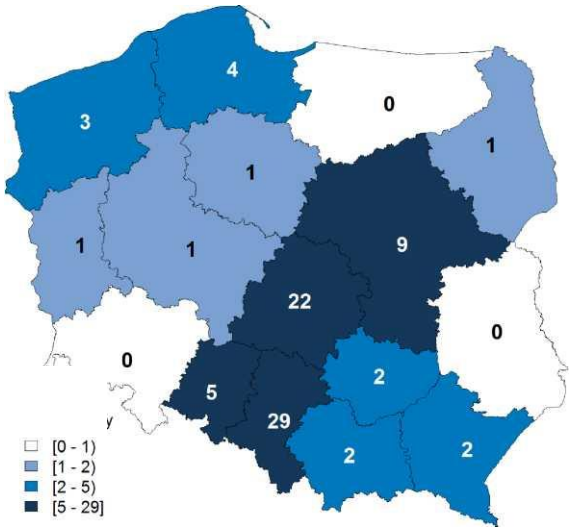


Figure 187: Number of pathologists per 100,000 adults in individual voivodeships in 2012



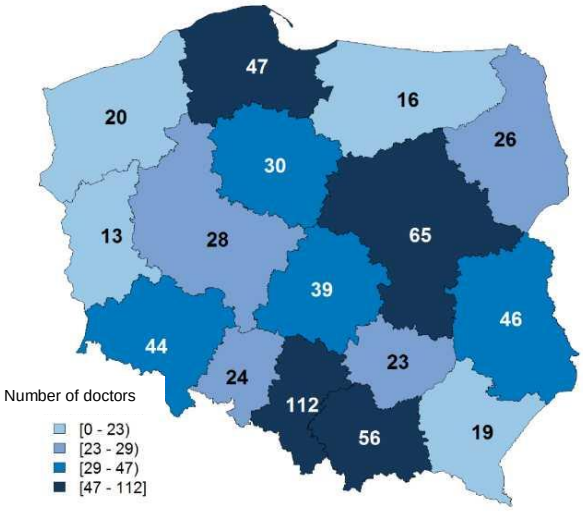
Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and Central Statistical Office

Radiation Therapist



Source: compiled by DAiS based on data provided by the Supreme Medical Chamber

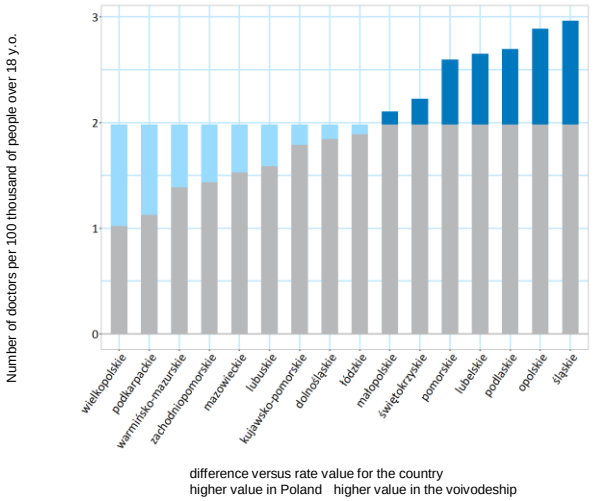
Source: compiled by DAiS based on data provided by the Supreme Medical Chamber



Source: compiled by DAiS based on data provided by the Supreme Medical Chamber

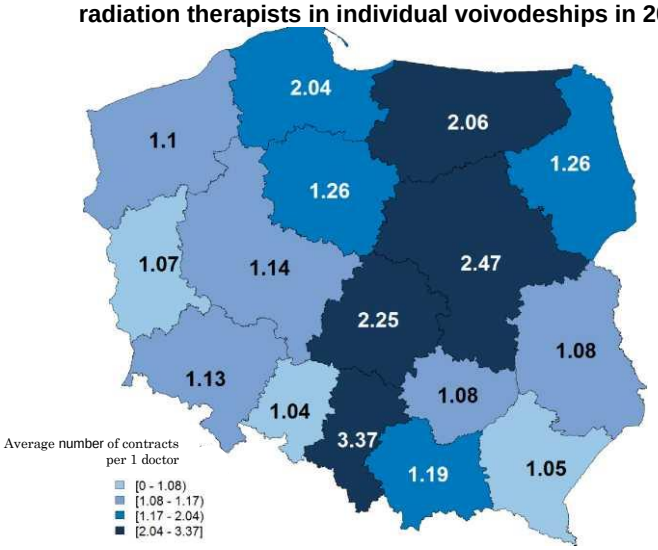
Figure 189: Number of radiation therapists in individual voivodeships in 2012

Figure 190: Number of radiation therapists per 100,000 adults in individual voivodeships in 2012



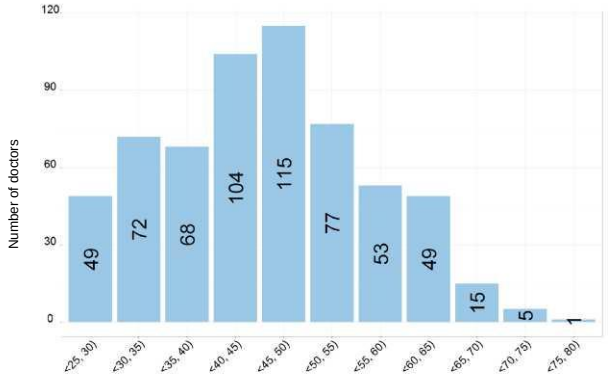
Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and Central Statistical Office

Figure 191: Number of contracts with healthcare providers contracted with the public payer per one radiation therapists in individual voivodeships in 2012



Source: compiled by DAiS based on data provided by the Supreme Medical Chamber and the NFZ.

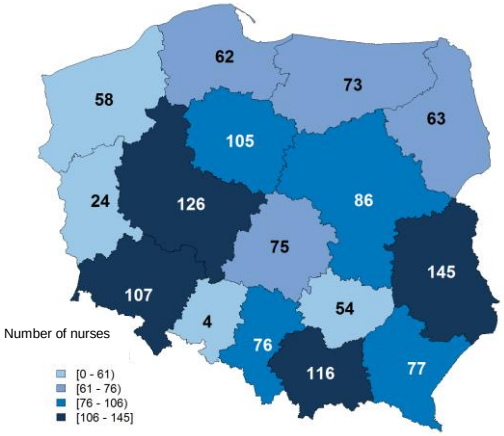
Figure 192: Age structure of radiation therapists in Poland in 2012



Source: compiled by DAiS based on data provided by the Supreme Medical Chamber

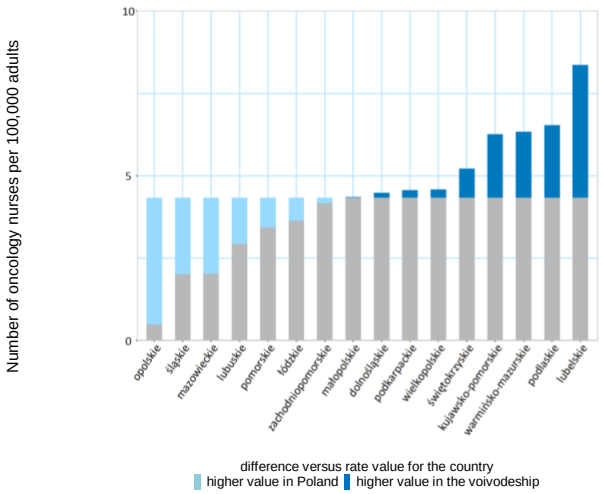
Oncology nurses

Figure 193: Number of oncology nurses in individual voivodeships in 2015



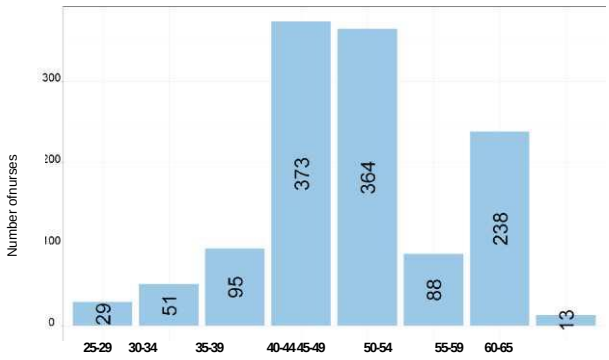
Source: compiled by DAiS based on data provided by the Supreme MedicalChamber

Figure 194: Number of oncology nurses per 100,000 adults in individual voivodeships in 2015



Source: compiled by DAiS based on data provided by the Supreme MedicalChamber and Central Statistical Office

Figure 195: Age structure of oncology nurses in Poland in 2015



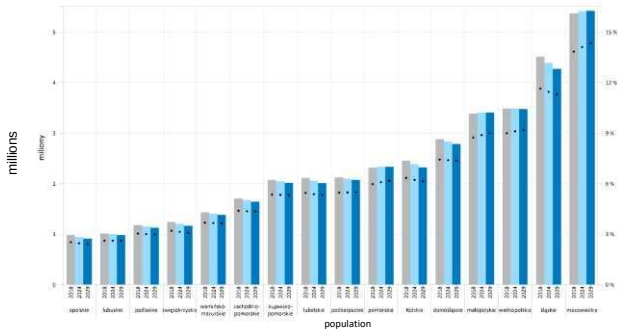
Source: compiled by DAiS based on data provided by the Supreme Medical Chamber

Attachments to Part III

Healthcare Needs Forecasts

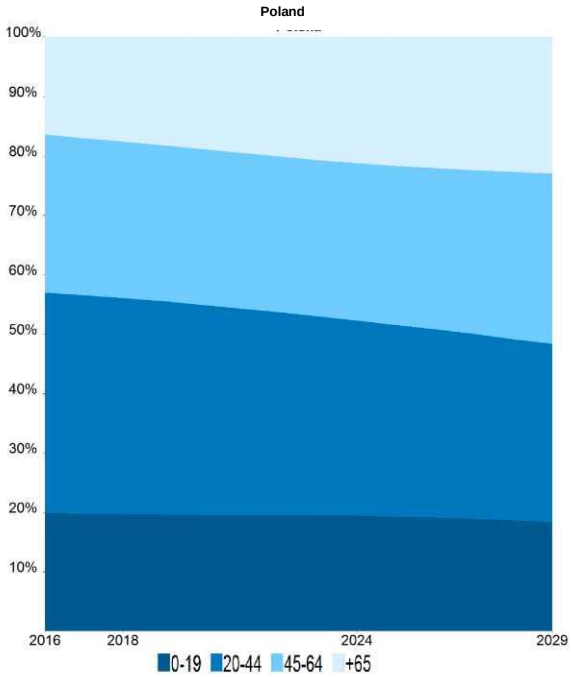
3.1 Projected Population Breakdown

Figure 196: Population in voivodeships in selected years covered by the forecast (2018, 2024 and 2029)



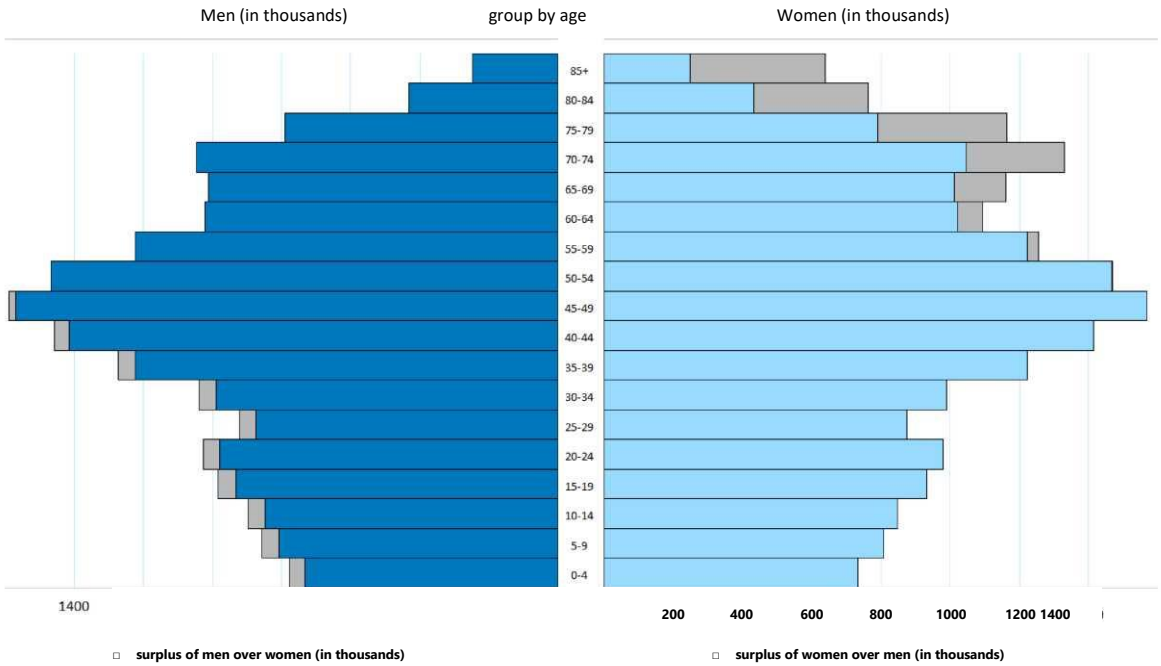
Source: compiled based on data provided by the Central Statistical

