NATIONAL PROGRAMME FOR ONCOLOGICAL DISEASES

CHALLENGES AND STRATEGIES

2024

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NATIONAL PROGRAMME FOR ONCOLOGICAL DISEASES

CHALLENGES AND STRATEGIES

TECHNICAL SHEET

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Lisbon, September 2024

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Summary in Plain Language

This report synthesizes the available information on oncological diseases in Portugal, utilizing data from various documentary sources of the National Health Service.

Current Situation

Oncological disease is a growing issue in Portugal, given the increasing incidence and mortality rates, following the European trend.

Oncological screening activity covers almost all primary healthcare units, ranging between 91-100%, maintaining the increase in the population coverage rate, with breast cancer screening reaching 99%, which exceeds the 90% target set by Europe's Beating Cancer Plan.

Regarding the value and quantity of dispensing antineoplastic and immunomodulatory drugs in NHS hospitals, there has been a steady increase over recent years.

Activities | 2023 – 2024

Over recent years, the PNDO has actively monitored the evolution of the National Health System's oncology activity regarding the implementation of population-based oncological screenings and has incorporated several Joint Actions of the European Union (EU). In 2023, the National Strategy for Fighting Cancer, Horizon 2030, was published by PNDO, transposing the European strategy of Europe's Beating Cancer Plan to Portugal.

Action plan | 2025

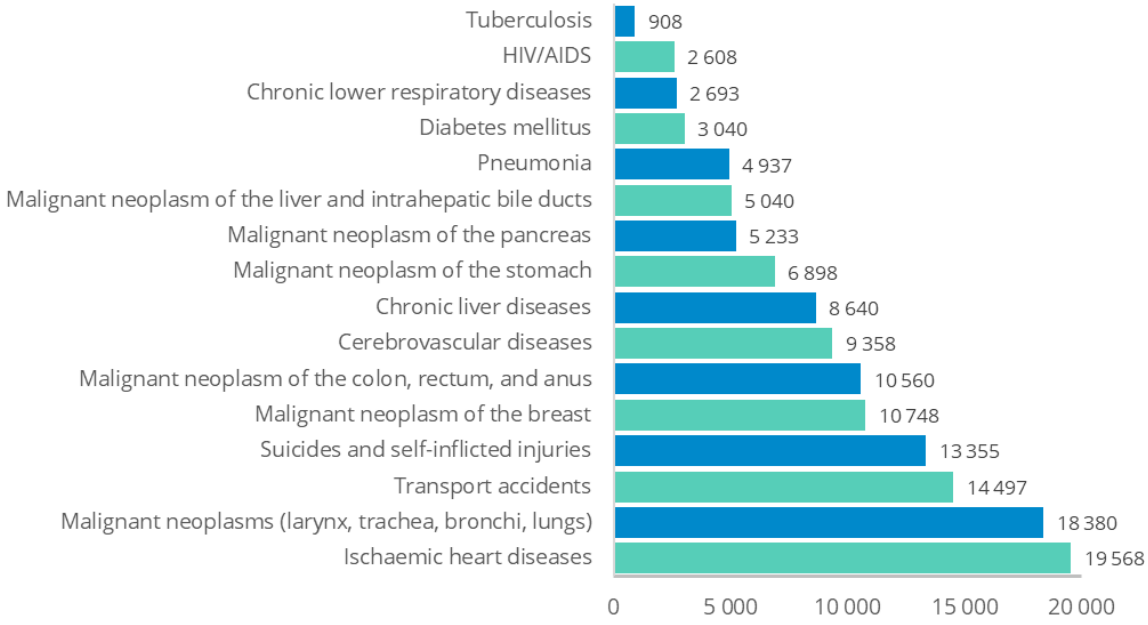
The planned activities are described with the intent to improve information, reduce incidence and mortality, promote quality and equity, and implement the National Cancer Control Strategy, Horizon 2030.

Chapter I

Situation Analysis

In Portugal, oncological diseases are among the leading causes of potential years of life lost, as illustrated in Figure 1. Noteworthy is the impact of malignant neoplasms of the trachea, bronchi, and lungs, as well as digestive neoplasms.

Figure 1. Potential Years of Life Lost by Causes of Death in Mainland Portugal | 2022



Source: Prepared by DGS/DSIA based on INE data, 2022. Analysis conducted in September 2024. The data correspond to the annual number of deaths of individuals residing in Portugal, classified by the basic causes of death of interest. This information was extracted according to the year of death occurrence and the age group of the deceased. Note: Potential Years of Life Lost refers to the number of years theoretically not lived by a given population due to premature death (before the age of 70). It is calculated using the formula (Oi × Ai), where Oi represents the number of deaths in age group i, and Ai is the number of years of life between the average age of the age group in which the death occurred and the age of 70.

1. Mortality

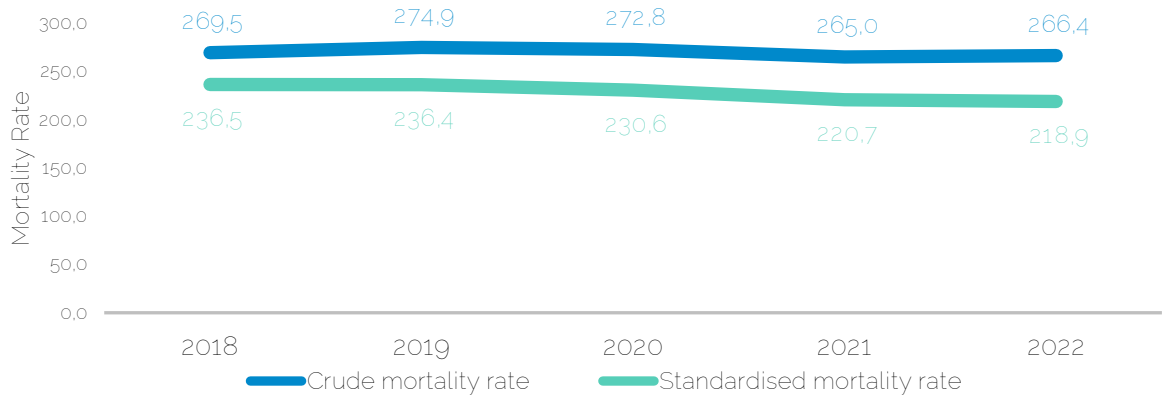
Cancer is the leading cause of death among European Union (EU) citizens under the age of 70 and the second leading cause of death when considering all EU citizens (1). In Portugal, cancer mortality over the past five years reveals a standardised mortality rate with a downward trend across all age groups. However, it remains consistently higher among males.

Table 1. Mortality from Malignant Tumours in Portugal | 2018–2022

	2018	2019	2020	2021	2022
Both sexes					
Number of deaths	27 849	28 462	28 323	27 577	27 834
Standardised mortality rate	236,5	236,4	230,6	220,7	218,9
Standardised mortality rate < 70 years	103,8	104,0	101,2	99,8	97,3
Male sex					
Number of deaths	16 599	16 814	16 747	16 171	16 171
Standardised mortality rate	338,1	333,9	323,8	305,3	302,1
SMR < 70 years	141,2	139,6	136,3	131,5	128,1
Female sex					
Number of deaths	11 250	11 648	11 576	11 406	11 501
Standardised mortality rate	162,8	166,1	162,2	158,1	157,0
SMR < 70 years	71,0	72,9	70,4	72,1	70,4

ICD-10 Diagnostic Codes: C00-C97. Rates per 100,000 inhabitants. Direct standardisation method (five-year age groups). European standard population (Eurostat, 2013). Source: Prepared by DSIA/DGS, 2024.

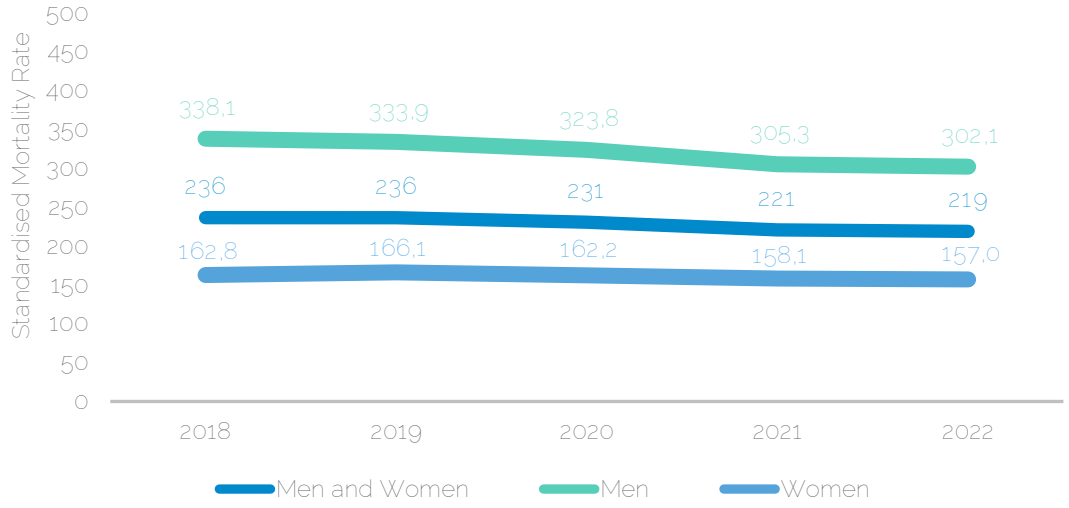
Figure 2. Mortality Rates from Malignant Tumours in Portugal | 2018–2022



ICD-10 Diagnostic Codes: C00–C97. Rates per 100,000 inhabitants. Direct standardisation method (five-year age groups). European standard population (Eurostat, 2013). Source: Prepared by DSIA/DGS, 2024.

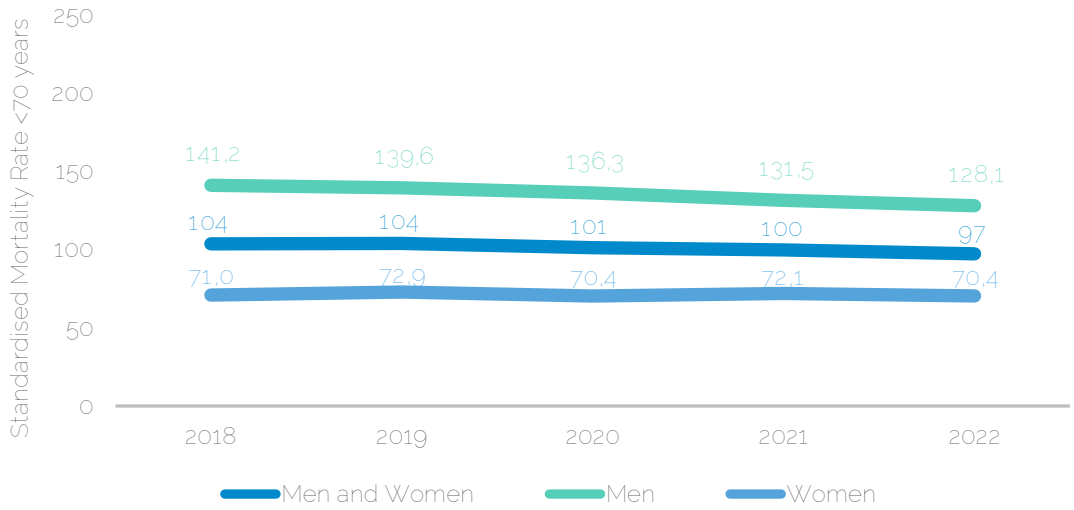
The analysis of variations in mortality due to malignant neoplasms shows that, during the period under review (2018 to 2022), the number of deaths and the crude mortality rate exhibited minor fluctuations. The standardised rate maintained its downward trend, with a marked decrease observed between 2020 and 2022. During the same period, there was a reduction in premature mortality (below 70 years of age), which was more pronounced in males than in females.

