



Cancer in Georgia

2015-2019

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FOREWORD

Cancer Population Register was launched in Georgia on January 1, 2015, this is an important step forward for the country, because the Register provided quality data on the spread of malignant neoplasms in the country.

The Register is a personalized data system. The registry is functioning for five years, improving data quality and coverage, although there are still some challenges that need to be addressed.

The given document covers data on malignant tumors registered during 2015-2019.

HIGHLIGHTS

- During 2015-2019, in Georgia, the total number of new cases of all sites of cancer (including in situ¹ neoplasms) ranges from 10,000 to 11,000. In 2019, 10,339 new cases of cancer were registered, with the incidence rate of 277.9 per 100,000 population.
- 56 56% of new cases of cancer of all localizations were registered in women, 44% - in men.
- 68 68% of new cases are registered in the most able-bodied age group (30-70 years); 28% of cases - in the age group of 70 years and older. 1.3% of new cases come from the age groups of 0 - 15 years and 15 - 20 years. 25% of new cases of all sites cancers are registered in women of reproductive age (15-49 years).
- Top 5 sites of cancers in women:
 - Breast
 - Thyroid gland
 - Colorectum
 - Body of the uterus
 - Cervix of the uterus.
- Top 5 sites of cancers in men:
 - Trachea / bronchus / lung
 - The prostate gland
 - Bladder
 - Colorectum
 - Larynx
- In Georgia, like in other countries, leukemia, lymphomas and the brain and spinal cord cancers are the most frequent malignant neoplasms in children.
- In 2019, 43% of new cases of all new cases of cancer² of all sites were registered at stages I and II of the disease; 41% at stages III and IV , for other cases the stage was not identified.
- In 2019, in Georgia, there were 7873 cancer. Among them the leading causes were lung (15%) and breast cancers (10%), cancers of trachea, bronchus, lung, digestive system (excluding stomach and esophagus), lymphoid, haematopoietic and related tissue, and colorectal cancer.
- Georgian Cancer Population Register has been operating since 2015, making possible to calculate 5-year survival rates for cases registered in 2015.
- In Georgia, the five-year survival rate for all cancer sites was 50.1% (calculated using the direct survival assessment method).

¹ Preinvasive cancer

² The number of all new cases does not include cancers of lymphoid, haematopoietic and related tissue

- In Georgia, the 5-year survival rate of early cancer (age under-20) is high and is about 93% for both sexes.
- In Georgia, according to the assessment of the US National Cancer Institute (NCI) ³, 51% of the new cancer cases require surgical treatment, 72% chemotherapy, and 57% radiotherapy.
- In 2019, according to the Cancer Population Register, surgical treatment was performed in 74% of new cases, chemotherapy and hormone therapy - in 58%, radiation therapy - in 28%, iodine therapy - in 5%, immunotherapy - in 2%. The share of palliative care was implemented in 4% of the cases.
- In Georgia, during the period of 2018-2030, according to international projections, the number of new cases of cancer will increase by 6% (in women - by 5%, in men - by 7%). During the same period, Europe is projected to see a 14% increase of new cases (10% in women, 18% in men) ⁴.

³ *Human Resources Needed for Cancer Control in Low & Middle Income Countries. National Cancer Institute. Radiation Research Program*

⁴ https://gco.iarc.fr/tomorrow/graphic-isotype?type=0&type_sex=0&mode=population&sex=0&populations=935_268&cancers=39&age_group=value&apc_male=0&apc_female=0&single_unit=500000&print=0#collapse-group-0-3

GLOBAL DATA ON THE CANCER MORBIDITY⁵

- In 2018, the global burden of cancer consisted of 18.1 million new cases and 9.6 million deaths. Worldwide, on average, one in every five men and one in six women has cancer. The most common sites of cancer are:
 - Lung cancer (2.09 million cases);
 - Breast cancer (2.09 million cases);
 - Colorectal cancer (1.80 million cases);
 - Prostate cancer (1.28 million cases);
 - Skin cancer (non-melanoma) (1.04 million cases);
 - Stomach cancer (1.03 million cases).

- Globally, cancer is the second leading cause of death. In the world, on average, one in every eight men, and one in every 11 women die from a malignant neoplasm. A high proportion of cancer deaths is due to the following sites of cancer:
 - Lung cancer (1.76 million deaths)
 - Colorectal cancer (862 000 deaths)
 - Stomach cancer (783 000 deaths)
 - Liver cancer (782 000 deaths)
 - Breast cancer (627,000 deaths).