Figure 197: Projected population breakdown by basic age groups in Poland and Pomorskie Voivodeship in 2016–2029



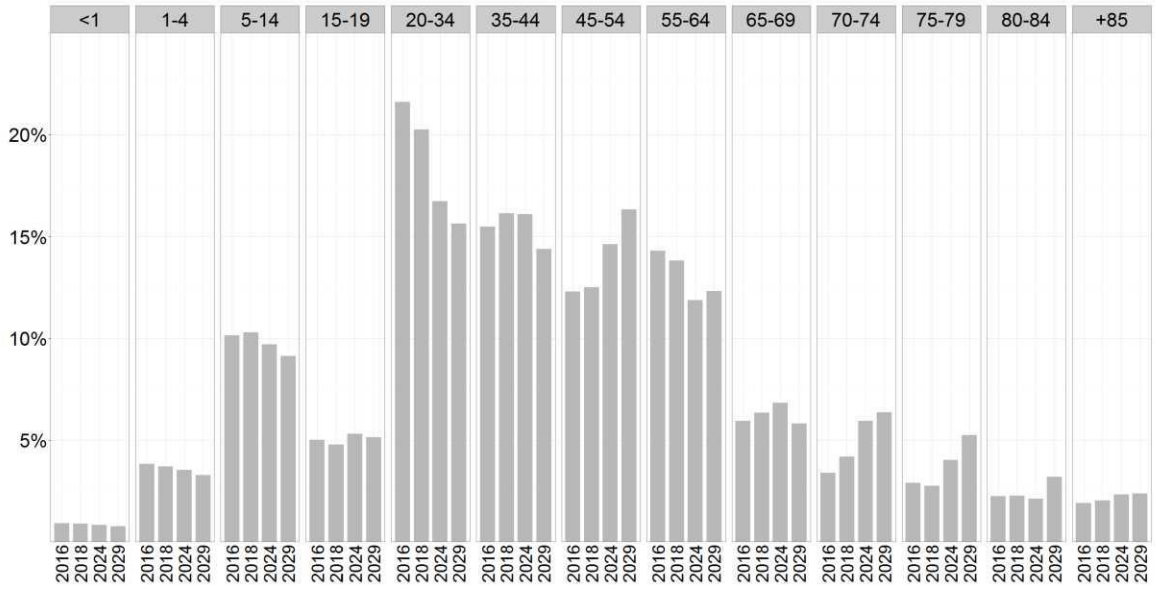
Source: compiled based on data provided by the Central Statistical

Figure 198: Projected population breakdown by gender and age in 2029 for Poland



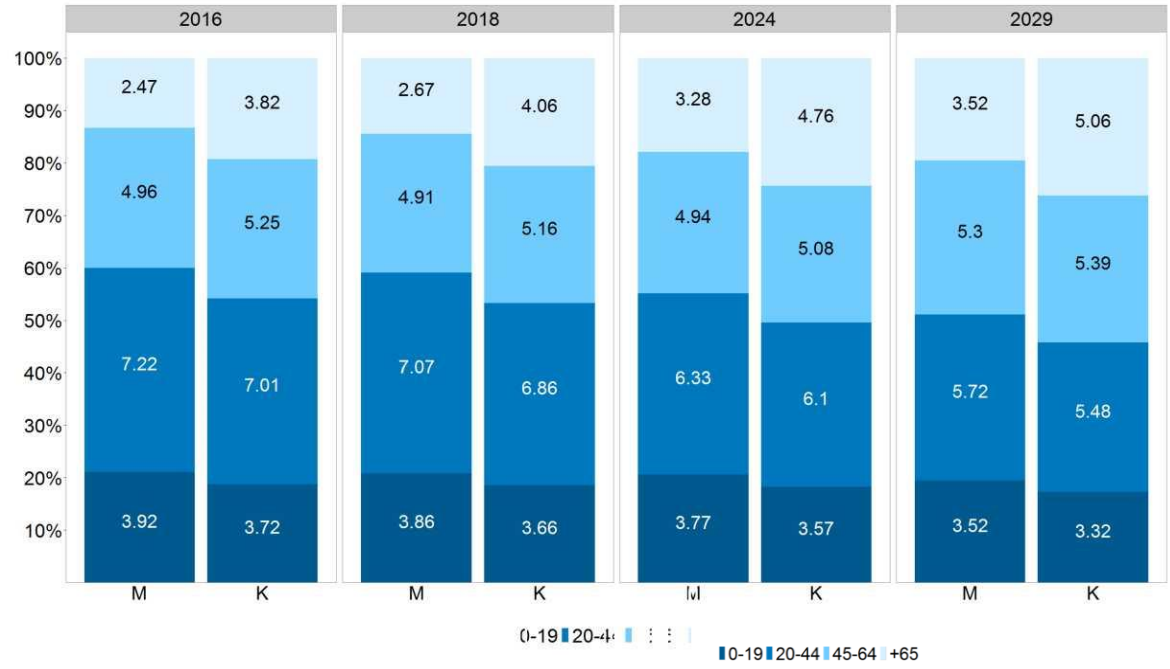
Source: compiled based on data provided by the Central Statistical Office

Figure 199: Projected population breakdown by age groups in selected years covered by the forecast (2016, 2018, 2024 and 2029)



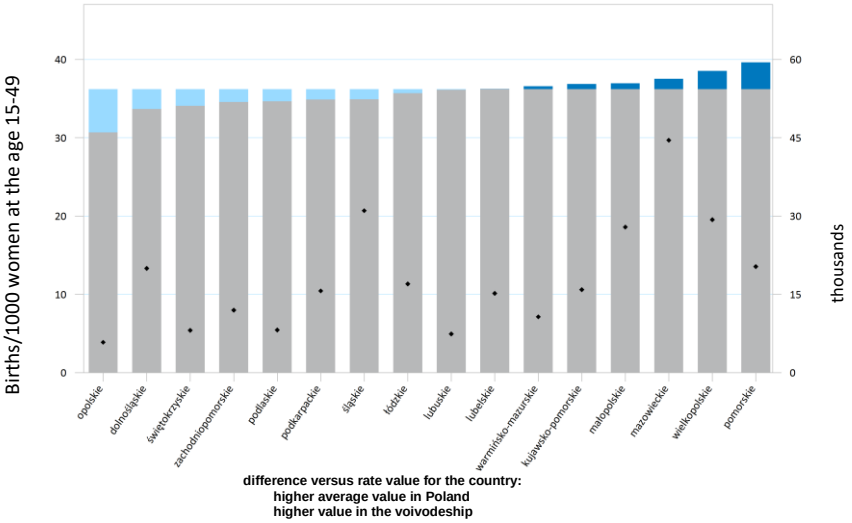
Source: compiled based on data provided by the Central Statistical Office

Figure 200: Projected population breakdown by gender and age in Poland (share and number of people in thousands) in selected years covered by the forecast (2016, 2018, 2024 and 2029)



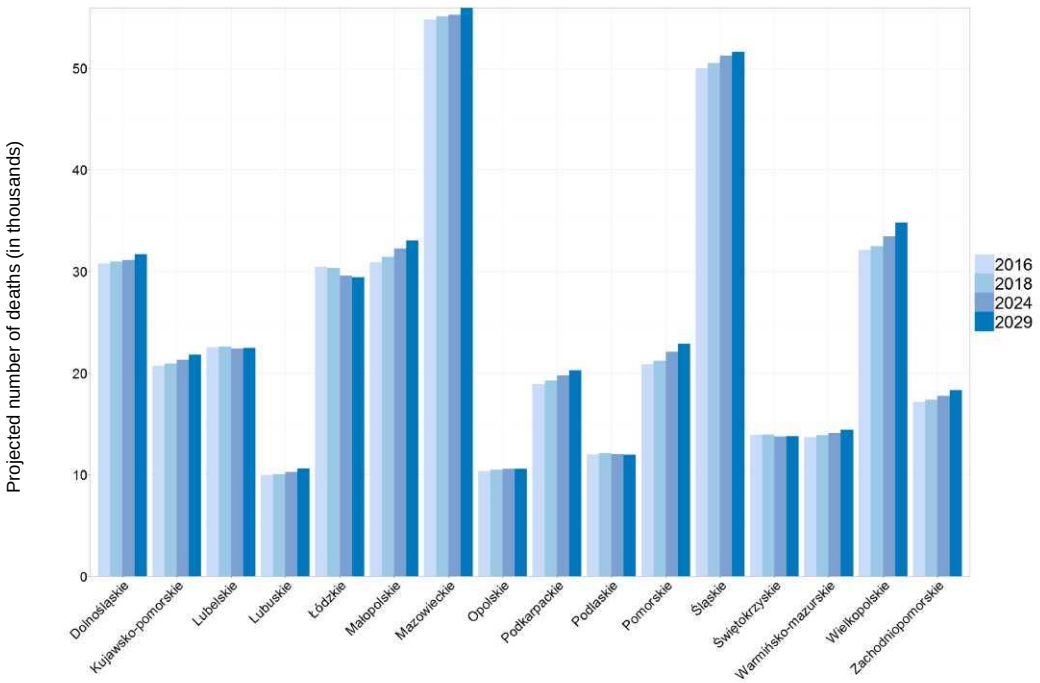
Source: compiled based on data provided by the Central Statistical Office

Figure 201: Projected fertility rate and live births in Polish voivodeships in 2029



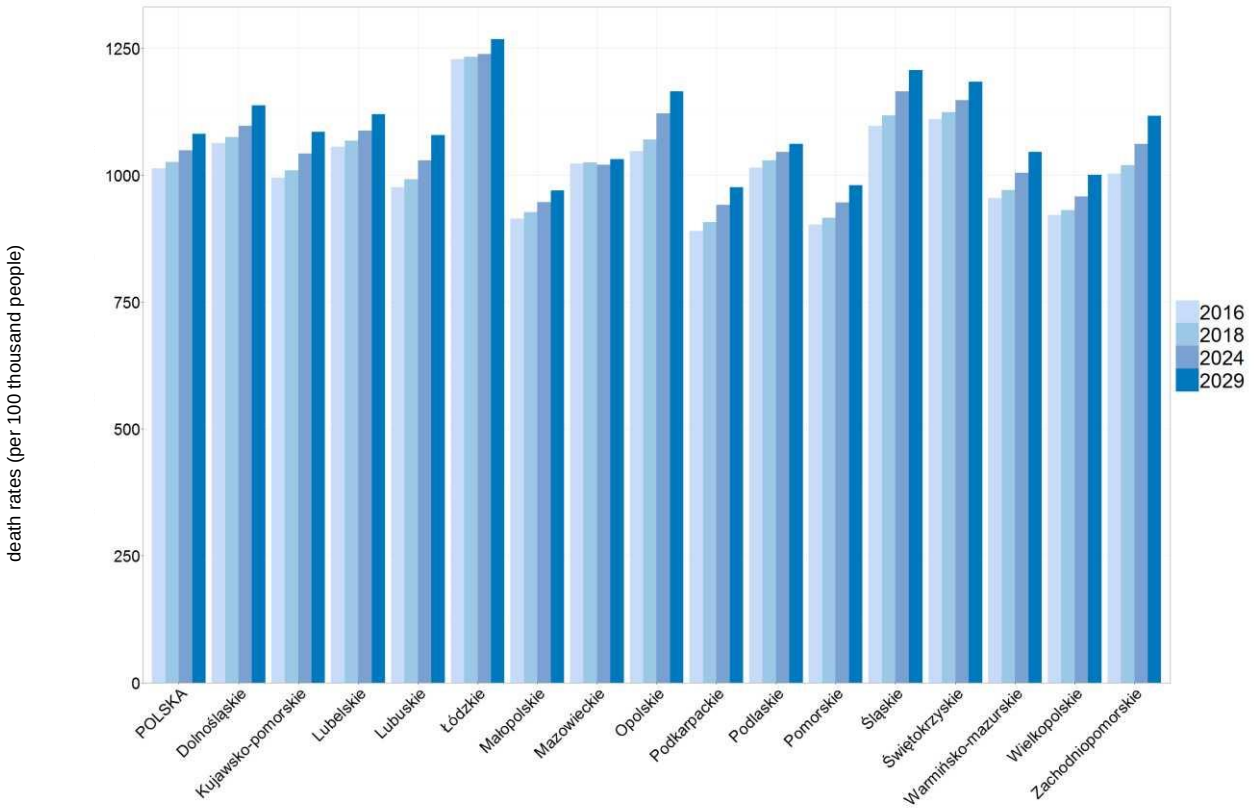
Source: compiled based on data provided by the Central Statistical Office