Figure 3. Standardised Mortality Rate from Malignant Tumours in Portugal, by Sex | 2018–2022



Diagnosis Codes ICD10: C00-C97. Rates per 100,000 inhabitants. Direct standardisation method (five-year age groups). European standard population (Eurostat, 2013). Source: Prepared by DSIA/DGS, 2024.

Figure 4. Standardised Mortality Rate for Malignant Tumours, < 70 years, Portugal | 2018–2022



Diagnosis Codes ICD10: C00-C97. Rates per 100,000 inhabitants. Direct standardisation method (five-year age groups). European standard population (Eurostat, 2013). Source: Prepared by DSIA/DGS, 2024.

1. Mortality by Pathology Group

The following tables describe the evolution of mortality for selected groups of malignant pathologies in Portugal, by sex, between 2018 and 2022. A reduction is highlighted in the mortality rates for colorectal cancer, stomach cancer, and prostate and lung cancer. Notably, this reduction in lung cancer mortality occurred despite an increase in the number of deaths recorded in the final year of the series. The mortality rate for breast cancer remained stable during this period.

Table 2. Mortality from Malignant Tumours of the Trachea, Bronchi, and Lung in Portugal | 2018 - 2022

	2018	2019	2020	2021	2022
Both sexes					
Number of Deaths	4 307	4 391	4 307	4 388	4 410
Standardised Mortality Rate	37,3	37,3	36,0	35,8	35,4
Standardised Mortality Rate < 70 years	20,3	21,0	19,8	19,7	18,8
Male					
Number of Deaths	3 270	3 260	3 204	3 248	3 214
Standardised Mortality Rate	65,7	63,8	61,2	60,6	58,9
Standardised Mortality Rate < 70 years	33,6	33,9	32,3	31,7	29,5
Female					
Number of Deaths	1 037	1 131	1 103	1 140	1 196
Standardised Mortality Rate	15,6	16,9	16,2	16,4	17,0
Standardised Mortality Rate < 70 years	8,6	9,7	8,9	9,3	9,6

Diagnosis Codes ICD10: C33 and C34. Rates per 100,000 inhabitants. Direct standardisation method (five-year age groups). European standard population (Eurostat, 2013). Source: Prepared by DSIA/DGS, 2024.

Table 3. Mortality from Malignant Tumour of the Female Breast, in Portugal | 2018 - 2022.

	2018	2019	2020	2021	2022
Female sex					
Number of Deaths	1 763	1 873	1 785	1 793	1 885
Standardized Mortality Rate	26,2	27,3	25,6	25,9	26,5
Standardized Mortality Rate < 70 years	14,4	15,3	13,8	15,5	14,9

ICD10 Diagnosis Codes: C50. Rates per 100,000 inhabitants. Direct standardization method (five-year age groups). European standard population (Eurostat, 2013). Source: Prepared by DSIA/DGS, 2024.

Table 4. Mortality from Malignant Tumour of the Colon and Rectum in Portugal, by Sex | 2018 - 2022

	2018	2019	2020	2021	2022
Both sexes					
Number of Deaths	3 756	3 772	3 753	3 548	3 536
Standardized Mortality Rate	31,4	30,8	30,2	27,9	27,3
Standardized Mortality Rate < 70 years	11,0	10,9	11,5	10,2	10,1
Male sex					
Number of Deaths	2 190	2 198	2 204	2 043	2 026
Standardized Mortality Rate	44,9	43,8	42,7	38,7	37,6
Standardized Mortality Rate < 70 years	15,4	14,5	15,8	14,0	13,2
Female sex					
Number of Deaths	1 566	1 574	1 549	1 505	1 510
Standardized Mortality Rate	21,8	21,7	21,0	20,0	19,8
Standardized Mortality Rate < 70 years	7,2	7,8	7,8	6,9	7,3

ICD10 Diagnosis Codes: C19-C20. Rates per 100,000 inhabitants. Direct standardization method (five-year age groups). European standard population (Eurostat, 2013). Source: Prepared by DSIA/DGS, 2024.

Table 5. Mortality from Malignant Stomach Tumour in Portugal, by Sex | 2018 - 2022.

	2018	2019	2020	2021	2022
Both sexes					
Number of Deaths	2 226	2 245	2 131	2 015	1 987
Standardized Mortality Rate	18,9	18,6	17,3	16,1	15,6
Standardized Mortality Rate < 70 years	8,3	7,7	7,7	7,3	6,9
Male					
Number of Deaths	1 355	1 365	1 273	1 215	1 210
Standardized Mortality Rate	27,4	27,0	24,5	22,9	22,4
Standardized Mortality Rate < 70 years	12,1	11,7	10,9	9,8	9,8
Female					
Number of Deaths	871	880	858	800	777
Standardized Mortality Rate	12,5	12,3	11,9	11,1	10,5
Standardized Mortality Rate < 70 years	5,0	4,2	4,9	5,0	4,3

Diagnostic Codes ICD10: C16. Rates per 100,000 inhabitants. Direct standardization method (five-year age groups). European standard population (Eurostat, 2013). Source: Prepared by DSIA/DGS, 2024.

Table 6. Mortality from Malignant Tumour of the Cervix in Portugal | 2018 - 2022

	2018	2019	2020	2021	2022
Female sex					
Number of Deaths	225	221	203	207	176
Standardized Mortality Rate	3,5	3,4	3,1	3,1	2,6
Standardized Mortality Rate < 70 years	2,5	2,5	2,4	2,4	1,8

ICD10 Diagnostic Codes: C53. Rates per 100,000 inhabitants. Direct standardization method (five-year age groups). European standard population (Eurostat, 2013). Source: Prepared by DSIA/DGS, 2024.

Table 7. Mortality from Malignant Tumours of the Prostate in Portugal | 2018 - 2022

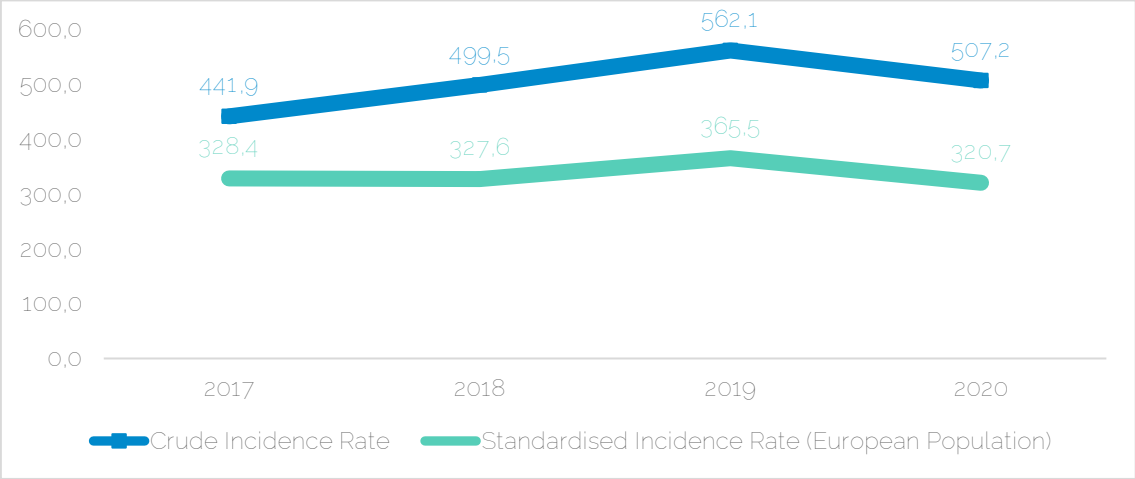
	2018	2019	2020	2021	2022
Male sex					
Number of Deaths	1859	1901	1945	1777	1792
Age-standardized Mortality Rate	39,4	38,9	38,5	34,2	33,6
Age-standardized Mortality Rate < 70 years	4,7	4,9	4,3	4,8	4,5

ICD10 Diagnosis Codes: C61. Rates per 100,000 inhabitants. Direct standardization method (five-year age groups). European standard population (Eurostat, 2013). Source: Prepared by DSIA/DGS, 2024.

2. Incidence

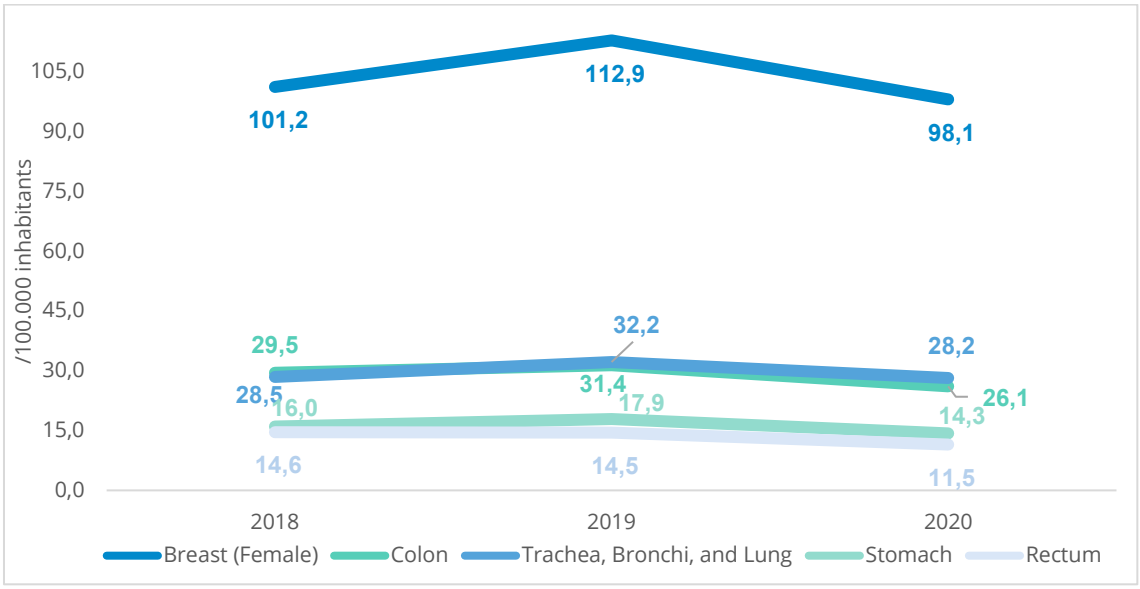
In 2018 and 2019, data began to be compiled by the National Oncology Registry (RON), with a methodological change in data collection. Consequently, a break in the data series should be considered starting from 2018. Furthermore, the decline in incidence observed in 2020 may potentially be linked to the impact of the COVID-19 pandemic on the diagnosis of oncological diseases. Between 2017 and 2019, an increase in the incidence rate was confirmed.

Figure 5. Incidence Rate (per 100,000 inhabitants) of Malignant Tumours in Portugal | 2017 - 2020



Source: National Oncology Registry, 2023.

Figure 6. Incidence Rate (per 100,000 inhabitants) of Selected Oncological Pathologies in Portugal | 2018–2020



Source: National Oncology Registry, 2023.