- Globally, the number of patients, staying alive 5 years after diagnosis is 43.8 million.

- About 70% of cancer-related deaths are registered in middle- and low-income countries.

- About 1/3 of cancer-related deaths are caused by top 5 behavioral and dietary risk factors: obesity, inadequate fruit and vegetable consumption, low physical activity, and excessive tobacco and alcohol consumption.

- The most important risk factor for cancer development is tobacco use, with 22% of cancer deaths associated with it.

- In low- and middle-income countries up to 25% of cancer cases are caused by cancer-related infections such as hepatitis B and C and human papillomavirus (HPV).

- In countries and regions of the world cancer detection varies with the stages, availability of diagnostic means and treatment. In 2017, only 26% of low-income countries had pathomorphological diagnostic services available to the population. In more than 90% of high-income countries cancer treatment is available, when the same service is available in only 30% of low-income countries.

- The economic impact of cancer is significant and it rises. In 2010, the total economic value / burden of cancer was estimated at approximately 1.16 trillion USD.

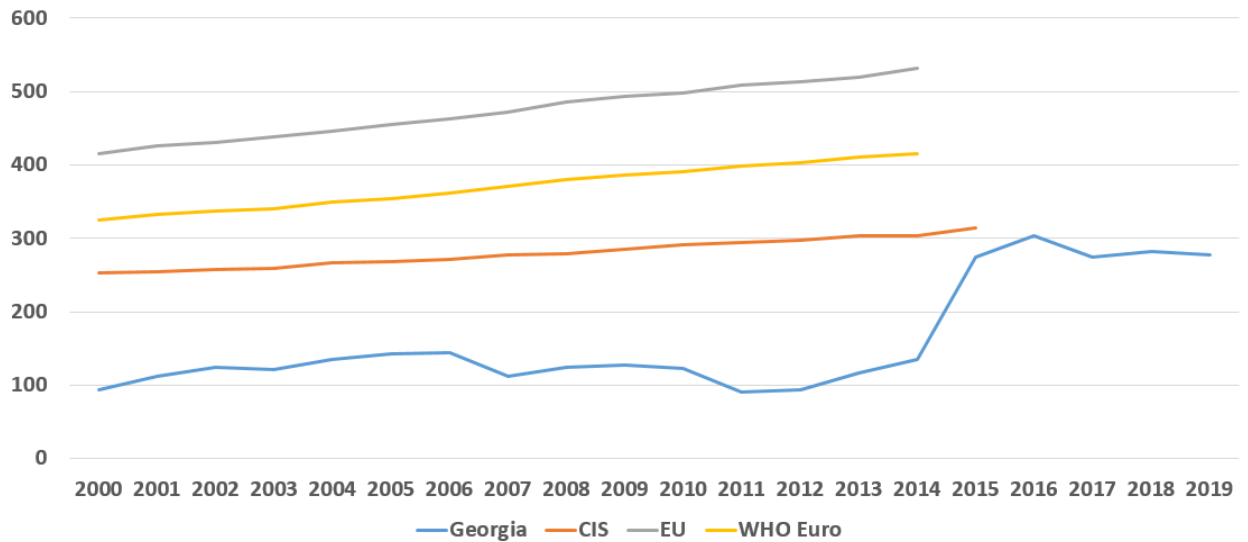
- In the group of low- and middle-income countries, on average, one in five countries has the necessary evidence for sound cancer management policies.