Figure 202: Projected number of deaths (in thousands) by voivodeships in selected years of prognosis (2016, 2018, 2024 and 2029)



Source: compiled based on data provided by the Central Statistical Office

Figure 203: Projected death rates (per 100 thousand people) by voivodeships in selected years of prognosis (2016, 2018, 2024 and 2029)

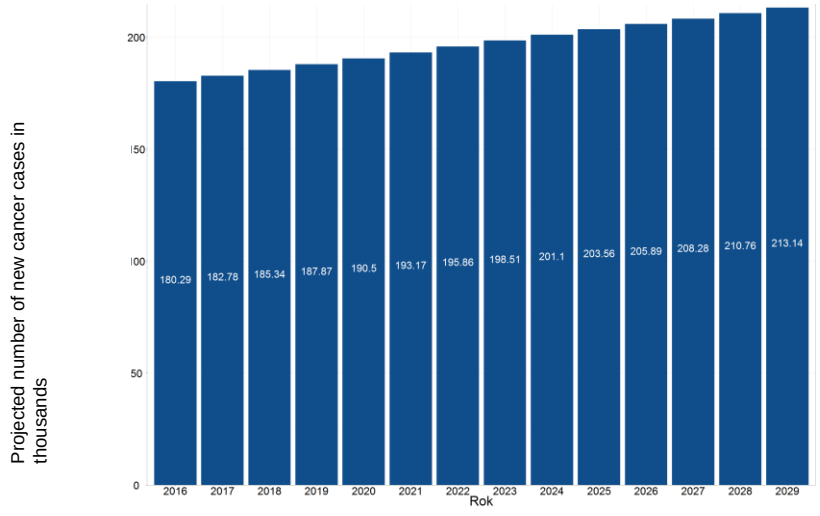


Source: compiled based on data provided by the Central Statistical Office

3.2 Epidemiological Forecast

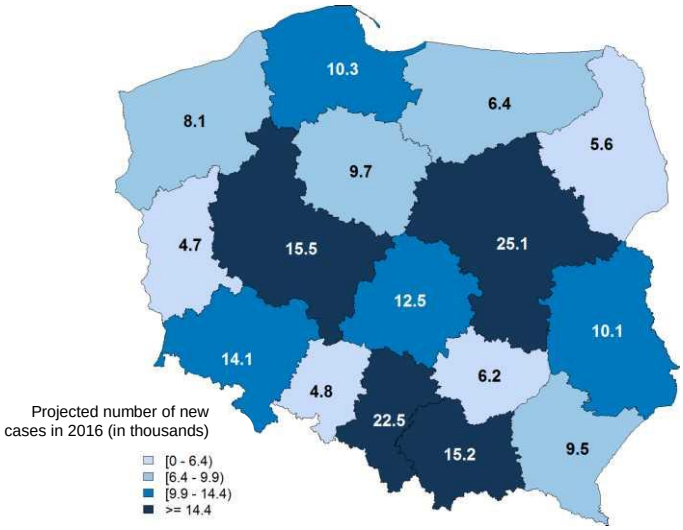
3.2.1 Incidence Forecast

Figure 204: Projected number of new cancer cases in Poland in thousands in 2016–2029.



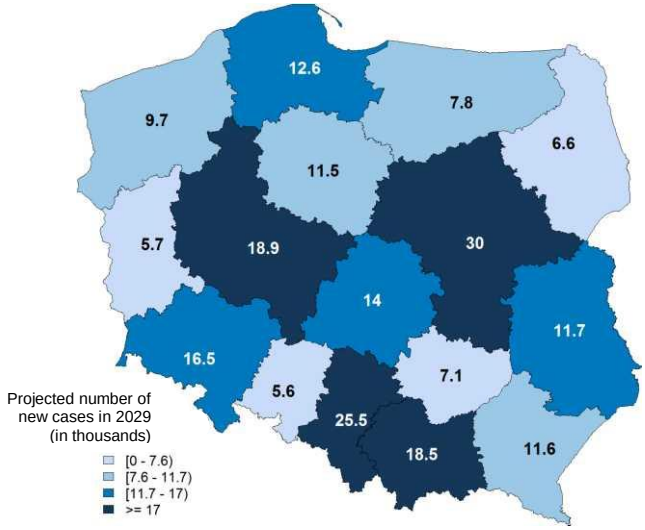
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

Figure 205: Projected number of new cancer cases in Poland in 2016 by voivodeship



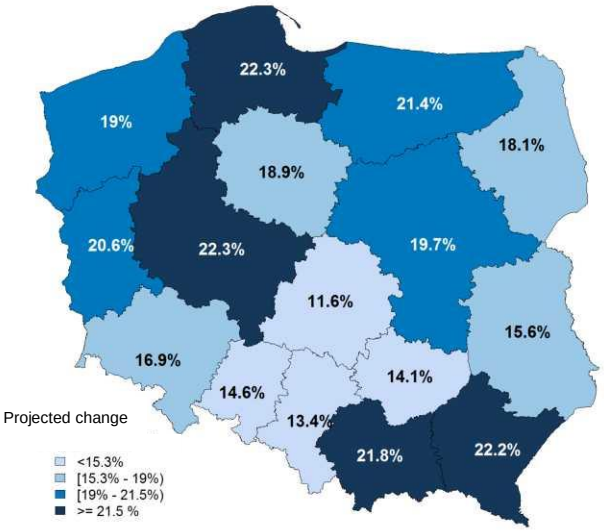
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

Figure 206: Projected number of new cancer cases in Poland in 2029 by voivodeship



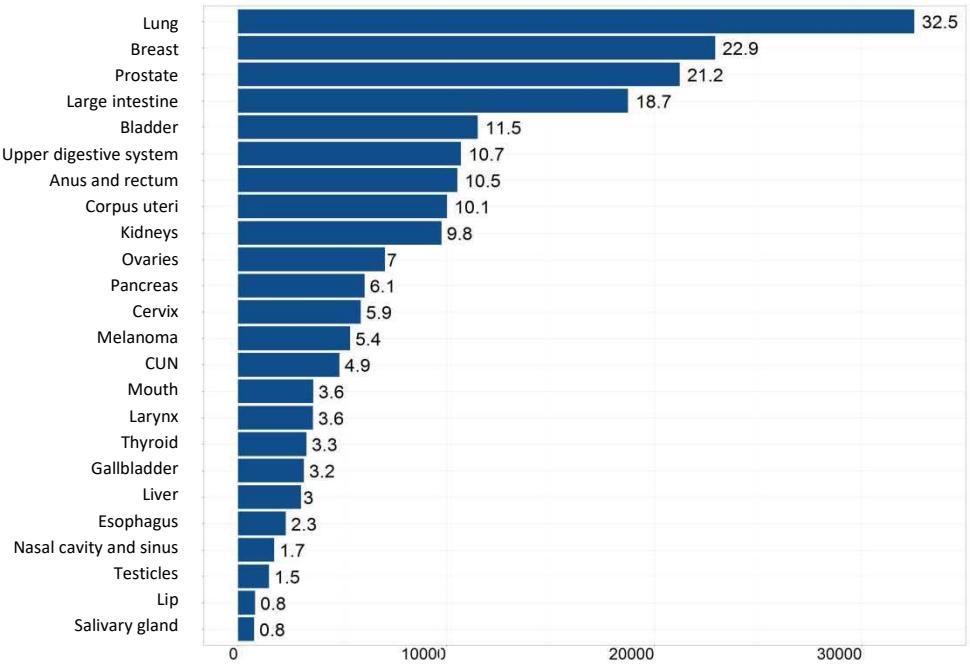
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDLand the Main Statistical Office

Figure 207: Projected change in the number of new cancer cases by voivodeships in 2029 compared to 2016



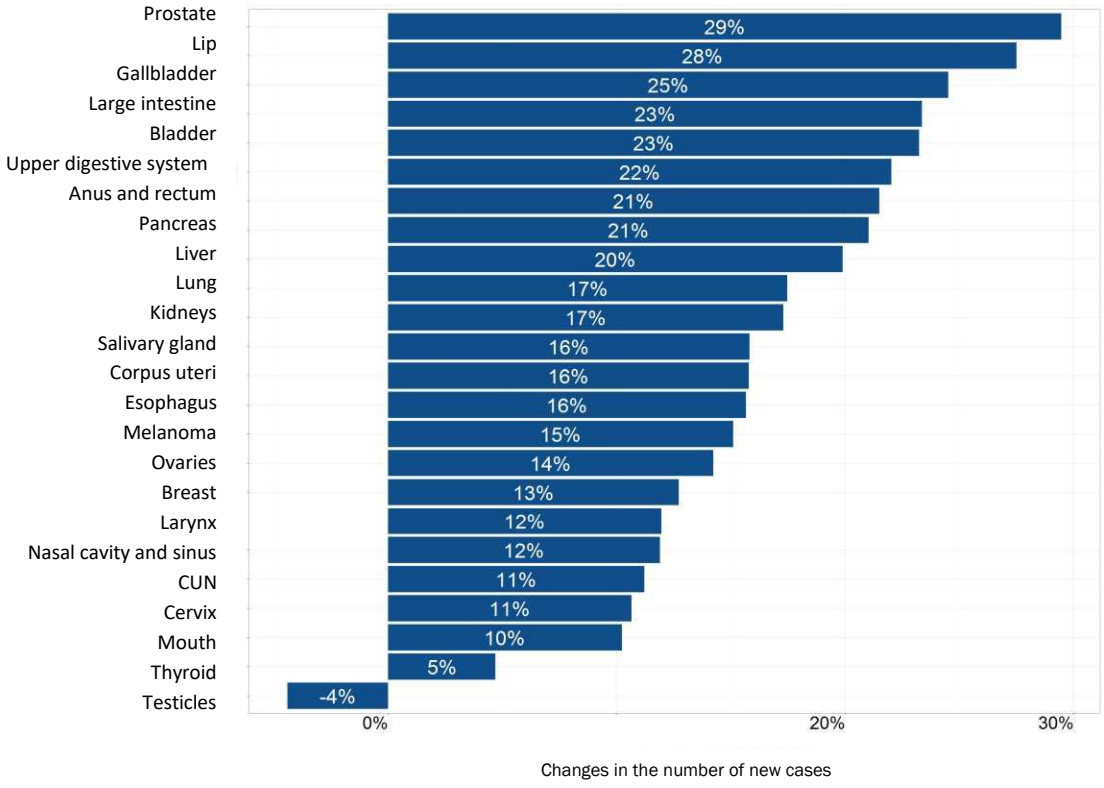
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL

Figure 208: Projected number of new cancer cases in Poland in 2029 by cancer group