Table 8. New Cases, Crude and Standardised Incidence Rates (per 100,000 inhabitants), by Sex in Portugal | 2020

Pathology No. of New Cases Crude Incidence Standardised Incidence (European Population)	Pathology No. of New Cases Crude Incidence Standardised Incidence (European Population)	Pathology No. of New Cases Crude Incidence Standardised Incidence (European Population)	Pathology No. of New Cases Crude Incidence Standardised Incidence (European Population)
Both Sexes			
Trachea, Bronchi, and Lung	4 737	45,6	28,2
Oesophagus	568	5,5	3,5
Stomach	2 615	25,2	14,3
Larynx	458	4,4	3,0
Thyroid Gland	1 606	15,5	13,3
Colon	4 689	45,1	26,1
Kidney	1 070	10,3	6,9
Bladder	2 562	24,6	13,6
Non-Hodgkin Lymphoma	1 974	19,0	12,4
Malignant Melanoma of the Skin	1 031	9,9	6,6
Male Sex			
Trachea, Bronchi, and Lung	3 289	66,5	42,5
Oesophagus	489	9,9	6,7
Stomach	1 582	32,0	19,4
Larynx	436	8,8	6,2
Thyroid Gland	402	8,1	6,6
Colon	2 681	54,2	33,6
Kidney	716	14,5	9,9
Bladder	2 015	40,8	24,0
Prostate	5 776	116,9	70,9
Non-Hodgkin Lymphoma	1 047	21,2	14,6
Malignant Melanoma of the Skin	481	9,7	6,4
Female Sex			
Trachea, Bronchi, and Lung	1 448	26,6	16,3
Oesophagus	79	1,4	0,8
Stomach	1 033	18,9	10,2
Larynx	22	0,4	0,3
Thyroid Gland	1 204	22,1	19,5
Colon	2 008	36,8	19,9
Breast	7 425	136,2	98,1
Body of the Uterus	925	17,0	10,0
Kidney	354	6,5	4,4
Bladder	547	10,0	5,2
Non-Hodgkin Lymphoma	927	17,0	10,5
Malignant Melanoma of the Skin	550	10,1	6,8

Source: National Oncology Registry, 2023.

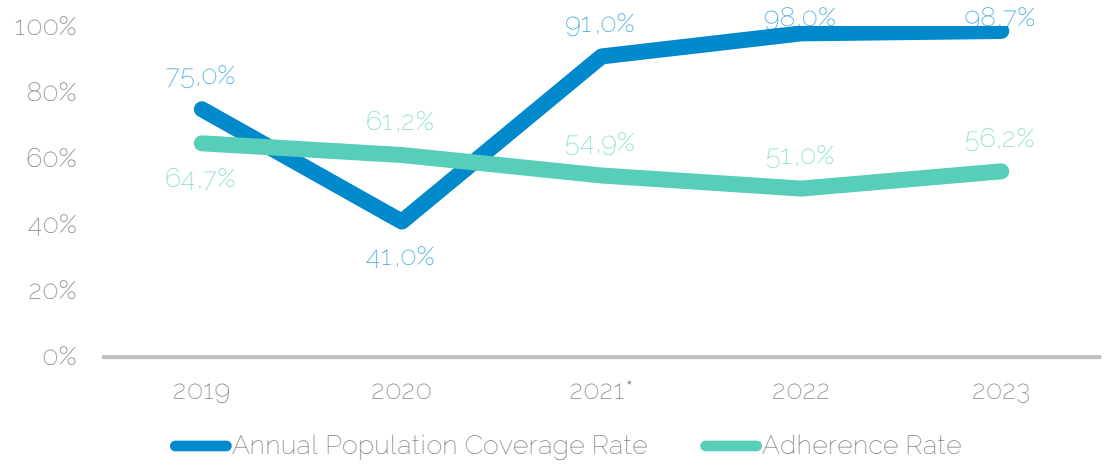
3. Population-Based Oncological Screening

Portugal has three population-based oncological screening programmes, specifically for breast cancer, cervical cancer, and colorectal cancer (2).

3.1. Breast Cancer Screening

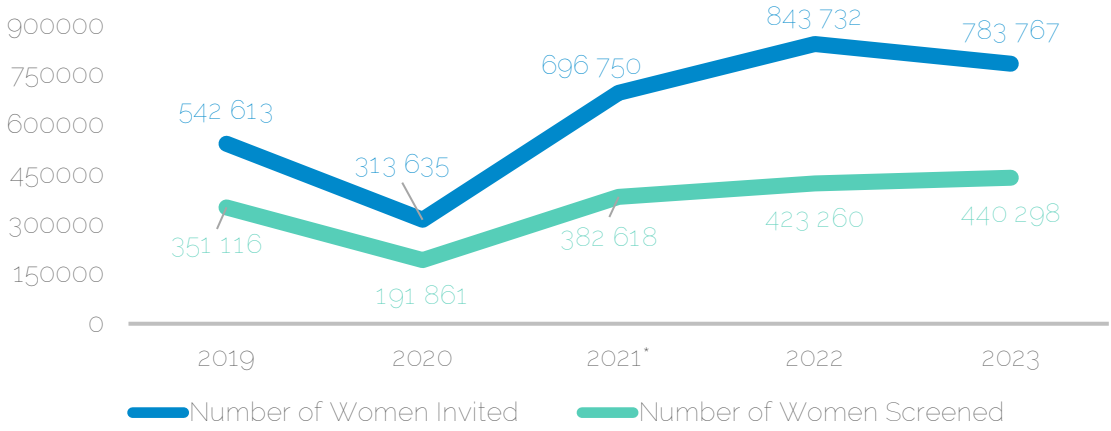
Breast cancer screening is currently implemented across all health regions, achieving 100% geographical coverage of the Functional Units in mainland Portugal and the Autonomous Regions of the Azores and Madeira. In 2023, Portugal exceeded the target set by the European Beating Cancer Plan (90% of the population invited), with 99% of the population invited to participate. The screening adherence rate was 56%, with a total of 440,298 women screened (413,300 in mainland Portugal, 11,927 in the Azores, and 15,071 in Madeira).

Figure 7. Annual Population Coverage Rate and Participation Rate – Breast Cancer Screening | 2019 - 2023



*Year up to which data from the Autonomous Region of Madeira is not included. Source: NCR/DE-SNS, COA, and DRS/SESARAM, EPERAM - Screening Centre of the Autonomous Region of Madeira, 2024.

Figure 8. Number of Women Invited and Screened – Breast Cancer Screening | 2019 - 2023



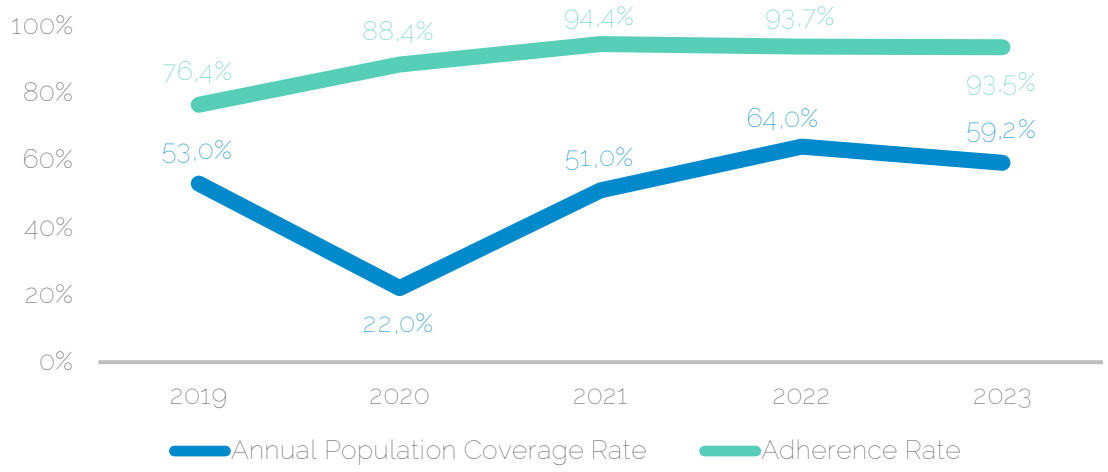
*Year up to which data from the Autonomous Region of Madeira is not included. Source: NCR/DE-SNS, COA, and DRS/SESARAM, EPERAM - Screening Centre of the Autonomous Region of Madeira, 2024.

3.2 Cervical Cancer Screening

Cervical cancer screening is currently implemented in all health regions, achieving 91% geographical coverage of Functional Units in mainland Portugal and the Azores. The population coverage rate in mainland Portugal and the Azores was 59%. The screening adherence rate reached 94%, with a total of 310,976 women screened (301,477 in mainland Portugal and 9,499 in the Azores). Of the women screened in mainland Portugal and the Azores, 13.5% (n = 20,206) were referred for hospital care (2).

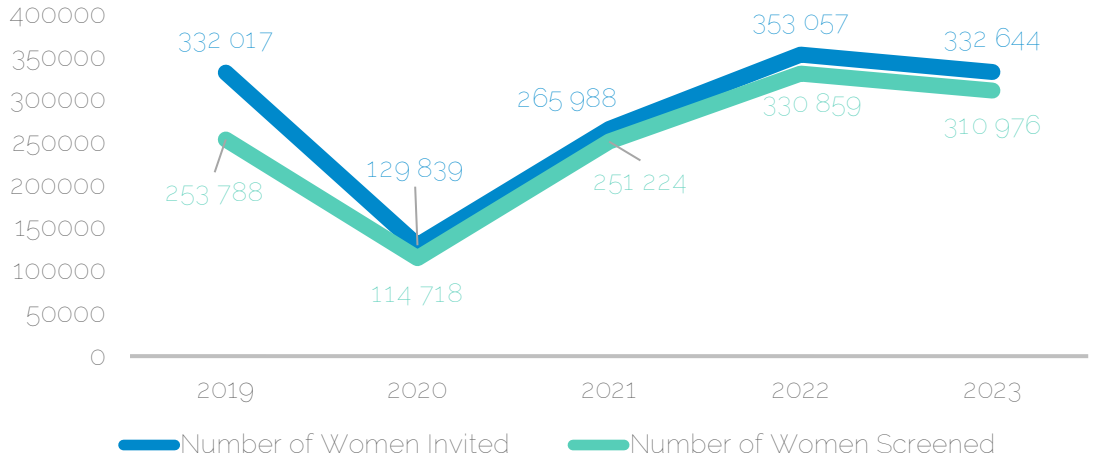
In 2023, the Autonomous Region of Madeira launched a pilot programme for this screening, covering 23% of the region's health centres. In Madeira, 624 women were screened, of whom 45 tested positive for human papillomavirus (HPV).

Figure 9. Annual Population Coverage Rate and Participation Rate - Cervical Cancer Screening - Continental Portugal and Autonomous Region of the Azores | 2019–2023



Source: ARS and COA, 2019 to 2023, and NCR/DE-SNS and COA 2024.