⁵ <https://www.who.int/news-room/fact-sheets/detail/cancer>

CANCER RELATED MORBIDITY AND MORTALITY

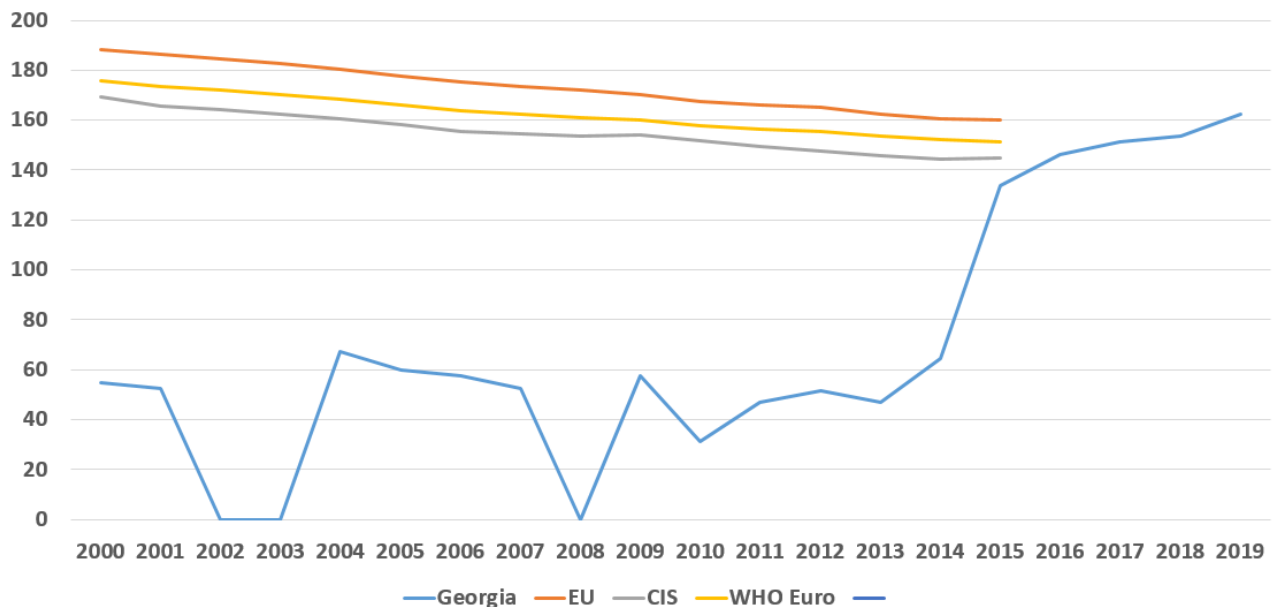
In 2019, in Georgia, 10,339 new cases of all sites cancer were registered, the incidence rate per 100,000 population was 277.9.