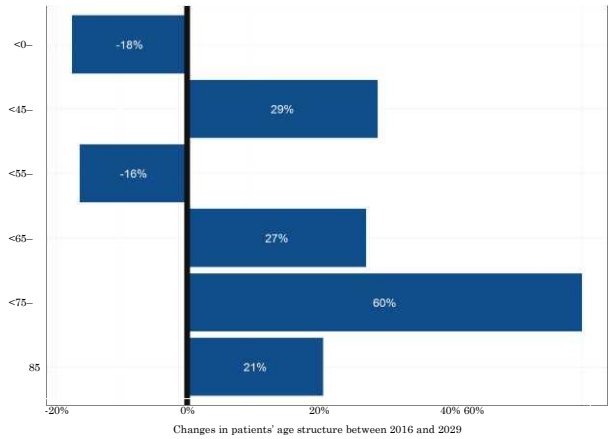
Source: compiled by DAiS based on data provided by the Polish National

Figure 209: Percentage changes in the number of new cancer cases between 2016 and 2029 by cancer group



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

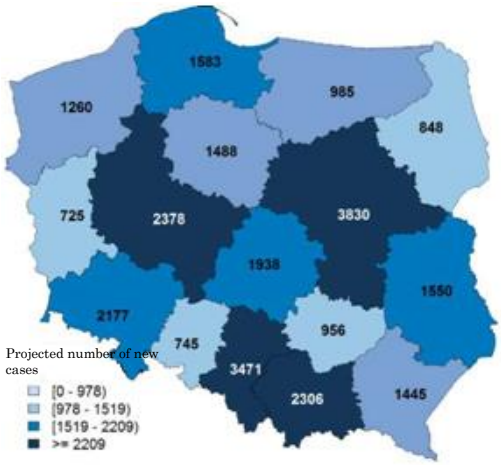
Figure 210: Percentage changes in the number of new cancer cases between 2016 and 2029 by age groups



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

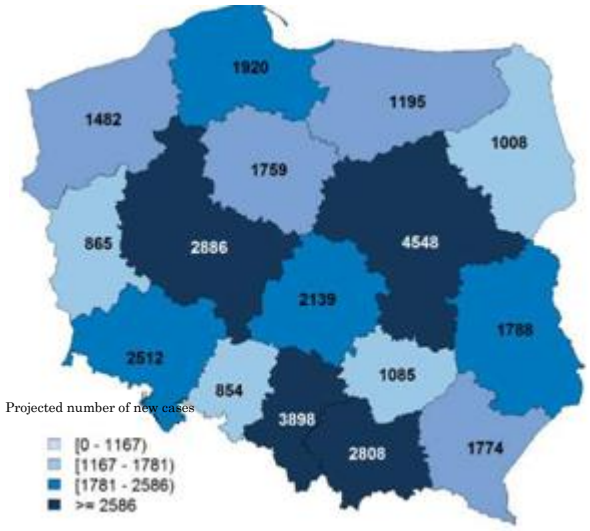
Malignant neoplasms of trachea, bronchus and lung (C33, C34)

Figure 211: Projected number of new lung cancer cases (C33, C34) in 2016



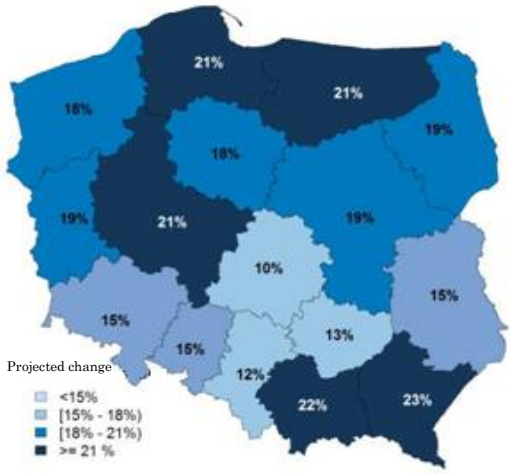
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL

Figure 212: Projected number of new lung cancer cases (C33, C34) in 2029



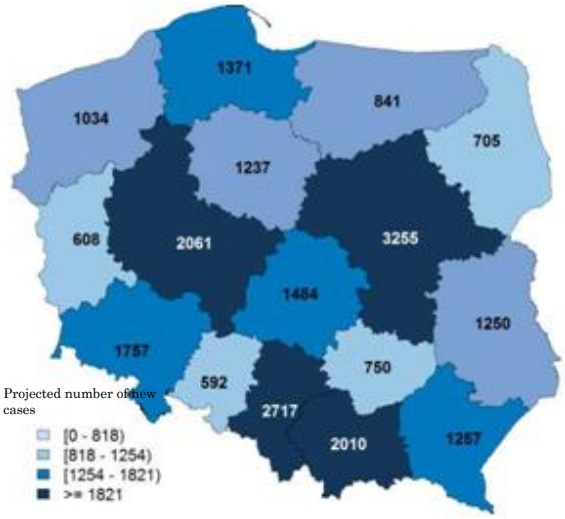
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL

Figure 213: Projected change in the number of new lung cancer cases (C33, C34) in 2029 compared to 2016



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

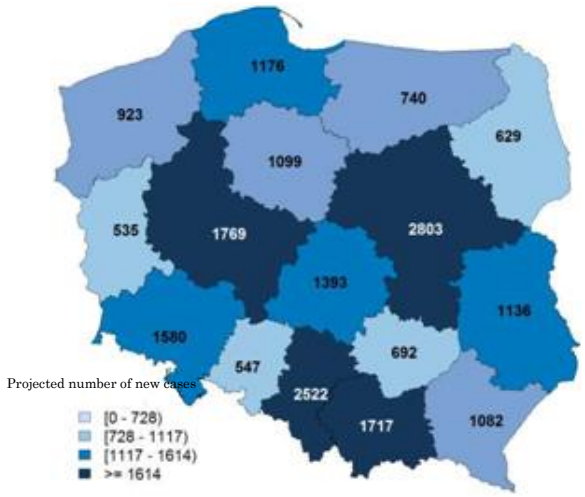
Figure 215: Projected number of new breast cancer cases (C50, D05) in 2029



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDLand the Main Statistical Office

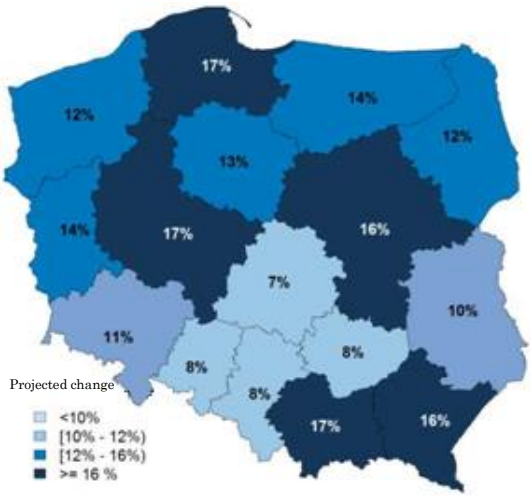
Malignant neoplasms of the breast (C50, D05)

Figure 214: Projected number of new breast cancer cases (C50, D05) in 2016



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

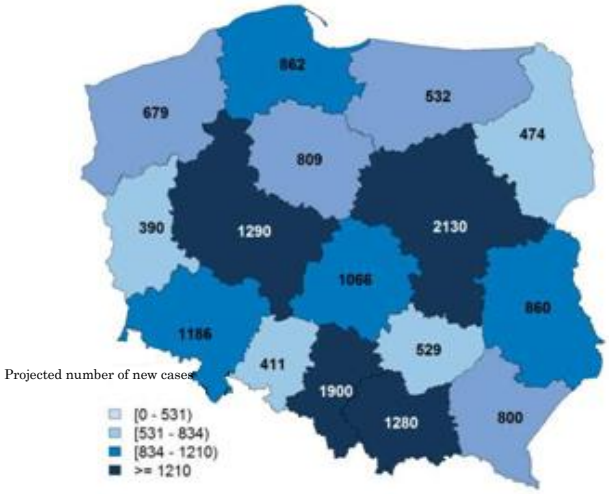
Figure 216: Projected change in the number of new breast cancer cases (C50, D05) in 2029 compared to 2016



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

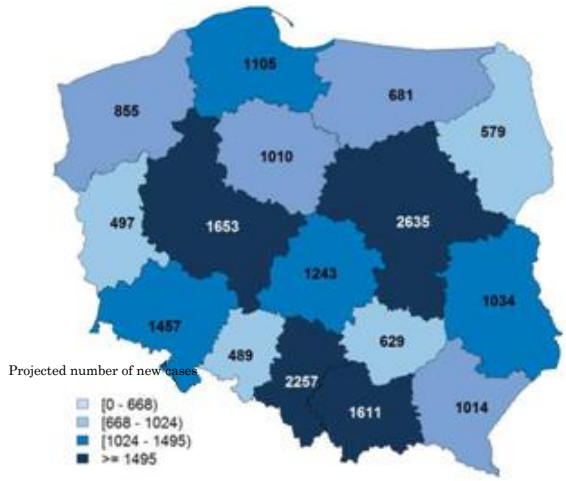
Malignant neoplasms of colon and rectosigmoid junction (C18, C19)

Figure 217: Projected number of new colon cancer cases (C18, C19) in 2016



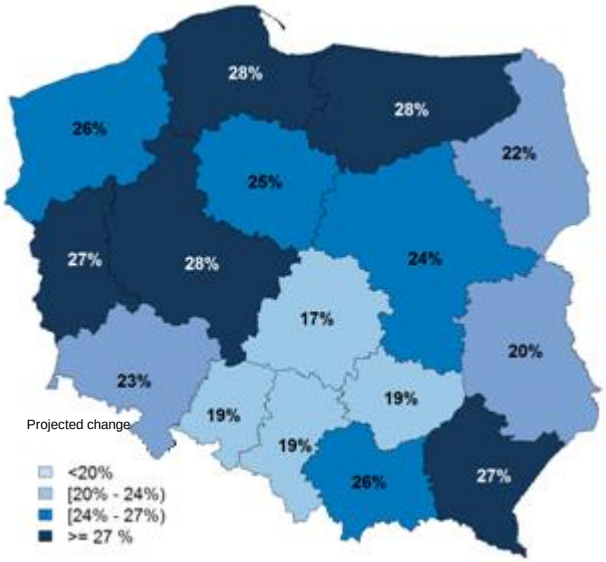
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

Figure 218: Projected number of new colon cancer cases (C18, C19) in 2029



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

Figure 219: Projected change in the number of new colon cancer cases (C18, C19) in 2029 compared to 2016



Malignant neoplasms of the rectum and anus (C20, C21)

Figure 220: Projected number of new rectum and anus cancer cases (C20, C21) in 2016

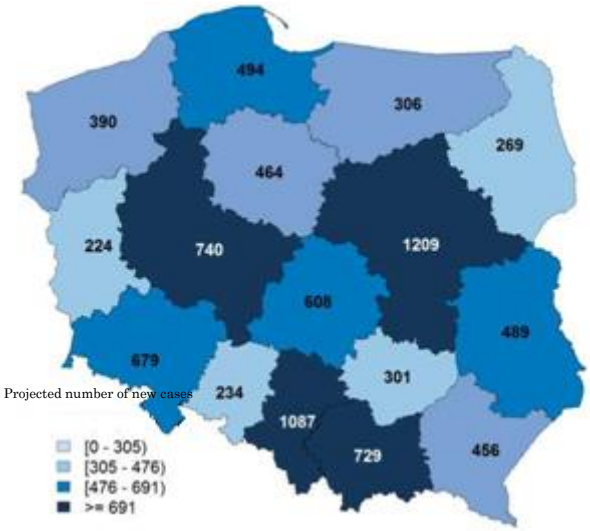
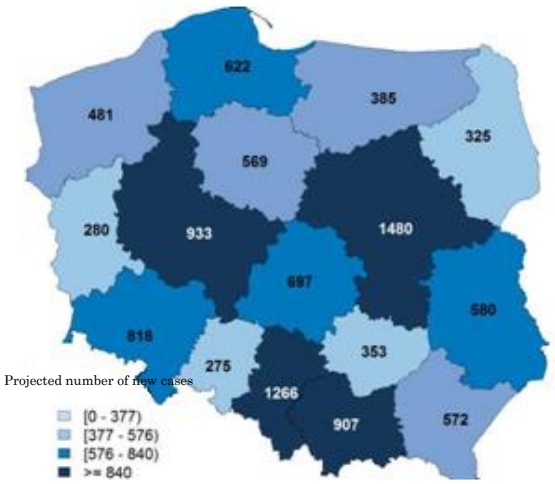
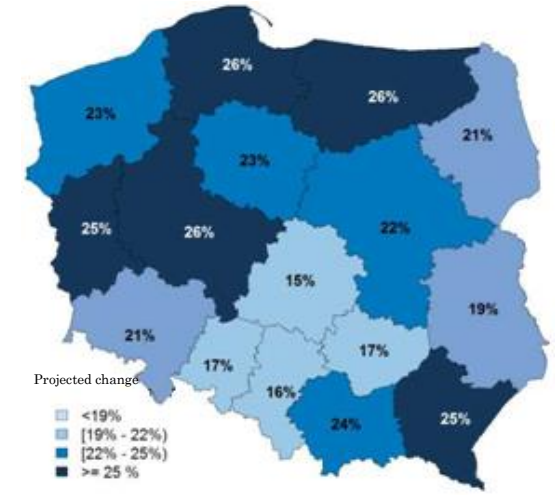