Figure 10. Evolution of the Number of Women Invited and Screened - Cervical Cancer Screening - Continental Portugal and Autonomous Region of the Azores | 2019–2023



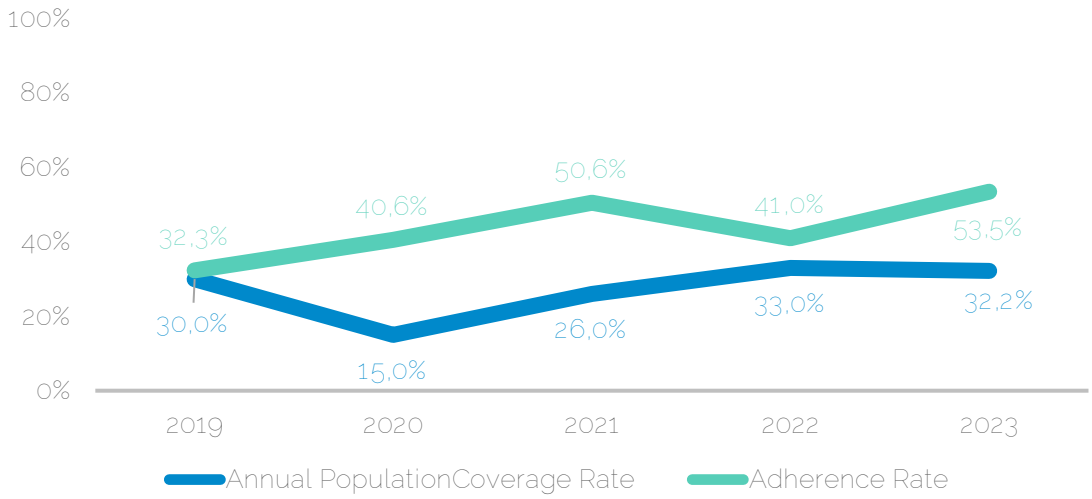
Source: ARS and COA, 2019 to 2023, and NCR/DE-SNS and COA 2024.

3.3. Colorectal Cancer Screening

Colorectal cancer screening is implemented across all health regions, with geographical coverage of Functional Units at 89% in mainland Portugal and 100% in the Azores. With an average eligible population of approximately 1.5 million users per year, the population coverage rate was 32%. The screening adherence rate increased significantly compared to 2022, reaching 54%, with a total of 277,540 users screened (270,365 in mainland Portugal and 7,175 in the Azores). Among those screened in mainland Portugal and the Azores, 685 were referred for hospital care (2).

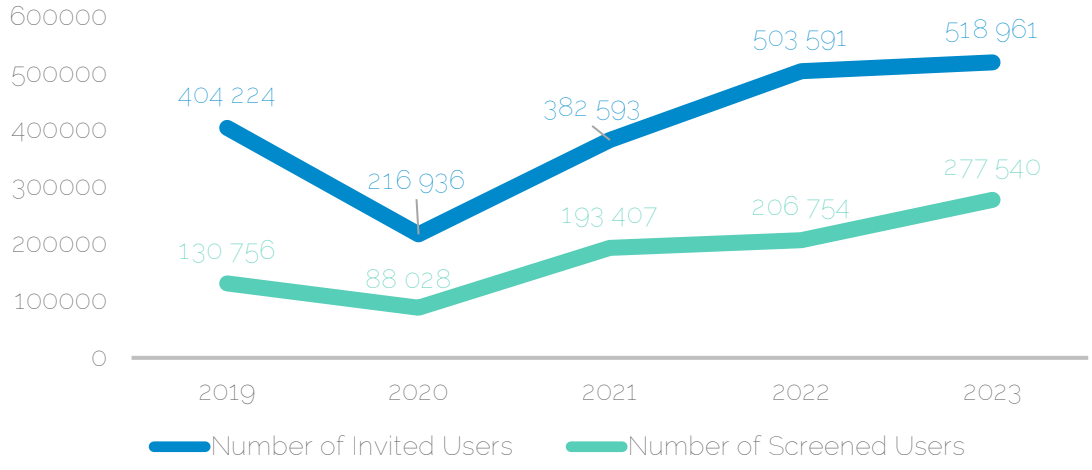
In 2023, the Autonomous Region of Madeira initiated a pilot programme for this screening, achieving geographical coverage of 8% of the region's health centres. In Madeira, 85 users were screened.

Figure 11. Annual Population Coverage Rate and Participation Rate - Colorectal Cancer Screening - Continental Portugal and Autonomous Region of the Azores | 2019–2023



Source: ARS and COA, 2019 to 2023, and NCR/DE-SNS and COA 2024.

Figure 12. Evolution of the Number of Invited and Screened - Colorectal Cancer Screening - Mainland Portugal and Azores Autonomous Region | 2019 - 2023



Source: ARS and COA, 2019 to 2023, and NCR/DE-SNS and COA 2024.

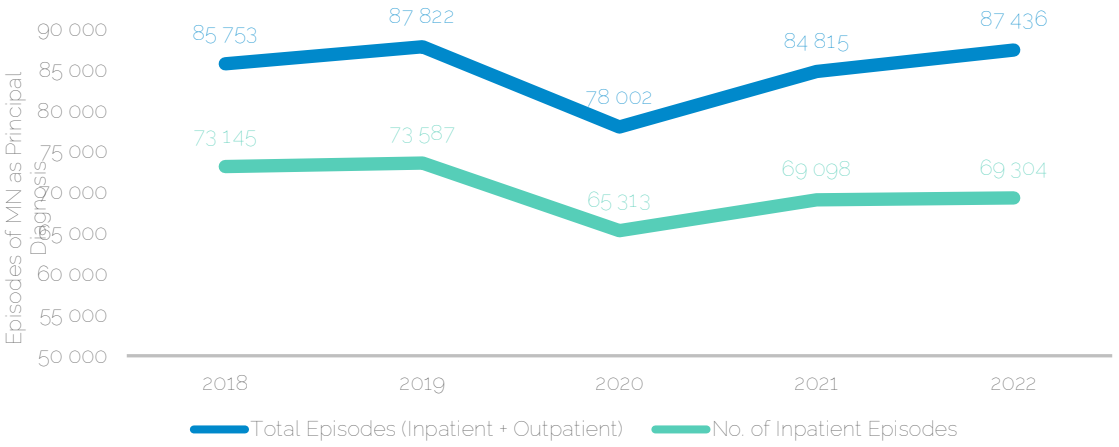
4. Hospital Care in Oncological Diseases

In 2022, a total of 801,867 hospital admissions were registered in the National Health Service (SNS), of which 69,304 (8.6%) corresponded to patients with a primary diagnosis of malignant neoplasm. This trend has remained consistent over the past five years.
The analysis focused on hospital admissions with a primary diagnosis of malignant neoplasm (ICD-10 Codes C00 to C97), excluding in situ carcinomas and tumours of uncertain behaviour, across all SNS hospitals, excluding the Autonomous Regions of the Azores and Madeira.

4.1. Hospital Production

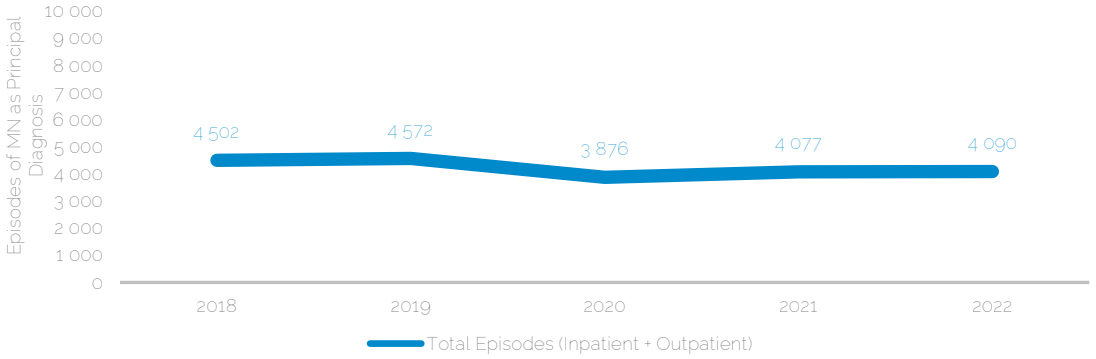
The following describes the evolution of national hospital production in the context of providing care for oncological patients.

Figure 13. Hospital Production with Principal Diagnosis of Malignant Neoplasm | 2018 - 2022



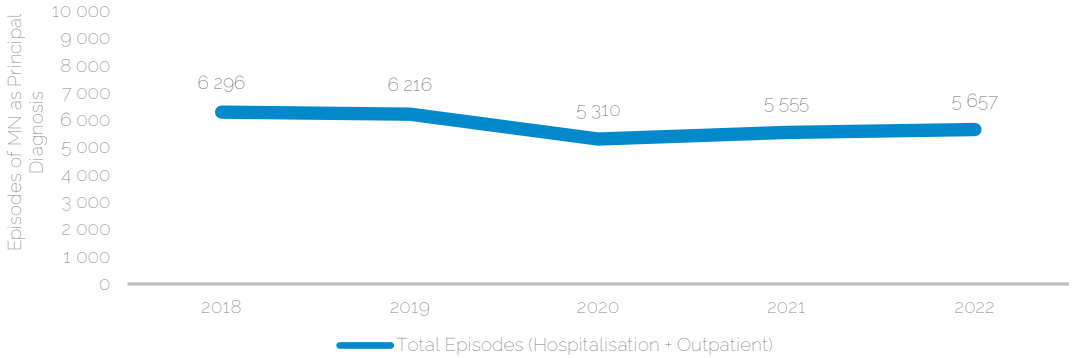
ICD10-CM Diagnosis Code: C00-C97. Source: BIMH - Business Intelligence for Hospital Morbidity, SPMS/ACSS (data extracted on 01/08/2024) and updated since 2018.

Figure 14. Hospital Production with Principal Diagnosis of Malignant Neoplasm of the Stomach | 2018 - 2022



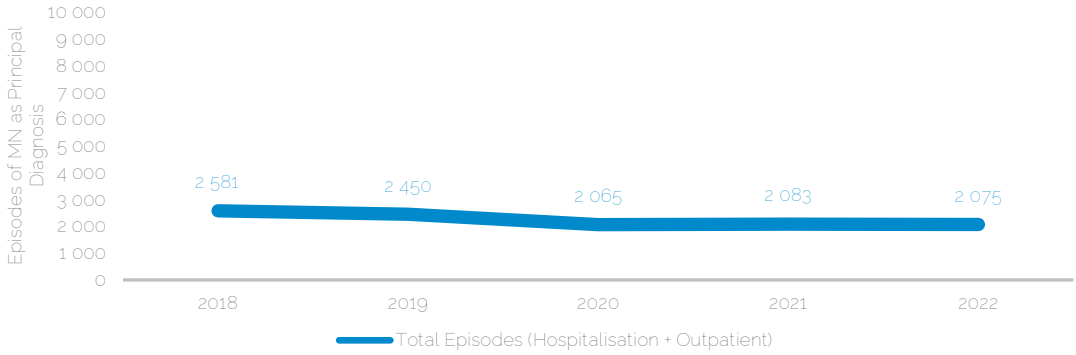
ICD10-CM Diagnosis Code: C16; C49A2. Source: BIMH - Business Intelligence for Hospital Morbidity, SPMS/ACSS (data extracted on 01/08/2024) and updated since 2018.