Figure 221: Projected number of new rectum and anus cancer cases (C20, C21) in 2029



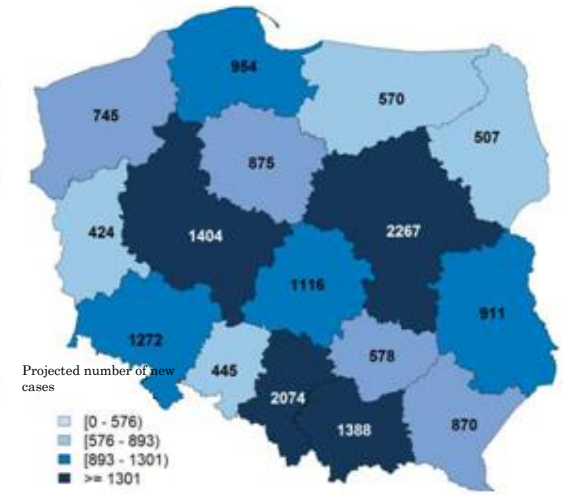
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

Figure 222: Projected change in the number of new rectum and anus cancer cases (C20, C21) in 2029 compared to 2016



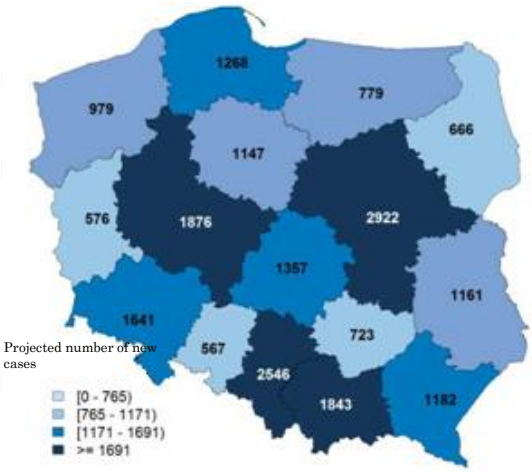
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

Figure 223: Projected number of new prostate cancer cases (C61) in 2016



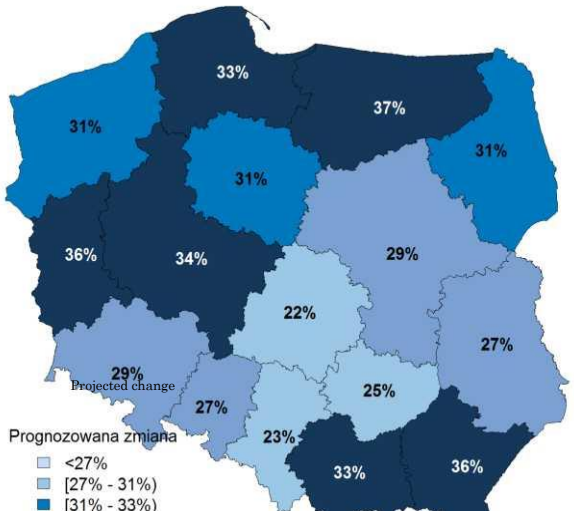
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

Figure 224: Projected number of new prostate cancer cases (C61) in 2029



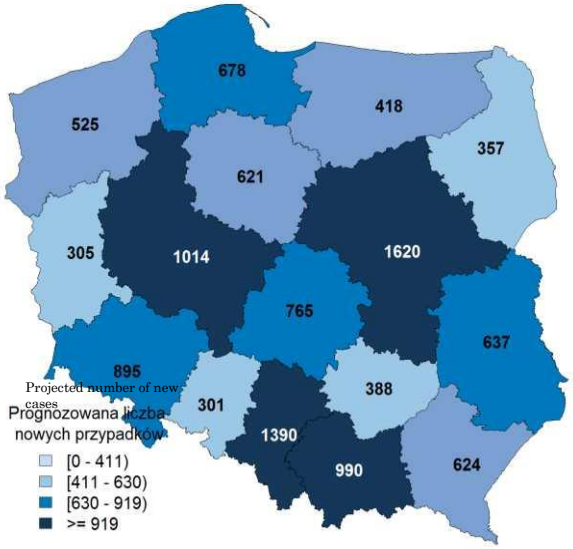
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

Figure 225: Projected change in the number of new prostate cancer cases (C61) in 2029 compared to 2016



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

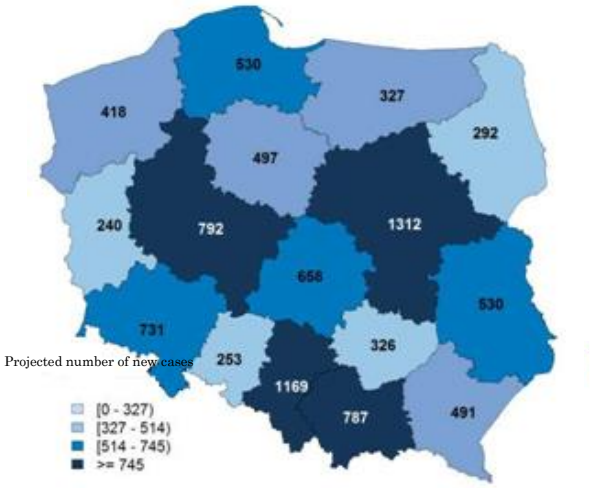
Figure 227: Projected number of new bladder cancer cases (C67) in 2029



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

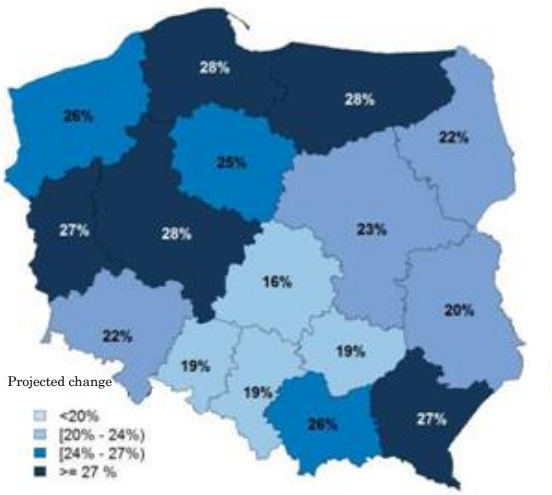
Malignant neoplasm of bladder (C67)

Figure 226: Projected number of new bladder cancer cases (C67) in 2016



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

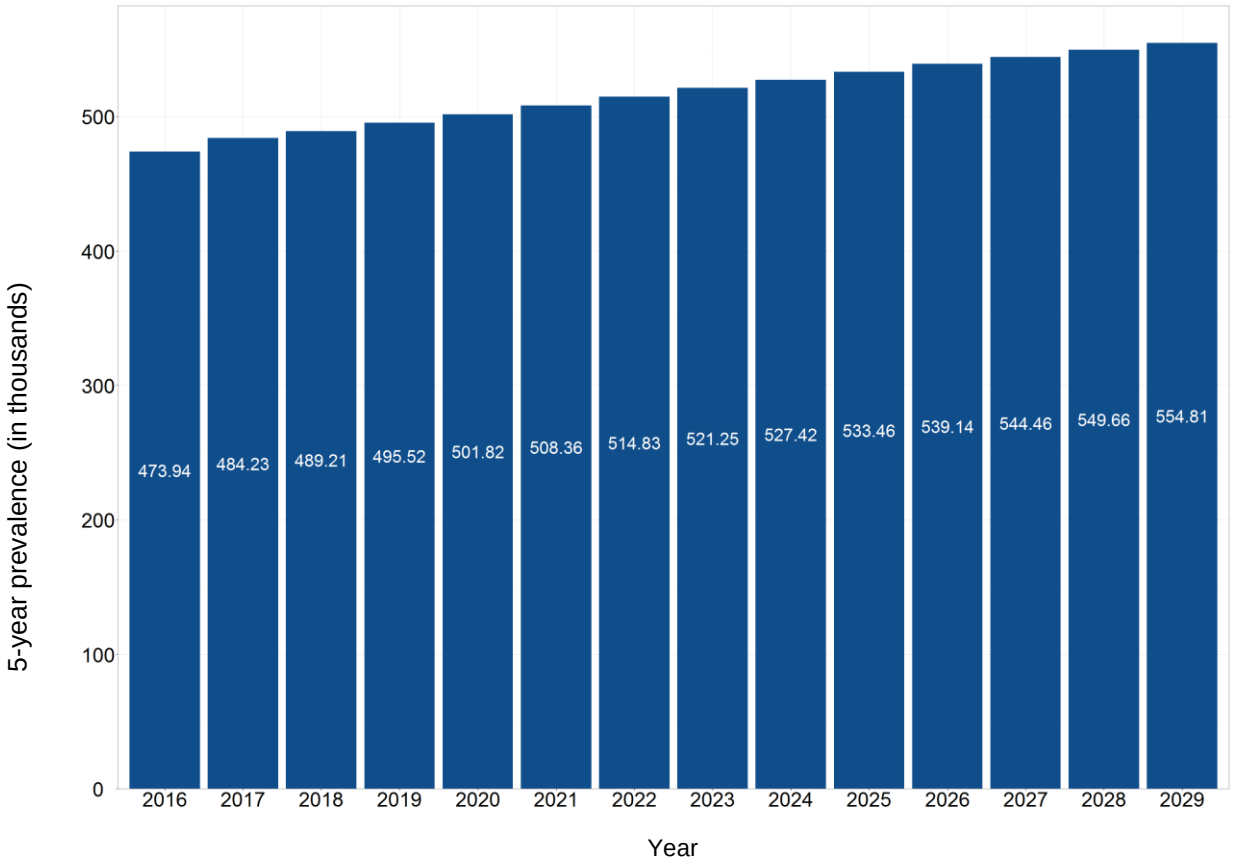
Figure 228: Projected change in the number of new bladder cancer cases (C67) in 2029 compared to 2016



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

Projected 5-year prevalence (in thousands)

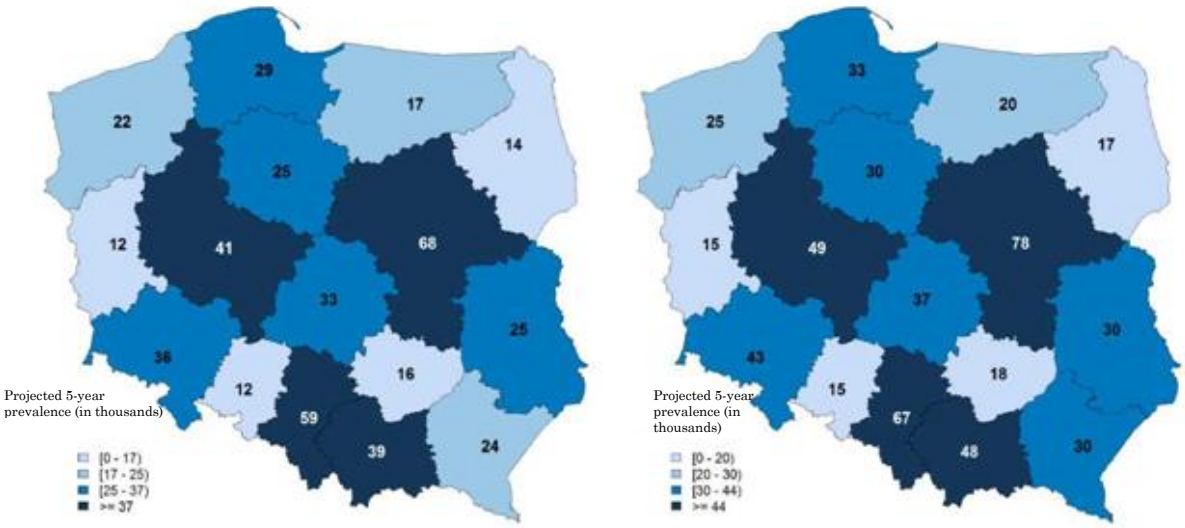
Figure 229: Projected 5-year prevalence (in thousands)



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

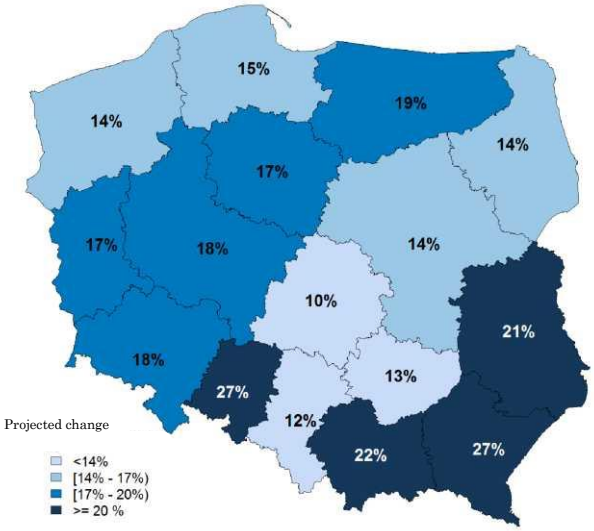
Figure 231: Projected 5-year prevalence in 2029

Figure 230: Projected 5-year prevalence in 2016



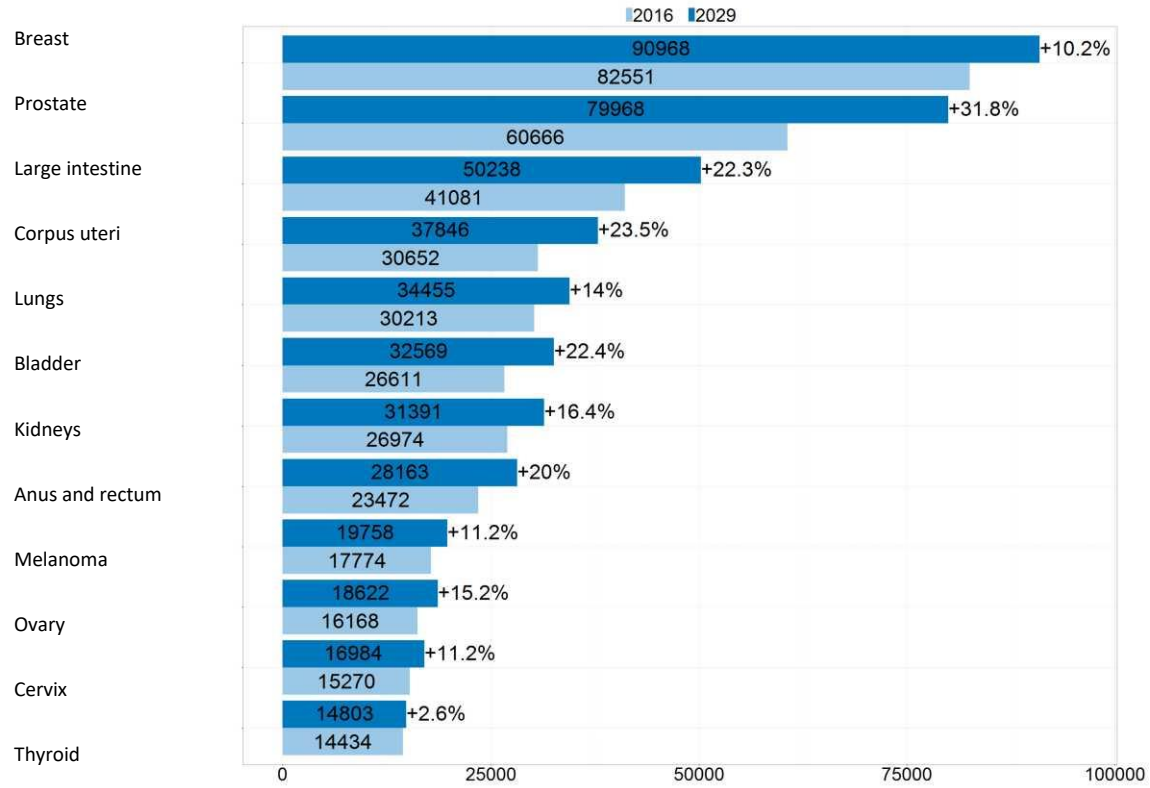
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

Figure 232: Projected increase (%) in 5-year prevalence in 2016–2029



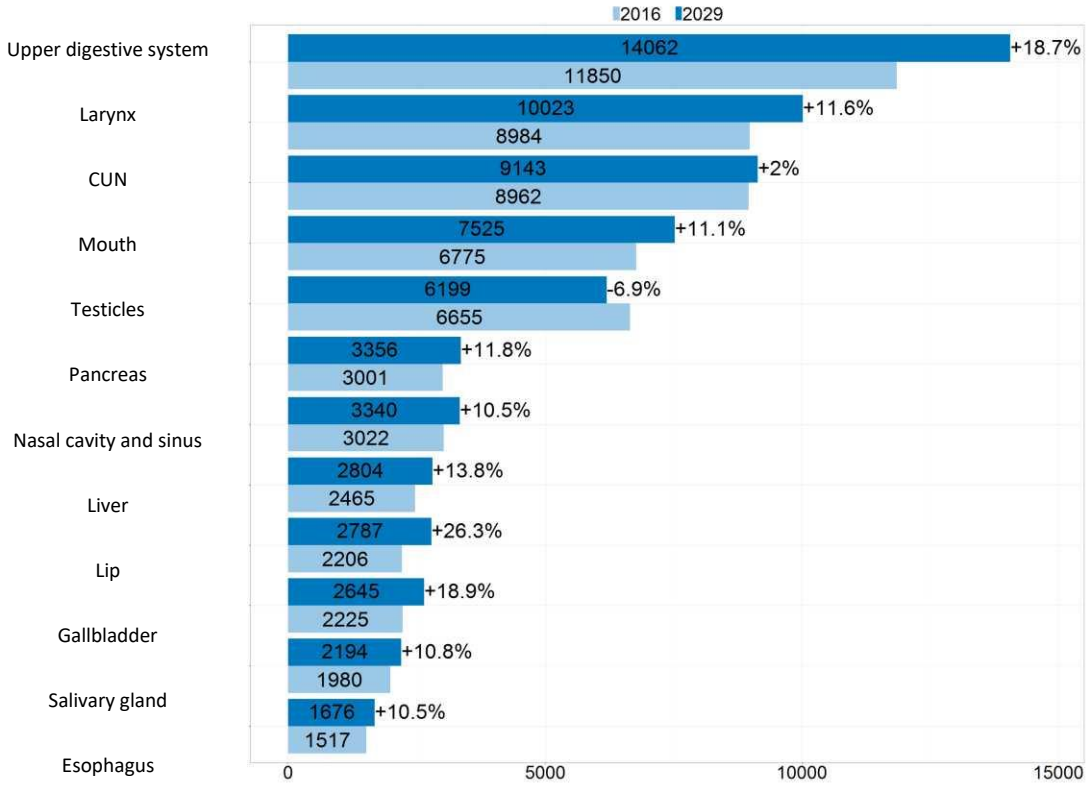
Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and

Figure 233: Projected changes in 5-year prevalence between 2016 and 2029 (part 1)



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

Figure 234: Projected changes in 5-year prevalence between 2016 and 2029 (part 2)



Source: compiled by DAiS based on data provided by the Polish National Cancer Registry, the NFZ, the BDL and the Main Statistical Office

3.2.3 Surgical Treatment Forecast

Table 14: Projected demand for hospitalisation with the purpose of performing a surgical procedure due to the most common cancer groups (2018)

	Dolnośląskie	Kujawsko-Pomorskie	Łódzkie	Lubelskie	Lubuskie	Małopolskie	Mazowieckie	Opolskie	Podkarpackie	Podlaskie	Pomorskie	Śląskie	Świętokrzyskie	Warmińsko-Mazurskie	Wielkopolskie	Zachodniopomorskie
lower gastrointestinal tract cancer	1,247	792	910	309	1,036	1,204	2,067	323	703	382	846	1,906	429	489	1,184	682
lung cancer	456	303	187	75	351	445	798		185	105	302	542	163	87	440	286
breast cancer	1,560	987	1,018	457	1,307	1,452	2,584	444	867	458	1,161	2,171	547	602	1,685	772
gynaecological cancer	740	786	682	248	753	849	1,601	275	468	347	688	1,549	366	361	981	470
kidney cancer	535	361	352	134	414	454	947	140	322	185	366	845	203	176	512	286

Source: compiled by DAiS based on data from the NFZ database and the demographic forecast of the Central Statistical Office

Table 15: Projected demand for hospitalisation with the purpose of performing a surgical procedure due to the most common cancer groups (2024)

	Dolnośląskie	Kujawsko-Pomorskie	Łódzkie	Lubelskie	Lubuskie	Małopolskie	Mazowieckie	Opolskie	Podkarpackie	Podlaskie	Pomorskie	Śląskie	Świętokrzyskie	Warmińsko-Mazurskie	Wielkopolskie	Zachodniopomorskie
lower gastrointestinal tract cancer	1,373	876	999	350	1,114	1,340	2,287	349	788	421	955	2,060	471	544	1,322	765
lung cancer	475	311	195	76	362	470	851		200	111	320	559	168	92	465	302
breast cancer	1,637	1,029	1,050	480	1,338	1,552	2,762	453	922	480	1,239	2,221	554	630	1,788	796
gynaecological cancer	772	828	717	261	775	902	1,718	287	503	365	739	1,600	381	382	1,038	506
kidney cancer	568	394	373	141	432	495	1,025	148	353	198	398	893	213	194	553	312

Source: compiled by DAiS based on data from the NFZ database and the demographic forecast of the Central Statistical Office

Table 16: The maximum number of contracts for the provision of "oncology package" combined treatment enabling the performance of at least 60 surgical procedures annually for each cancer group (2018)

Oncology package – unlimited combined treatment	Dolnośląskie	Kujawsko-Pomorskie	Łódzkie	Lubelskie	Lubuskie	Małopolskie	Mazowieckie	Opolskie	Podkarpackie	Podlaskie	Pomorskie	Śląskie	Świętokrzyskie	Warmińsko-Mazurskie	Wielkopolskie	Zachodniopomorskie	TOTAL
GENERAL SURGERY	18	11	20	14	1	18	38	2	13	5	15	55	6	8	21	15	260
THORACIC SURGERY	7	5	5	3	1	7	12		3	1	5	9	2	1	7	4	72
SURGICAL ONCOLOGY	38	23	28	23	10	34	67	9	14	10	23	31	10	10	38	13	381
PLASTIC SURGERY														1			1
MAXILLO-FACIAL SURGERY	1					1	1									1	4
GYNAECOLOGIC ONCOLOGY	6	8				1	7				7	4	4	1	6		44
NEUROSURGERY	3	3	2	2		2	4		1		2	3		1	2	1	26
OTOLARYNGOLOGY	4	4	4	5		5	7		2	1	4	6	2	2	8		54
OBSTETRICS AND GYNAECOLOGY	4	3	11	10	3	9	17	4	7	4	2	20	1	4	9	7	115
UROLOGY	14	13	11	9	2	11	26	2	7	3	9	21	5	2	12	6	153

Source: compiled by DAiS based on data from the NFZ database and the demographic forecast of the Central Statistical Office

Table 17: The maximum number of contracts for the provision of "oncology package" combined treatment enabling the performance of at least 60 surgical procedures annually for each cancer group (2024)