Figure 15. Hospital Production with Principal Diagnosis of Malignant Neoplasm of the Colon | 2018–2022



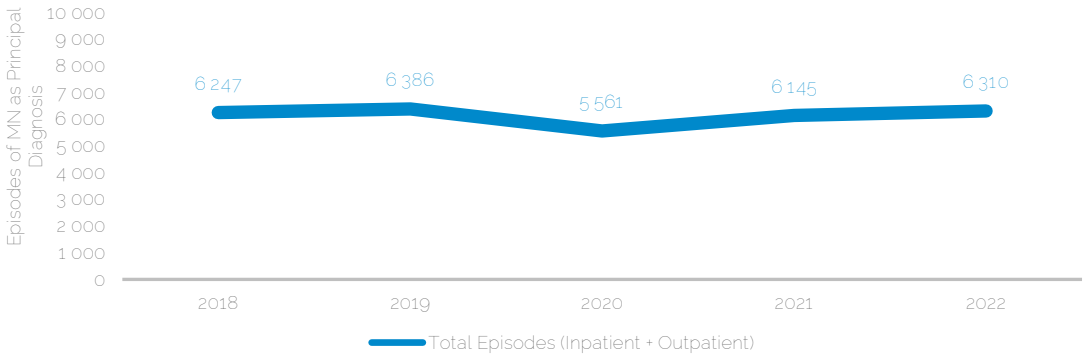
ICD10-CM Diagnosis Code: C18; C49A4. Source: BIMH - Business Intelligence for Hospital Morbidity, SPMS/ACSS (data extracted on 01/08/2024) and updated since 2018.

Figure 16. Hospital Production with Principal Diagnosis of Malignant Neoplasm of the Rectosigmoid Junction, Rectum, and Anus | 2018–2022



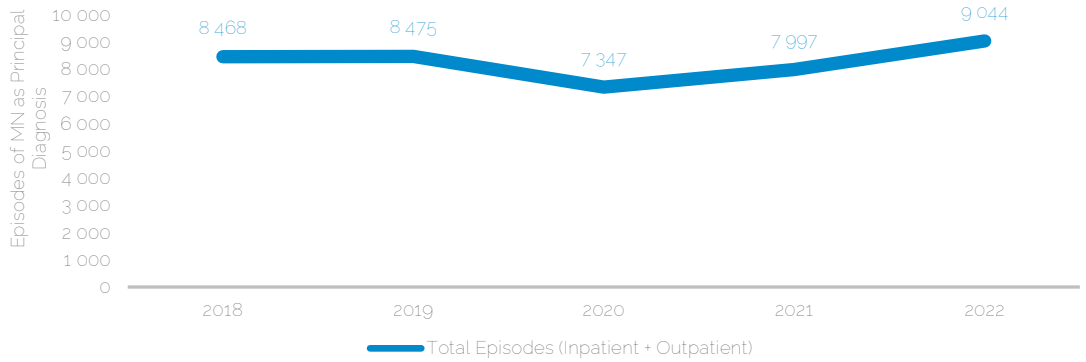
ICD10-CM Diagnosis Code: C20; C49A5. Source: BIMH - Business Intelligence for Hospital Morbidity, SPMS/ACSS (data extracted on 01/08/2024) and updated since 2018.

Figure 17. Hospital Production with Principal Diagnosis of Malignant Neoplasm of the Trachea, Bronchi, and Lung | 2018–2022



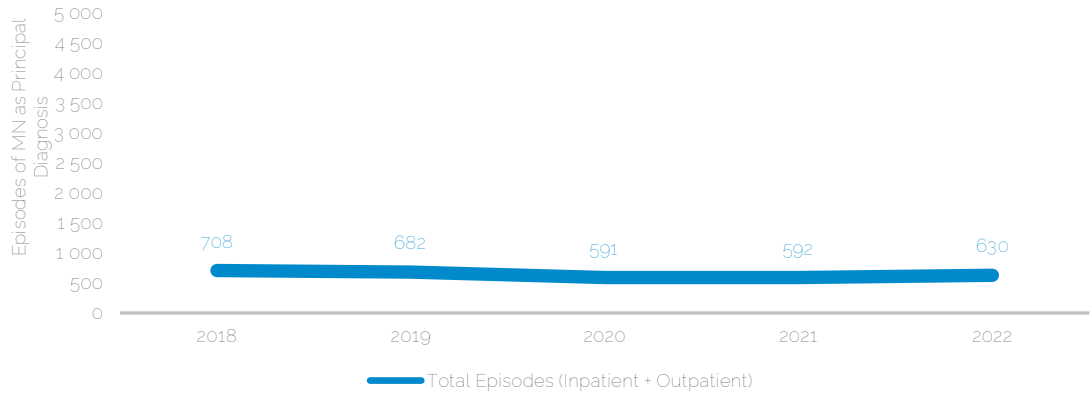
ICD10-CM Diagnosis Code: C33-C34; C7A090. Source: BIMH - Business Intelligence for Hospital Morbidity, SPMS/ACSS (data extracted on 01/08/2024) and updated since 2018.

Figure 18. Hospital Production with Principal Diagnosis of Malignant Neoplasm of the Female Breast | 2018–2022



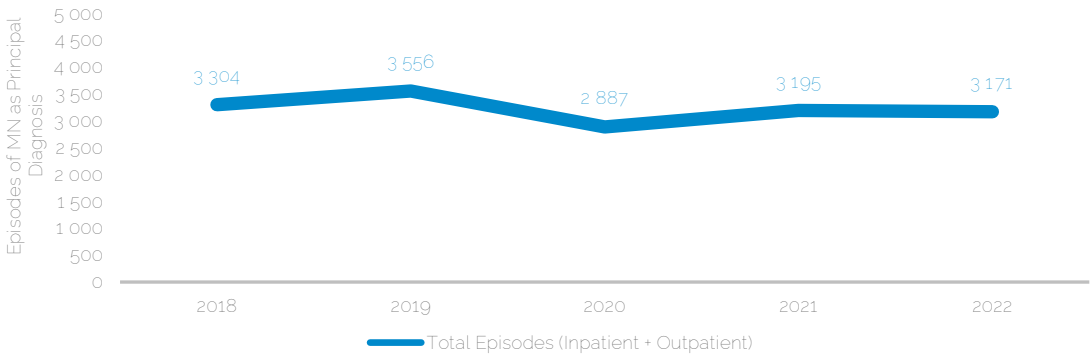
ICD10-CM Diagnosis Code: C50. Source: BIMH - Business Intelligence for Hospital Morbidity, SPMS/ACSS (data extracted on 01/08/2024) and updated since 2018.

Figure 19. Hospital Production with Principal Diagnosis of Malignant Neoplasm of the Cervix Uteri | 2018–2022



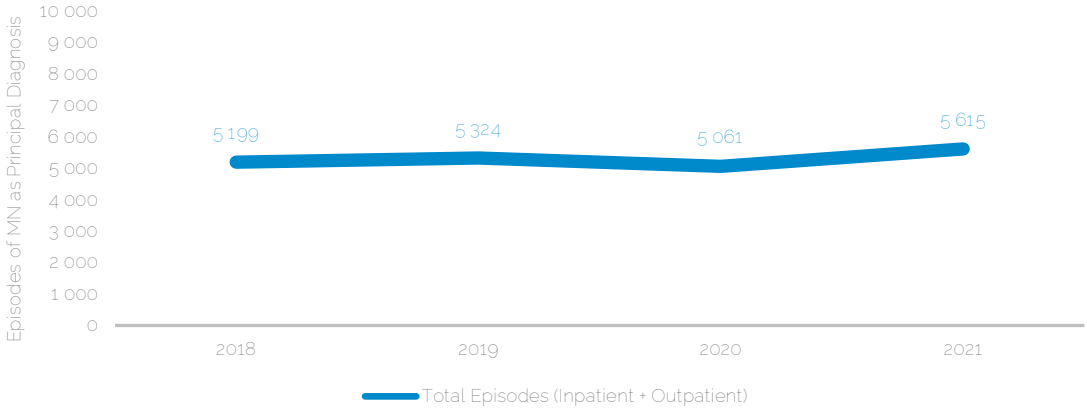
ICD10-CM Diagnosis Code: C53. Source: BIMH - Business Intelligence for Hospital Morbidity, SPMS/ACSS (data extracted on 01/08/2024) and updated since 2018.

Figure 20. Hospital Production with Principal Diagnosis of Malignant Neoplasm of the Prostate | 2018–2022



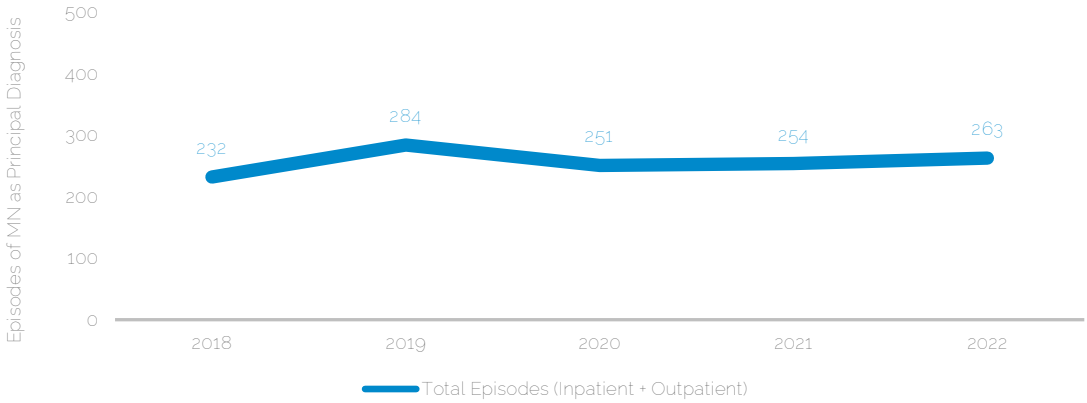
ICD10-CM Diagnosis Code: C61. Source: BIMH - Business Intelligence for Hospital Morbidity, SPMS/ACSS (data extracted on 01/08/2024) and updated since 2018.

Figure 21. Hospital Production with Principal Diagnosis of Malignant Neoplasm of the Bladder | 2018–2022



ICD10-CM Diagnosis Code: C67. Source: BIMH - Business Intelligence for Hospital Morbidity, SPMS/ACSS (data extracted on 01/08/2024) and updated since 2018.

Figure 22. Hospital Production with Principal Diagnosis of Malignant Neoplasm of the Testis | 2018–2022



ICD10-CM Diagnosis Code: C62. Source: BIMH - Business Intelligence for Hospital Morbidity, SPMS/ACSS (data extracted on 01/08/2024) and updated since 2018.

4.2. Radiotherapy

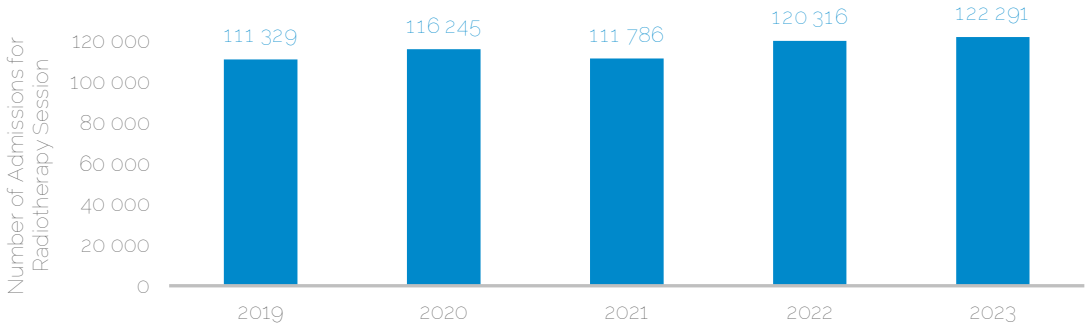
Between 2019 and 2023, there was an approximate 60% increase in the number of patients treated with radiotherapy (Table 9).