Oncology package – unlimited combined treatment	Dolnośląskie	Kujawsko-Pomorskie	Łódzkie	Lubelskie	Lubuskie	Małopolskie	Mazowieckie	Opolskie	Podkarpackie	Podlaskie	Pomorskie	Śląskie	Świętokrzyskie	Warmińsko-Mazurskie	Wielkopolskie	Zachodniopomorskie	TOTAL
GENERAL SURGERY	20	12	21	17	1	22	41	2	15	6	18	59	6	8	23	16	287
THORACIC SURGERY	7	5	6	3	1	7	13		3	1	5	9	2	1	7	5	75
SURGICAL ONCOLOGY	40	24	28	24	11	38	72	10	17	10	25	34	10	12	41	14	410
PLASTIC SURGERY														1			1
MAXILLO-FACIAL SURGERY	1					1	1									1	4
GYNAECOLOGIC ONCOLOGY	6	9				1	7				8	4	5	1	6		47
NEUROSURGERY	3	3	2	3		2	4		1		3	3		1	2	1	28
OTOLARYNGOLOGY	5	4	4	5		6	7		3	1	4	6	2	2	8	1	58
OBSTETRICS AND GYNAECOLOGY	4	4	12	11	4	9	19	4	8	4	3	21	1	4	9	8	125
UROLOGY	16	14	11	9	2	13	27	2	9	4	11	21	5	2	13	6	165

Source: compiled by DAiS based on data from the NFZ database and the demographic forecast of the Central Statistical Office

3.2.4 PET Scan Forecast

Table 18: Projected demand for PET scans and scanners (2018)

Voivodeship	Projected number of treatments	Projected number of patients	Demand	
			1913/1	4474/1
Dolnośląskie	3,048	2,791	2	1
Kujawsko-Pomorskie	3,093	2,613	2	1
Lubelskie	1,451	1,309	1	1
Lubuskie	805	708	1	1
Łódzkie	2,389	2,173	2	1
Małopolskie	3,994	3,591	3	1
Mazowieckie	5,591	5,027	3	2
Opolskie	637	551	1	1
Podkarpackie	971	846	1	1
Podlaskie	814	747	1	1
Pomorskie	2,131	1,903	2	1
Śląskie	5,058	4,366	3	2
Świętokrzyskie	2,417	2,123	2	1
Warmińsko-Mazurskie	1,292	1,194	1	1
Wielkopolskie	3,877	3,412	3	1
Zachodniopomorskie	1,507	1,364	1	1
POLAND	39,075	34,719	21	9

Source: compiled by DAiS based on data from the NFZ database and the demographic forecast of the Central Statistical Office

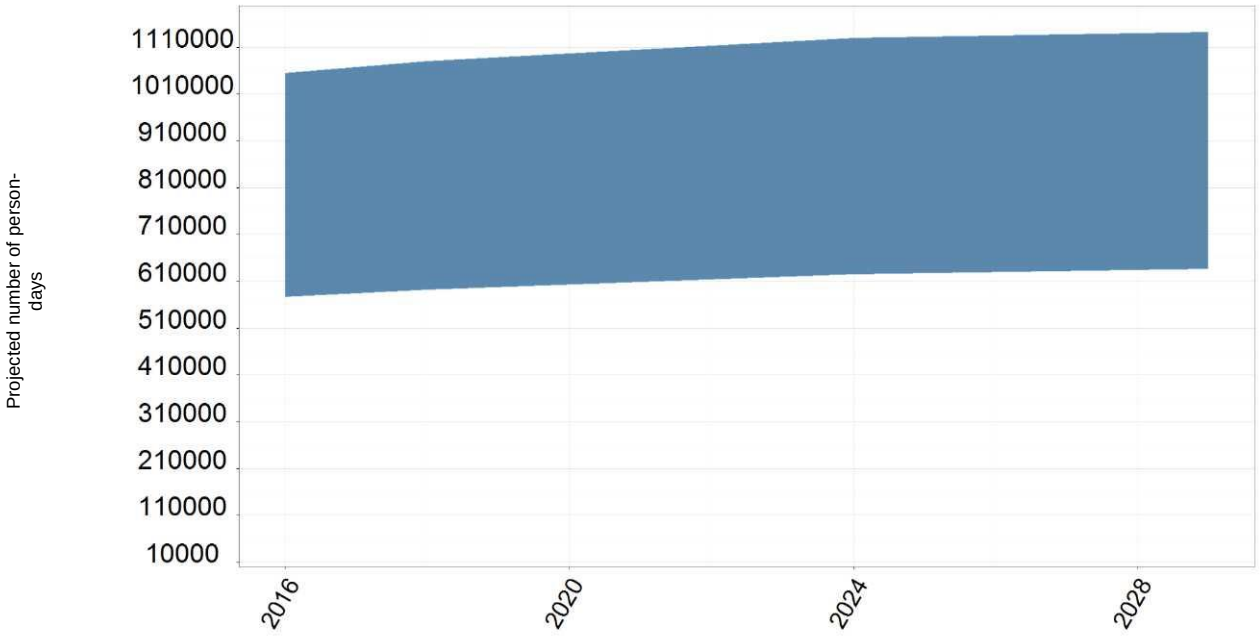
Table 19: Projected demand for PET scans and scanners (2024)

Voivodeship	Projected number of treatments	Projected number of patients	Demand	
			1913/1	4474/1
Dolnośląskie	3,259	3,002	2	1
Kujawsko-Pomorskie	3,332	2,846	2	1
Lubelskie	1,516	1,376	1	1
Lubuskie	867	767	1	1
Łódzkie	2,468	2,259	2	1
Małopolskie	4,430	4,010	3	1
Mazowieckie	6,104	5,520	4	2
Opolskie	662	578	1	1
Podkarpackie	1,042	919	1	1
Podlaskie	895	827	1	1
Pomorskie	2,355	2,120	2	1
Śląskie	5,287	4,587	3	2
Świętokrzyskie	2,570	2,270	2	1
Warmińsko-Mazurskie	1,415	1,319	1	1
Wielkopolskie	4,208	3,731	3	1
Zachodniopomorskie	1,624	1,481	1	1
POLAND	42,035	37,611	22	10

Source: compiled by DAiS based on data from the NFZ database and the demographic forecast of the Central Statistical Office

3.2.5 Chemotherapy Treatment Forecast

Figure 235: Projected number of chemotherapy person-days by 2029



Source: compiled by DAiS based on data from the NFZ database and the demographic forecast of the Central Statistical Office

Table 20: Projected minimum and maximum number of chemotherapy person-days by voivodeship (2016)

Voivodeship	Minimum	Maximum
Dolnośląskie	51,967	114,899
Kujawsko-Pomorskie	35,014	62,696
Lubelskie	50,591	106,051
Lubuskie	13,072	37,304
Łódzkie	31,558	74,753
Małopolskie	37,246	83,894
Mazowieckie	104,693	241,647
Opolskie	7,743	22,614
Podkarpackie	31,145	62,893
Śląskie	14,905	34,752
Pomorskie	40,091	58,880
Śląskie	72,130	180,528
Świętokrzyskie	24,328	55,032
Warmińsko-Mazurskie	22,062	43,262
Wielkopolskie	45,707	103,616
Zachodniopomorskie	20,698	47,376

Source: compiled by DAiS based on data from the NFZ database and the demographic forecast of the Central Statistical Office

Table 21: Projected minimum and maximum number of chemotherapy person-days by voivodeship (2029)

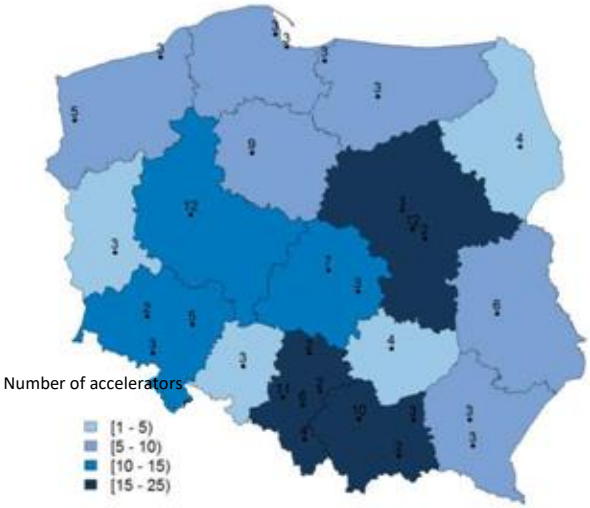
Voivodeship	Minimum	Maximum
Dolnośląskie	57,101	123,286
Kujawsko-Pomorskie	38,663	67,960
Lubelskie	56,539	115,780
Lubuskie	13,617	38,369
Łódzkie	32,790	76,348
Małopolskie	43,186	96,221
Mazowieckie	118,405	267,627
Opolskie	8,178	23,901
Podkarpackie	36,759	73,196
Podlaskie	16,323	38,295
Pomorskie	45,893	66,575
Śląskie	75,279	184,831
Świętokrzyskie	25,138	55,641
Warmińsko-Mazurskie	24,360	48,116
Wielkopolskie	51,600	115,803
Zachodniopomorskie	22,542	50,384

Source: compiled by DAiS based on data from the NFZ database and the demographic forecast of the Central Statistical Office

3.2.6 Radiotherapy Treatments Forecast

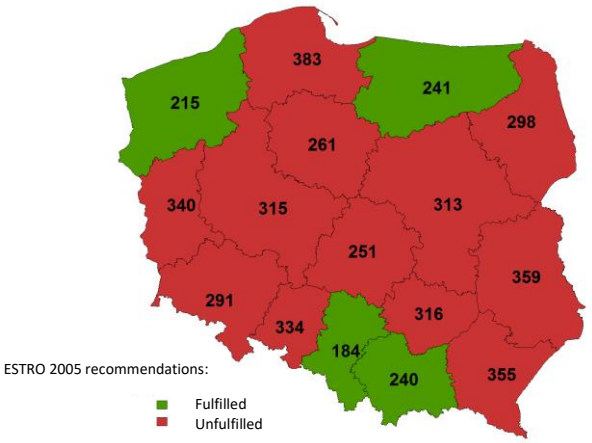
Linear accelerators in Poland in 2014

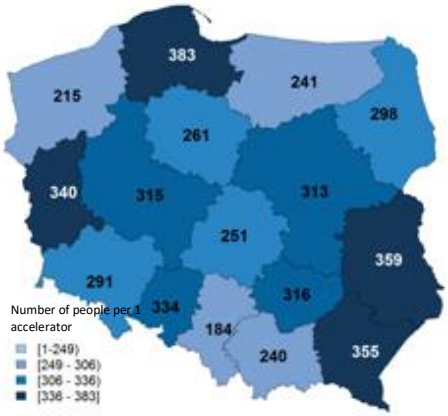
Figure 236: Distribution of accelerators in Poland (2014)



Source: compiled by DAiS based on the report on the state of radiotherapy in Poland (Gdańsk 2015).

Figure 237: Population (in thousands) per one accelerator by voivodeship (2014)





Source: compiled by DAiS based on the report on the state of radiotherapy in Poland (Gdańsk 2015), data provided by the NFZ and the Main Statistical Office.