Table 9. Hospital Production for Radiotherapy Session and Treated Patients | 2019–2023

	2019	2020	2021	2022	2023
Both Sexes					
Total Production (Simple + Complex)	396 746	403 614	397 787	412 632	377 012
SNS Production (Simple + Complex)	339 648	346 064	341 411	349 270	319 638
Number of Patients Treated	76 201	76 400	94 163	103 562	122 291

Source: SICA/ACSS, 2024.

Figure 23. Number of Admissions for Radiotherapy Sessions, Mainland Portugal | 2019–2023

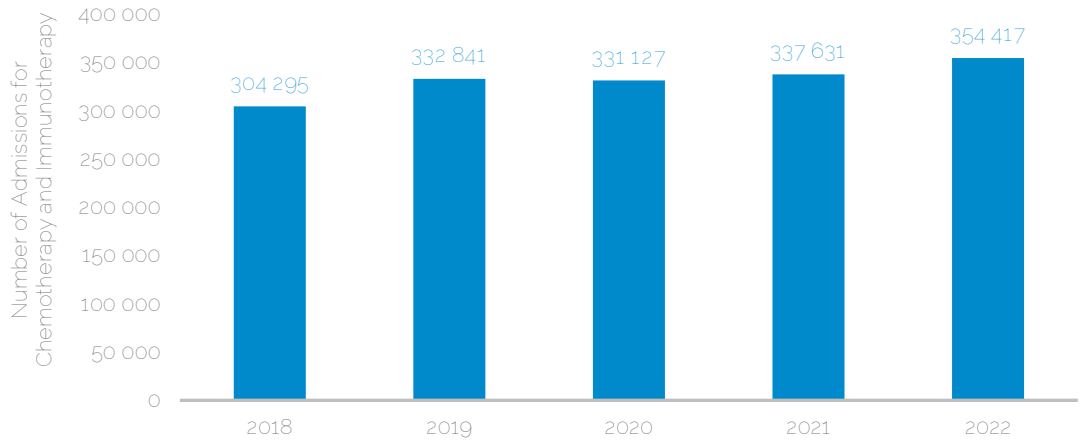


Source: SICA/ACSS, 2024.

4.3. Chemotherapy and Immunotherapy

The number of patients treated with chemotherapy and immunotherapy has been gradually and steadily increasing in recent years, with almost all treatments administered on an outpatient basis. In 2022, over 350,000 patients received treatment.

Figure 24. Number of Admissions for Chemotherapy and Immunotherapy, Mainland Portugal | 2018–2022

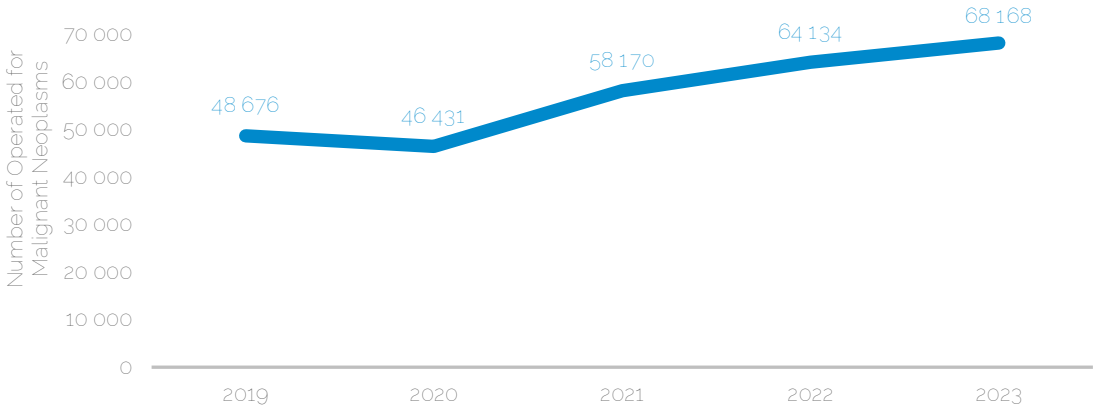


Source: SICA/ACSS, 2024.

4.4. Oncological Surgery

Between 2019 and 2023, there was a 40% increase in the number of patients undergoing surgery classified as malignant neoplasm surgery by the Central Administration of the Health System (ACSS). This increase was accompanied by a rise in the number of patients operated on beyond the maximum guaranteed response times (TMRG).

Figure 25. Number of Surgeries for Malignant Neoplasms, Mainland Portugal | 2019–2023



Source: UGA, ACSS 2024.

Table 10. Surgical Activity in Malignant Neoplasms, Mainland Portugal | 2019–2023

	2019	2020	2021	2022	2023
Total Operated	628 282	509 783	629 889	672 754	716 025
Total Operated TE > TMRG	144 407	130 366	116 975	114 836	143 773
% Total Operated > TMRG	23,00%	25,60%	18,60%	17,10%	20,10%
Total Operated Priorities	163 606	152 675	185 094	200 080	203 319
Total Prioritised Operated TE > TMRG	28 309	25 197	29 152	34 134	41 423
% Total Prioritised Operated TE > TMRG	17,30%	16,50%	15,70%	17,10%	20,40%
Operated Malignant Neoplasms	48 676	46 431	58 170	64 134	68 168
Operated Malignant Neoplasms with TE > TMRG	11 709	11 536	12 408	15 890	17 995
% Operated Malignant Neoplasms with TE > TMRG	24,10%	24,80%	21,30%	24,80%	26,40%
Prioritised NM Operated	31 057	30 638	38 331	40 566	43 315
Prioritised TE > TMRG NM Operated	7 709	7 365	7 893	9 916	11 754
Operated Prioritised Malignant Neoplasms P3 and P4	4 105	3 651	4 248	4 342	4 903
Operated Prioritised Malignant Neoplasms (P3 and P4) TE > TMRG	1 491	1 256	1 451	1 585	1 989
% Operated Prioritised Malignant Neoplasms (P3 and P4) TE > TMRG	36,30%	34,40%	34,10%	36,50%	40,60%

Source: Indicators of 31/12/2023, extracted on 17/02/2024, UGA/ACSS, 2024 (Official Values)

4.5. Oncology Capacity – 2023

To assess the resources available within the National Health Service (SNS) for managing oncological diseases in adults, the National Programme for Oncological Diseases (PNDO) conducted a survey in 2023, distributed to 47 hospital units. The results, summarised in this subsection, are detailed in the "2023 Survey Report: Oncology Resources in the SNS," prepared by the PNDO (3). The response rate was 83%.

4.5.1. Multidisciplinary Meetings

Therapeutic decision meetings/multidisciplinary group consultations are established in 90% (n = 26) of the 29 hospital units that completed the general institutional questionnaire. Most institutions organise these meetings by pathology area (n = 23).

4.5.2. Medical Oncology Services

Most participating institutions reported having oncologists on staff, totalling 251 Medical Oncology specialists. It is important to note that a specialist may hold positions in more than one SNS institution.

Of the identified oncologists, 90% (225 specialists) are employed full-time (40 hours/week). Additionally, 60% of the institutions (21 hospital units) conduct specialised training programmes in Medical Oncology.

In 2023, the participating institutions reported 529,667 Medical Oncology consultations, of which 42,562 (8%) were initial consultations. This indicates a total number of over 100,000 patients under follow-up care.

4.5.3. Radiation Oncology Services

Radiotherapy activities are concentrated in 11 centres, with professionals collaborating in multidisciplinary consultations at 7 additional centres. A total of 107 Radiation Oncology specialists were identified, an increase compared to 2020. Of these, 71 (66%) are employed full-time (40 hours per week).

Compared to 2020, data from 2022 revealed a persistent increase in the care burden, as reflected in the number of initial consultations per specialist in three institutions: IPO Lisbon, IPO Coimbra, and Hospital de Santarém.

4.5.4. Day Hospital Activities

Of the 35 institutions that responded to the survey, 31 (89%) have a Day Hospital. Units without an established Day Hospital are those without oncologists on staff.

The minimum operating time for these services is 7 hours, with a maximum of 12 hours. Most institutions operate the service on all weekdays (1 institution reported weekly operations of less than 5 days, and 7 did not specify the service's operating days), with an average of 58 treatments performed daily (ranging from 10 to 250).

In 28 hospital units, therapy preparation is carried out in the Hospital Pharmacy.

4.5.5. Radiotherapy Unit Activities

Eleven institutions reported having Radiotherapy Services.

A total of 37 linear accelerators were identified, 29 of which can perform intensity-modulated radiotherapy (IMRT). The daily operating time of these devices ranges from 5 to 14 hours, with weekly operational periods of 5 days. Notably, 2 of the 37 institutions with Radiotherapy Services operate with only one linear accelerator.

Additionally, seven hospital units reported having the capacity to perform brachytherapy.

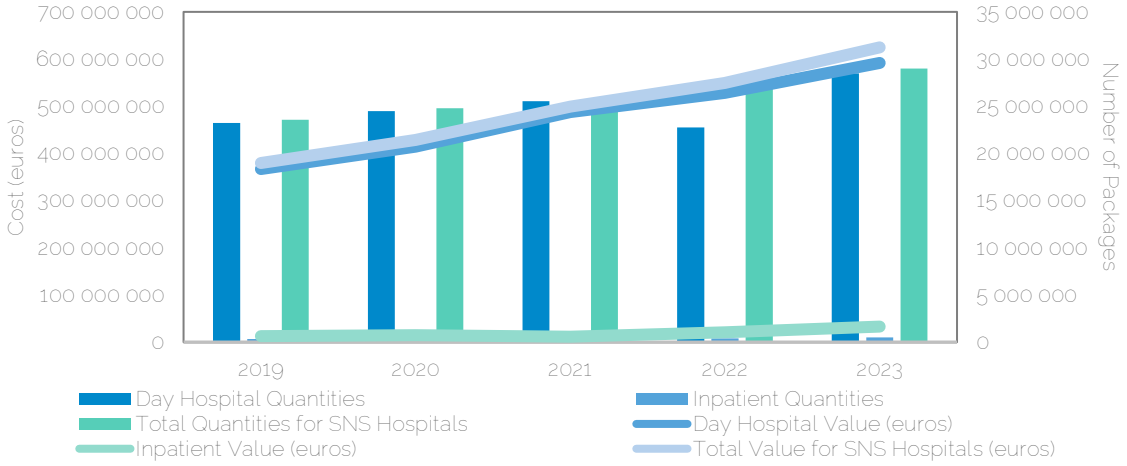
In 2023, 23,836 treatment plans were conducted, including 9,877 plans for 3D conformal radiotherapy (3DRT) and 12,310 for IMRT. The average number of plans per radiation oncologist per year ranged from a minimum of 136 to a maximum of 383.

5. Oncological Medicines

The following describes the volume of drugs consumed and the financial burden of oncological medicines on the National Health Service (SNS) from 2019 to 2023, categorised according to Ordinance No. 195-D/2015, of 30 June (4).
An overall increase in the consumption of oncological medicines in SNS hospitals was observed, spanning the three main subgroups: cytotoxic agents, hormones and antihormones, and immunomodulators.

Over the past five years, there has been a 23% increase in quantity and a 64% increase in expenditure (+5.4 million packages and +€245 million) on oncological medicines in SNS hospitals.