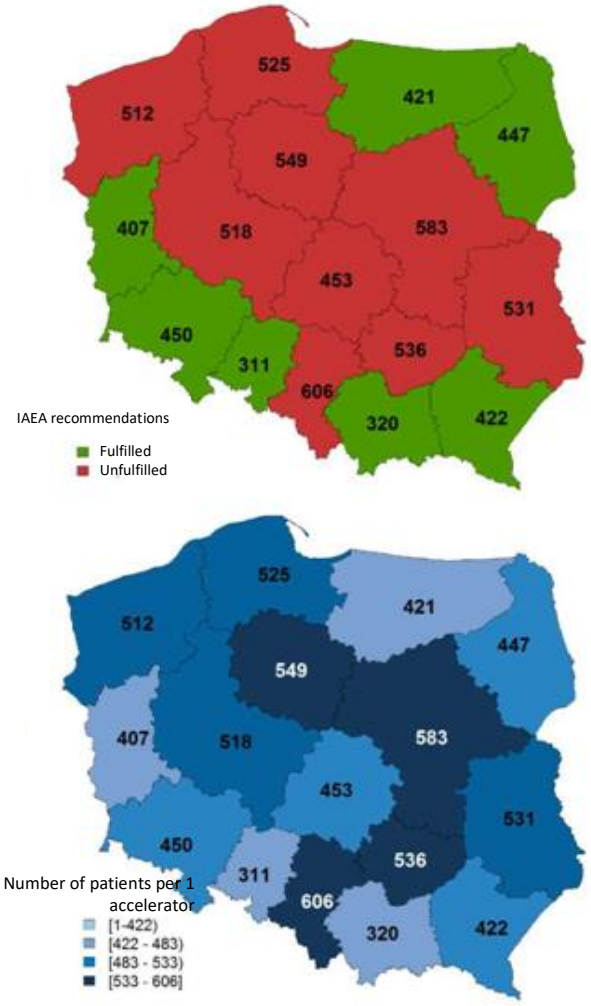
Table 22: Location of accelerators in Poland (2014)

Voivodeship	City/town	Healthcare provider	Number of accelerators
Dolnośląskie	Wrocław	Dolnośląskie Oncology Centre	5
	Legnica	Dolnośląskie Oncology Centre – branch	2
	Wałbrzych	International Oncology Centre	3
Kujawsko-Pomorskie	Bydgoszcz	Professor Łukaszczyk Oncology Centre	9*
Lubelskie	Lublin	Lublin Regional Oncology Centre	6
Lubuskie	Zielona Góra	Lubuskie Oncology Centre – Independent Public Healthcare Centre Regional Hospital	3
Łódzkie	Łódź		
	Tomaszów Mazowiecki	Nicolaus Copernicus Regional Specialist Hospital, Regional Oncology Centre	7
		NU-MED Centre for Cancer Diagnostics and Therapy	3
Małopolskie	Kraków	Maria Skłodowska-Curie Institute of Oncology	4
		University Children's Hospital	2
		University Hospital in Kraków, General and Gastroenterological Surgery Ward	1*
		Amethyst Radiotherapy Centre	3
	Tarnów	Radiotherapy Laboratory with Radiotherapy Ward at the Saint Luke's Provincial Hospital Independent Public Healthcare Centre	3
	NowySącz	J. Śniadecki Specialist Hospital	2
Mazowieckie	Warsaw	Maria Skłodowska-Curie Institute of Oncology	12
	Wieliszew	Mazovian Oncology Hospital	3
	Otwock	International Oncology Centre	2
Opolskie	Opole	Tadeusz Koszarowski Oncology Centre in Opole	3
Podkarpackie	Brzozów	1. Specialist Hospital, Bronislaw Markiewicz Subcarpathian Oncology Centre	3
	Rzeszów	Fryderyk Chopin Regional Specialist Hospital	3
Podlaskie	Białystok	Maria Skłodowska-Curie Oncology Centre in Białystok	4
Pomorskie	Gdańsk		
	Gdynia	Department of Oncology and Radiotherapy, University Clinical Centre	3
		Gdynia Oncology Centre at the Polish Red Cross Maritime Hospital	3
Śląskie	Bielsko-Biała	Oncology Centre of Beskidy – John Paul II Municipal Hospital	4
	Częstochowa	Blessed Virgin Mary's Regional Specialist Hospital	2
	Dąbrowa Górnicza	StarkiewiczSpecialistHospital	2
	Gliwice	Maria Skłodowska-Curie Institute of Oncology	11
	Katowice		
		StanisławLeszczyński Hospital	3
		University Ophtalmology and Oncology Centre	3
Świętokrzyskie	Kielce	Świętokrzyskie Oncology Centre	4
Warmińsko-Mazurskie	Olsztyn	Independent Public Healthcare Centre of the Ministry of Internal Affairs with Warmińsko-Mazurskie Oncology Centre	3
	Elbląg	NU-MED. Grupa SA, Centrum Radioterapii i Usprawniania	3
Wielkopolskie	Poznań	Wielkopolskie Oncology Centre	10*
		EuromedicOnkoterapia sp. z o.o. International Oncology Centre	2
Zachodniopomorskie	Szczecin	Zachodniopomorskie Oncology Centre Radiotherapy Clinical Department	5
	Koszalin	EuromedicOnkoterapia - International Oncology Centre	3

*University Hospital in Kraków, Wielkopolskie Oncology Centre in Poznań, and Professor Łukaszczyk Oncology Centre in Bydgoszcz were equipped with one accelerator each only for the purpose of intraoperative radiotherapy.

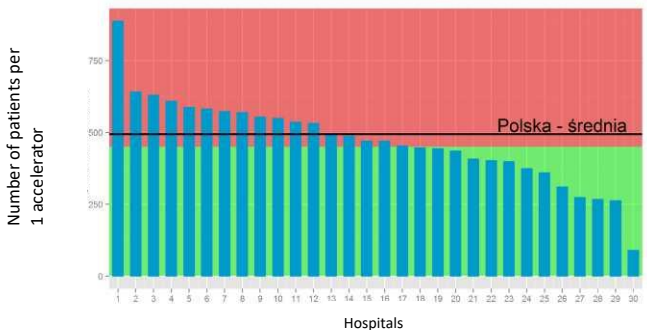
Source: compiled by DAiS based on data provided by the NFZ and a report on the state of radiotherapy in Poland (Gdańsk 2015).

Figure 238: Number of patients per one accelerator by voivodeship (2014)



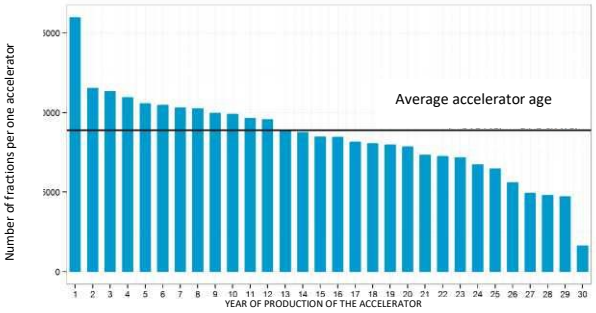
Source: compiled by DAiS based on the report on the state of radiotherapy in Poland (Gdańsk 2015), data provided by the NFZ and the Local Data Bank of the Main Statistical Office.

Figure 239: Number of patients per one accelerator in oncology hospitals in Poland (2014)



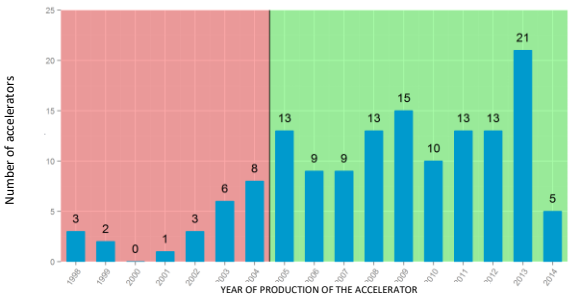
Source: compiled by DAiS based on data provided by the NFZ and a report on the state of radiotherapy in Poland (Gdańsk 2015).

Figure 240: Estimated number of fractions per one accelerator in particular Polish hospitals (2014)



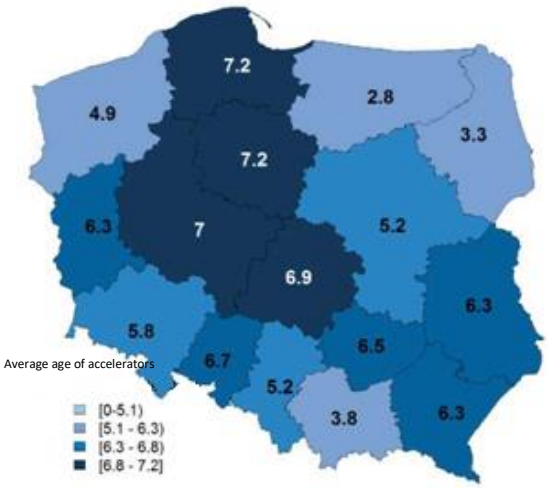
Source: compiled by DAiS based on data provided by the NFZ and a report on the state of radiotherapy in Poland (Gdańsk 2015).

241: Number of accelerators in Poland by the year of manufacture



Source: compiled by DAiS based on data provided by the NFZ and a report on the state of radiotherapy in Poland (Gdańsk 2015).

Figure 242: Average age of accelerators in Polish voivodeships (2014)



Source: compiled by DAiS based on data provided by the NFZ and a report on the state of radiotherapy in Poland (Gdańsk 2015).

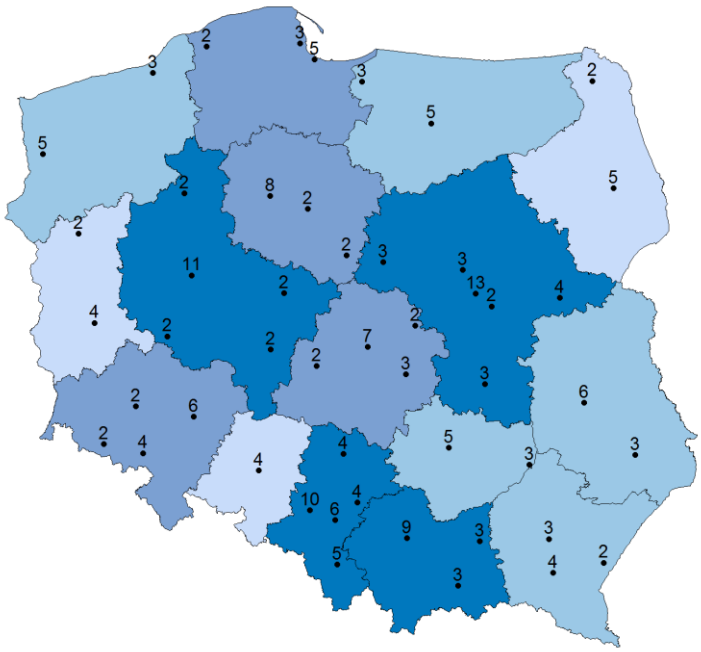
Results of the optimization model

Table 23: Results of the 2016–2025 optimisation model for the purchase and location of linear accelerators

Voivodeship	City/town	Number of accelerators by the end of 2015	Target number of accelerators in 2025
Dolnośląskie	Jelenia Góra	0	2
	Legnica	2	2
	Wałbrzych	3	4
	Wrocław	6	6
Kujawsko-Pomorskie	Bydgoszcz	8	8
	Toruń	0	2
	Włocławek	0	2
Lubelskie	BiałaPodlaska	0	2
	Lublin	6	8
	Zamość	0	2
Lubuskie	Gorzów Wielkopolski	0	2
	Zielona Góra	4	4
Łódzkie	Łódź	7	7
	Piotrków Trybunalski	0	0
	Sieradz	0	2
	Skierniewice	0	2
	Tomaszów Mazowiecki	3	3
Małopolskie	Kraków	9	9
	NowySącz	2	3
	Tarnów	3	3
Mazowieckie	Wieliszew	3	4
	Otwock	2*	2
	Płock	0	2
	Radom	0	3
	Siedlce	0	2
	Warsaw	13	13
Opolskie	Opole	3	4
Podkarpackie	Brzozów	4	4
	Rzeszów	3	4
	Tarnobrzeg	0	2
Podlaskie	Białystok	4	5
	Suwałki	0	2
Pomorskie	Gdańsk	4	5
	Gdynia	3	3
	Słupsk	0	2
Śląskie	Bielsko-Biała	4	5
	Częstochowa	2	4
	DąbrowaGórnicza	2*	4
	Gliwice	10	10
	Katowice	3+3*	6
Świętokrzyskie	Kielce	4	4
	Sandomierz	0	2
Warmińsko-Mazurskie	Elbląg	3	3
	Olsztyn	3	5
Wielkopolskie	Kalisz	0	3
	Konin	0	2
	Leszno	0	2
	Piła	0	2
	Poznań	10	10
Zachodniopomorskie	Koszalin	3	3
	Szczecin	5	5

Source: compiled by DAiS based on data provided by the KRN, NFZ.

Figure 243: Target number of linear accelerators in Polish cities in 2025 according to the 2016–2025 optimisation model for the purchase and location of linear accelerators



Source: compiled by DAiS based on data provided by the KRN and the NFZ.