Figure 26. Quantities and Costs of Oncology Medications in SNS Hospitals, Mainland Portugal | 2019–2023

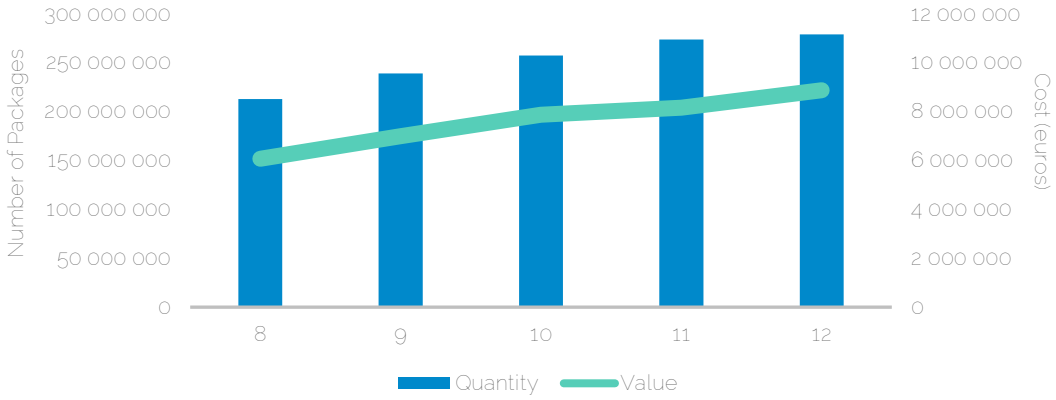


Source: INFARMED - National Hospital Medicine Code, 2024.

Notes: Consumption data refers to medicines covered by the National Hospital Medicine Code (CHNM), which includes human-use medicines with Marketing Authorisation (MA) and Special Use Authorisation (SUA). Quantities are expressed in CHNM units (tablets, pens, injectable solutions, etc.). The data presented pertains to publicly managed NHS Hospitals. The universe of active substances considered is limited to those belonging to ATC 16 (Antineoplastic and Immunomodulating Agents), whose primary therapeutic indication is oncology.

At the hospital level, almost all dispensing and expenditure on oncology medications is related to outpatient care. The dispensing of these medications for inpatient care is minimal.
In 2023, subgroup 16.1 Cytotoxic Agents accounted for 35% of the total number of packages and 38% of the total cost of medications used in NHS Hospitals, encompassing both inpatient and outpatient care. Between 2019 and 2023, an increase of 31% in quantity and 46% in expenditure by the NHS on this subgroup was observed.

Figure 27. Quantities and NHS Expenditures in Subgroup 16.1 Cytotoxics, Mainland Portugal | 2019 - 2023

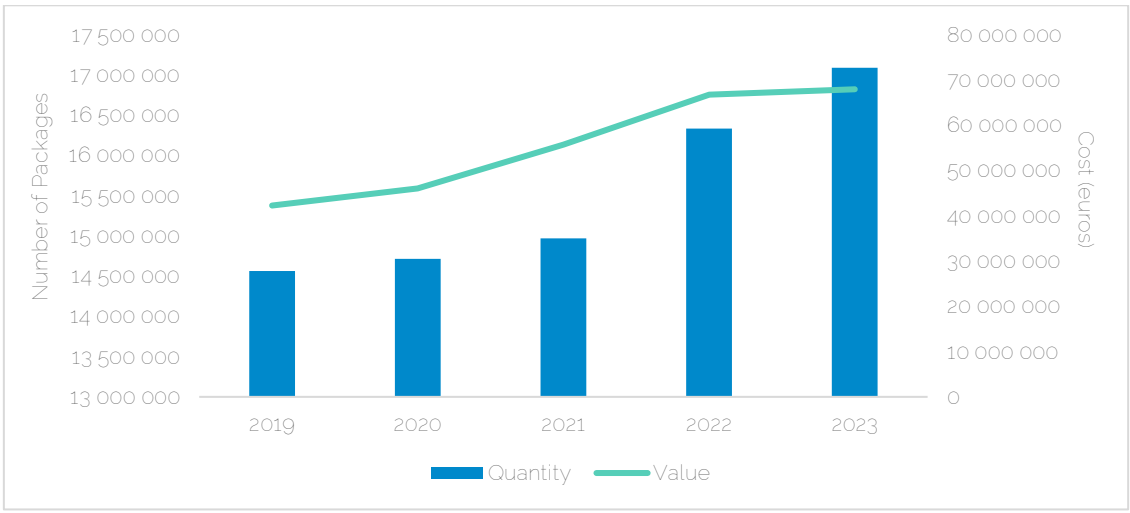


Source: INFARMED - National Hospital Medicine Code, 2024.

Notes: Consumption data refers to medicines covered by the National Hospital Medicine Code (CHNM), which include human-use medicines with Marketing Authorisation (MA) and Special Use Authorisation (SUA). Quantities are expressed in CHNM units (tablets, pens, injectable solutions, etc.). The data presented pertains to publicly managed NHS hospitals. The active substances considered are limited to those belonging to ATC 16 (Antineoplastic and Immunomodulating Agents), whose primary therapeutic indication is oncology.

In 2023, subgroup 16.2 Hormones and Anti-Hormones represented 59% of the total quantity of oncology medications in NHS Hospitals and 11% of the NHS's total expenditure. Regarding its variation over the analysed period, there was an increase of 17% in quantity and 61% in expenditure by the NHS on this subgroup, respectively.

Figure 28. Quantities and NHS Expenditures in Subgroup 16.2 Hormones and Anti-Hormones, Portugal | 2019 - 2023



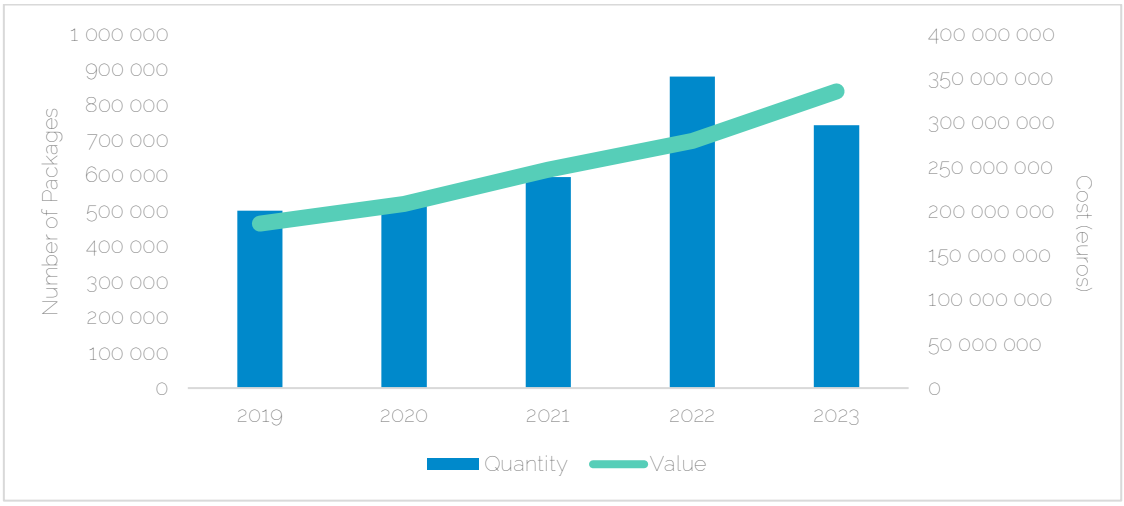
Source: National Hospital Medicine Code, 2024.

Notes: Consumption data refers to medicines covered by the National Hospital Medicine Code (CHNM), which include human-use medicines with Marketing Authorisation (MA) and Special Use Authorisation (SUA). Quantities are expressed in CHNM units (tablets, pens, injectable solutions, etc.). The data presented pertains to publicly managed NHS hospitals. The active substances considered are limited to those belonging to ATC 16 (Antineoplastic and Immunomodulating Agents), whose primary therapeutic indication is oncology.

For medications included in subgroup 16.3 Immunomodulators, a significant increase in the number of dispensed packages and NHS expenditure was observed between 2019 and 2023, with growth rates of 48% and 80%, respectively. It is noteworthy that, in 2023, only 3% of the total quantity of oncology medications dispensed belonged to this subgroup, despite accounting for 54% of the NHS's total expenditure.

This subgroup includes new therapeutic options, such as CAR T-cell therapy, which is characterised by a high cost per unit. Notable drugs include axicabtagene ciloleucel, brexucabtagene autoleucel, and tisagenlecleucel, which, in 2023, incurred a total cost of €16,421,260, despite only 53 units being dispensed.

Figure 29. Quantities and NHS Expenditures in Subgroup 16.3 Immunomodulators, Portugal | 2019 - 2023



Source: National Hospital Medicine Code, 2024.

Notes: Consumption data refers to medicines covered by the National Hospital Medicine Code (CHNM), which include human-use medicines with Marketing Authorisation (MA) and Special Use Authorisation (SUA). Quantities are expressed in CHNM units (tablets, pens, injectable solutions, etc.). The data presented pertains to publicly managed NHS hospitals. The active substances considered are limited to those belonging to ATC 16 (Antineoplastic and Immunomodulating Agents), whose primary therapeutic indication is oncology.

It is noteworthy that, in 2023, of the €6,253,564.00 incurred in the dispensing of oncology medications in Community Pharmacies, 44% was covered by the NHS and 56% by patients. The medications sold in Community Pharmacies belong to subgroup 16.2 Hormones and Anti-Hormones.

Chapter II

Activities and Action Plan

1. Activities | 2023 - 2024

The main activities carried out by the National Programme for Oncological Diseases (PNDO) during the period 2023–2024 are described below:

1.1. Monitoring Health Indicators in the Field of Oncological Diseases

Preparation and publication of the following reports:

- Challenges and Strategies 2023 and Challenges and Strategies 2024.
- Monitoring Surgical Activity in Oncological Diseases – 2019, 2020, 2021, and 2022.
- Identification of barriers and facilitators for the implementation and optimisation of oncological screening programmes.
- NHS Resources in Oncology 2022: 2023 Survey Report. The PNDO conducted the third survey on the NHS's installed capacity in oncology. The analysis of the surveys is ongoing, and the final report will be published by the end of 2024.

Monitoring and Evaluation of Population-Based Oncological Screenings 2023 – 2024 Report (5).

1.2. Promoting Health Literacy and Capacity Building for Professionals

During the analysed period, the PNDO supported the promotion of health literacy in the field of oncology. This included participation in conferences, congresses, and webinars; providing responses and clarifications to the media; and supporting the creation of booklets, books, and content for social media aimed at marking important thematic days related to cancer. Additionally, relevant and pertinent information was disseminated to healthcare professionals.

The organisation of events commemorating World Cancer Day by the Programme in 2023 and 2024 stands out as a key achievement.

1.3. Regulatory Activities

Regarding the regulatory activities of the PNDO, the Programme has supported the development and revision of several standards, namely:

- Guidelines for cervical cancer, colorectal cancer, and breast cancer screening, currently in the final stages of preparation.
- Standard 004/2024 of 12 July: General Methodology for Oncological Screenings.

1.4. National Cancer Control Strategy, Horizon 2030

Implementation of the National Cancer Control Strategy (ENLCC) has commenced, including:

- Establishment of the Executive Committee to oversee the implementation of the National Cancer Control Strategy 2021–2030.

Integration of the catalogue of oncological surgical procedures into the Ministry of Health's OncoStop 2024 programme.

1.5. Intersectoral Actions, Cooperation, and International Relations

The PNDO team cooperates with various sectors of society, notably through participation in advisory groups, involvement in international surveys assessing oncology healthcare delivery conducted by the Organisation for Economic Co-operation and Development (OECD) and the World Health Organisation (WHO), and collaboration in the development of reports, opinions, comments, or clarifications for entities external to the Ministry of Health. Key contributions include:

- Collaboration with the Portuguese Environment Agency (APA) and the Service for Intervention on Addictive Behaviours and Dependencies (SICAD).
- Submission of PNDO contributions to the Annual Reports on Access to Healthcare in NHS and Contracted Entities 2023 and 2024 by the Central Administration of the Health System, IP (ACSS).
- Submission of contributions to Portugal Reports to the European Union 2022 and 2023 by the Ministry of Foreign Affairs.
- Submission of opinions, contributions, and responses to inquiries when requested by the Office of the Minister of Health, the Office of the Secretary of State for Health Promotion, the Portuguese Parliament, and parliamentary groups, among others.
- Development of the National Cancer Hub and numerous related activities in collaboration with the Agency for Clinical Research and Biomedical Innovation (AICIB), including meetings of the Stakeholders Group and Policy Group under Dispatch No. 11 429/2021.
- Launch of the first NCH-PT 2024 Call by the National Cancer Hub-PT (NCH-PT), coordinated by AICIB and the Directorate-General of Health (DGS) through the PNDO. This call aims to fund Clinical Research and Biomedical Innovation projects (IC&IB Projects) in oncology. The total available budget is €100,000, to be distributed across a maximum of 7 projects in the areas of Prevention, Early Detection, Diagnosis and Treatment, Survivorship and Quality of Life, as well as cross-cutting areas (Paediatric Cancer, Health Information, Research and Development).

The 4 approved projects for funding have a duration of 12 months and are coordinated by institutions from mainland Portugal and the islands, specifically from the North, Lisbon, Algarve, and the Azores regions, demonstrating geographic representativeness in the allocation of funding.

- Submission of contributions to the 72nd Session of the WHO Regional Committee for Europe.
- Preparation of an opinion on the document Joint Statement: Europe's Path to Cervical Cancer Elimination.
- Responses to various surveys, including the following notable ones:
  - Noncommunicable Diseases Country Capacity Survey assessment, 2023 and 2024, by the OECD.
  - International Approach for Breast Cancer; Country Cancer Profile Feedback Survey, in 2023.
  - Cancer Care Performance of the Health Committee, in 2023.
  - OECD report on cancer - policies in Portugal, in 2023.

Regarding the National Health Programme and other Priority Programmes of the DGS, the PNDO has been working in close coordination with the National Programme for Healthy Eating, the National Programme for Tobacco Prevention and Control, the National Programme for Viral Hepatitis, and the National Programme for the Promotion of Physical Activity, particularly in the development of the National Cancer Strategy, Horizon 2030, and the National Health Plan 2021-2030.
In 2023, a Memorandum of Understanding was signed between the Ministry of Health and the U.S. National Cancer Institute, outlining the general principles of collaboration between the two parties for promoting and guiding quality research and data sharing. This aims to strengthen the scientific knowledge necessary for the implementation of strategies for the prevention, treatment, and management of cancer in the Portuguese-speaking African countries (PALOP). This document was developed in partnership with the NCI, the U.S. Embassy in Lisbon, the PNDO, and the Secretary of State. In April 2024, the workshop Implement the U.S.-Portugal Memorandum of Understanding on Cooperation on Cancer Research, Prevention, Control, and Management in Lusophone African Countries was held in Lisbon.

This event was attended by representatives from Cape Verde, Angola, Mozambique, Guinea-Bissau, São Tomé and Príncipe, and INCA-Brazil, among others. In September/October 2024, a webinar on Patient Evacuation will be held, and a new workshop is planned for 2025.
On the international stage, the involvement in various Joint Actions (JAs) is highlighted:

- eCAN (Strengthening eHealth for Cancer Prevention & Care). Launched in 2022, the eCAN JA, led by the ACSS, aims to strengthen eHealth services, including telemedicine and telemonitoring in cancer prevention and treatment. The PNDO is currently participating in this JA as an affiliated entity.
- CraNE (Network of Comprehensive Cancer Centres: Preparatory activities on creation of National Comprehensive Cancer Centres and EU Networking). As the national competent authority, the PNDO's participation aligns with the Europe's Beating Cancer Plan, Flagship 5: The Commission will establish, by 2025, an EU Network linking recognized National Comprehensive Cancer Centres in every Member State and the National Cancer Strategy. This JA started in 2022 and will conclude in September 2024.
- JANE (Preparatory activities on European Networks of Expertise). The goal of this JA is to prepare the creation of 7 Networks of Expertise in the field of cancer. It began in 2022 and will finish in September 2024.
- PrISMA (Preparatory Activities to Support Implementation of Quality and Safety of Medical Ionising Radiation Applications). Under the Europe's Beating Cancer Plan, the SAMIRA JA, for which PrISMA is the preparatory phase, aims to define EU actions in three priority areas for the safe, high-quality, and reliable use of radiological and nuclear technology in healthcare: 1) ensuring the supply of medical radioisotopes; 2) improving the quality and safety of radiation in medicine; 3) facilitating innovation and technological development of medical ionizing radiation applications. This action has a budget of approximately €51,000 for Portugal, of which 60% is funded by the European Commission. This action started in May 2024, with the first meeting taking place in the Netherlands.

PrISMA **Preparatory activities for Implementation of quality and Safety of Medical ionizing radiation Applications**

- EUCanScreen (Implementation of cancer screening programs): This JA aims to ensure the implementation of high-quality screening programs for breast cancer, cervical cancer, and colorectal cancer, as well as the recently recommended screening for lung, prostate, and gastric cancers. Additionally, EUCanScreen seeks to reduce cancer-related costs and promote equitable treatment across the European Union. The PNDO/DGS is the national competent authority, with three affiliated entities: IPO Porto, ULS Santa Maria, and ULS S. João. The budget allocated to this action exceeds 800,000 euros, with 80% co-funded by the EU.
- EUNetworkCCC (Establishing a European Network of Comprehensive Cancer Centres): Building upon the CraNE JA, this initiative aims to establish a European network of Comprehensive Cancer Centres (CCCs). As outlined in Flagship 5 of the Europe's Beating Cancer Plan, the goal is to provide access to these centres for 90% of eligible patients by 2030. The PNDO/DGS is the national competent authority, with affiliated entities including IPO Porto, ULS Santa Maria, ULS Algarve, and AICIB. This JA will begin in October 2024, with a budget of over 5.5 million euros for Portugal, of which 80% is co-financed by the EU.
- JANE 2 (Joint Action on European Networks of Expertise): This JA focuses on defining and creating seven Networks of Expertise in cancer care: personalized primary prevention, survivorship, palliative care, omics technologies, high-tech medical resources, complex and poor prognosis cancers, and cancer in adolescents and young adults. The main objectives are to prepare for the launch of these new Networks of Expertise and critically assess current and future models of networks, research infrastructures, and European platforms. The PNDO/DGS is the national competent authority, with affiliated entities including IPO Porto, IPO Lisboa, ULS Santa Maria, Centro de Oncologia dos Açores, Faculty of Medicine of the University of Porto, and i3S.

This action will begin in October 2024, with a budget exceeding 1 million euros for Portugal, of which 80% is co-financed by the EU.

In 2024, the PNDO/DGS was invited to serve as the national competent authority for two additional Joint Actions, currently in the early stages of preparation and scheduled to begin in 2025:

- CR-g-24-41 Direct grants to Member States' authorities: Personalized Cancer Medicine.
- CR-g-24-44 Direct grants to Member States' authorities: Paediatric Palliative Care.

Additionally, since 2021, the PNDO has been involved in the periodic meetings of the working groups monitoring the implementation of the European Commission's Europe's Beating Cancer Plan, specifically:

- ✓ Subgroup on Cancer of the Steering Group on Health Promotion and Disease Prevention (SGPP).
- ✓ Thematic Group on Cancer Inequalities.
- ✓ Steering Group on Quality and Safety (SGQS).

The PNDO is also currently participating in the following projects:

- ECIS-EUCanScreen: This project aims to strengthen cancer screening data collection to update the European Cancer Information System and improve the quality and coverage of cancer screening programs across Europe. The PNDO participates in workshops organized by the IARC and contributes national data.
- Progress Addressing Cancer in Europe (OBS-PACE): Led by the European Observatory on Health Systems and Policies (EU), this project aims to collect a range of innovative cancer care and policy examples and analyse their strengths and limitations. The goal is to inform future cancer-related actions across the EU.

Furthermore, the PNDO is involved in the monitoring of cancer treatments conducted in Reference Centres and participates in determining the respective audit criteria.

2. Action Plan | 2025

The PNDO Action Plan for the year 2025 is governed by four main objectives:

To monitor health indicators in the area of oncological diseases

- Preparation of a monitoring report on health indicators in the area of oncological diseases.
- Preparation of the annual report on the monitoring of population-based oncological screenings.
- Collaboration with the National Oncology Registry (RON). Although RON is not under the responsibility of the DGS, it is important for the establishment of national strategies in oncology as it provides access to contemporary data on epidemiology and the effectiveness of oncological treatment.

Promote quality and equity of access to oncological screening

- Promotion of public awareness campaigns for screenings.
- Collaboration with other Priority Programs of the DGS, fostering cross-cutting coordination in areas of common interest.
- Raising awareness among healthcare professionals, particularly General Practitioners and Nurses, about the importance of oncological screenings through training activities.
- Coordination with the Population-Based Screening Coordination Group of the Executive Directorate of the SNS in implementing new population-based oncological screenings, namely Lung, Gastric, and Prostate Cancer screenings.

Promote quality and equity of access to oncological treatment

- Creation of the following Working Groups under the implementation of the National Cancer Control Strategy, Horizon 2030:
  - ✓ Radiotherapy procedures and their coding and TMRGs.
  - ✓ Definition of Pathologies that have pharmacological curative treatment and respective TMRGs.

Contribute to the knowledge of healthcare in the field of Oncology

- Development of a proposal for educational content on transversal themes in the management of cancer patients.

- Commemoration of World Cancer Day on February 4th.

In addition to these four areas of intervention, the PNDO has the following short-term major objectives:

- Full implementation of the National Cancer Control Strategy, Horizon 2030.
- Maintain participation in the working groups monitoring the implementation of the EBCP of the European Commission:
  - ✓ Steering Group on Health Promotion and Disease Prevention (SGPP).
  - ✓ Thematic Group on Cancer Inequalities.
  - ✓ Steering Group on Quality and Safety (SGQS).
- Preparation and implementation of the National Plan for HPV eradication, which should involve intra- and inter-institutional collaboration, particularly with the National Vaccination Program, the Literacy Division of the Directorate of Information and Analysis Services, the National Program for STDs and HIV/AIDS, the Division of Sexual and Reproductive Health, Children and Youth, SPMS, ACSS, and the Executive Directorate of the SNS through its National Coordination for Population-Based Screening.
- Participation in the Impact Review of the International Atomic Energy Agency/WHO/IARC, aiming to develop a study for the Identification of Needs and Prioritization of Actions in Comprehensive Cancer Control.
- Participation in the 2025 Workshop on Cooperation with PALOP countries, to be held in Lisbon, under the PT-US Memorandum of Understanding.

Launch of the 2nd NCH-PT 2025 Competition under the National Cancer Hub Portugal and the DGS/PNDO and AICIB Protocol.

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