Figure 1. Cancer, incidence per 100000 population⁶



Source: WHO HFA DB, NCDC

Figure 2. Cancer related mortality



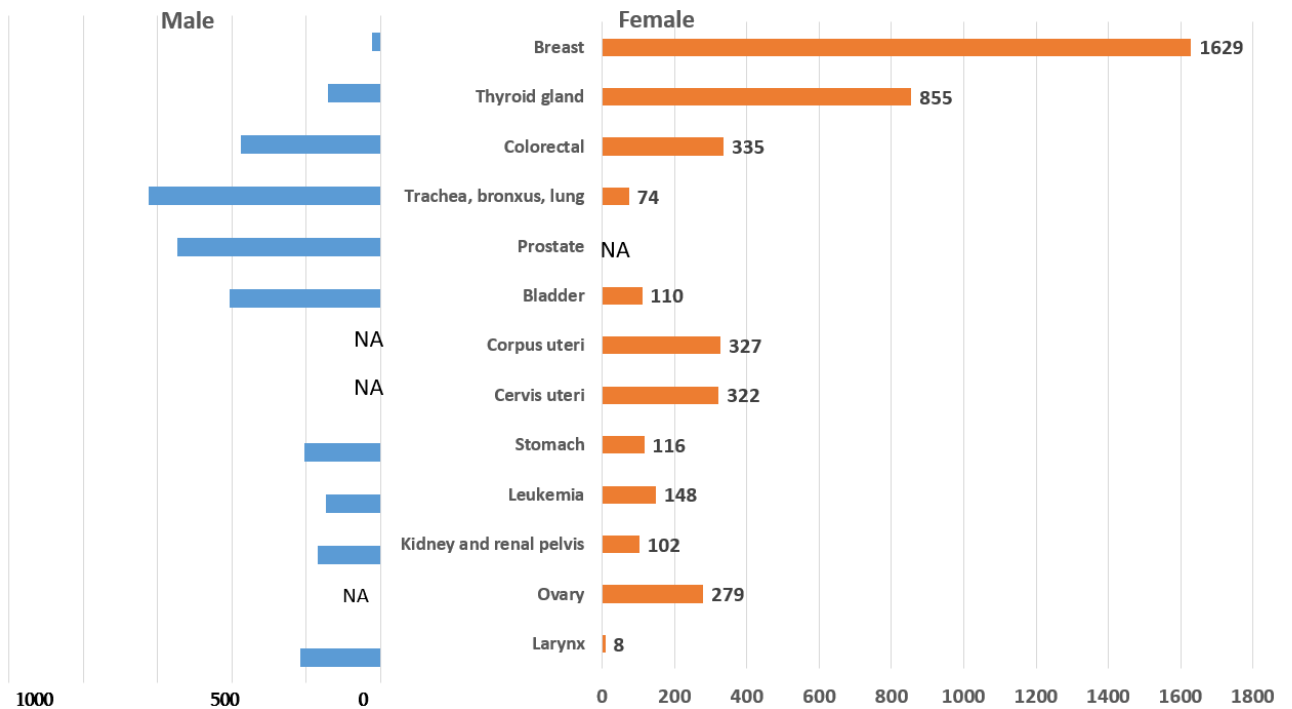
Source: WHO HFA DB, NCDC

⁶ For international comparisons, other cancer of skin (except melanoma) and in situ cancer cases are not included in the analysis. according to the recommendation of the International agency for research on cancer (IARC),

Table 1. Cancer, main indicators of morbidity and mortality, Georgia

	2015	2016	2017	2018	2019
Number of cases of cancer, all sites	11099	10699	10149	10417	10339
Incidence per 100000 population	297.9	287.0	272.2	279.5	277.9
Number of cases of cancer, all sites except cancer of skin (except melanoma) and cancers in situ	10173	9863	9491	9666	9476
Incidence per 100000 population	273.1	264.6	254.6	259.4	254.7
Number of deaths with cancer as underlying cause of death ⁷	6268	6829	7095	7329	7873
Mortality per 100000 population	168.3	183.2	190.3	196.7	211.6

Figure 3. Cancer, sites with high incidence by sex, Georgia, 2019




The number of cases of the above mentioned sites accounts for 69% of the total number of new cases registered in both sexes.

According to international estimates, the lifetime risk of developing cancer in the Georgian population equals to 40%⁸.

⁷ According to the Geostat data

⁸ DevCan: Developing or Dying of Cancer Software, Version 6.7.7. Statistical Research and Applications Branch, National Cancer Institute, 2019. surveillance.cancer.gov/devcan/ or <https://seer.cancer.gov/>

Table 2. Lifetime risks of developing cancer, Georgia

Male	%		Female	%
All sites	40.1		All sites	38.7
Prostate	12.1		Breast	12.9
Trachea, bronchus, lung	6.3		Trachea, bronchus, lung	6.0
Colorectal	4.2		Colorectal	4.2
Melanoma	3.6		Corpus uteri	3.1
Non-Hodgkin lymphoma	2.4		Melanoma	2.5
Kidney and renal pelvis	2.2		Non-Hodgkin lymphoma	1.9
Leukemia	1.9		Thyroid gland	1.3
Thyroid gland	0.7		Leukemia	1.3
			Kidney and renal pelvis	1.2
		Ovary	1.2	
		Cervix uteri	0.6	

<https://seer.cancer.gov/statfacts/html/common.html> (2011 – 2016)

Both sexes	%
Bladder	2.4
Pancreas	1.6
Lip, mouth and throat	1.2
Liver and intrahepatic bile ducts	1.0
Brain	0.6
Larynx	0.3
Hodgkin's lymphoma	0.2
Bone and articular cartilage	0.1

FIVE YEAR SURVIVAL RATES⁹

The survival rate is a percentage of people who are still alive for a certain period of time after they were diagnosed with or started treatment for a disease, such as cancer. The often stated as a five-year survival rate, which is the percentage of people who are alive five years after their diagnosis or the start of treatment.

One-year and five-year survival rates are the most commonly used. Cancer prevention, early diagnosis, refinement of oncology treatment methods and development of technologies are the cornerstones that lead to an increase of the survival period of the cancer patient.

Direct and indirect (estimated) methods of calculating survival rates are used. The easiest way to calculate patient's survival rate is to use a direct method which, as says the definition, shows the percentage of patients who survived at the end of the interested time period (e.g., a five-year period). This method does not take into account the existing differences in survival in the group of patients during the observation period (eg five years)¹⁰.

The Kaplan-Meier method is the most popular among indirect methods of estimating the probability of survival. For each case (death) it takes into account the moment of detection (which is likely to happen randomly) during the study period (e.g. 5 years) and combines the survival probabilities calculated for subsequent time intervals. Each time interval, which is mostly unequal, is defined as the time period between two subsequent events (death)¹¹.

According to the concept of survival, after one or five years, the patient will be alive, although the disease may recur or not recur. The median survival period is the average time interval (from the start of treatment or the time of diagnosis) during which patients survive¹².

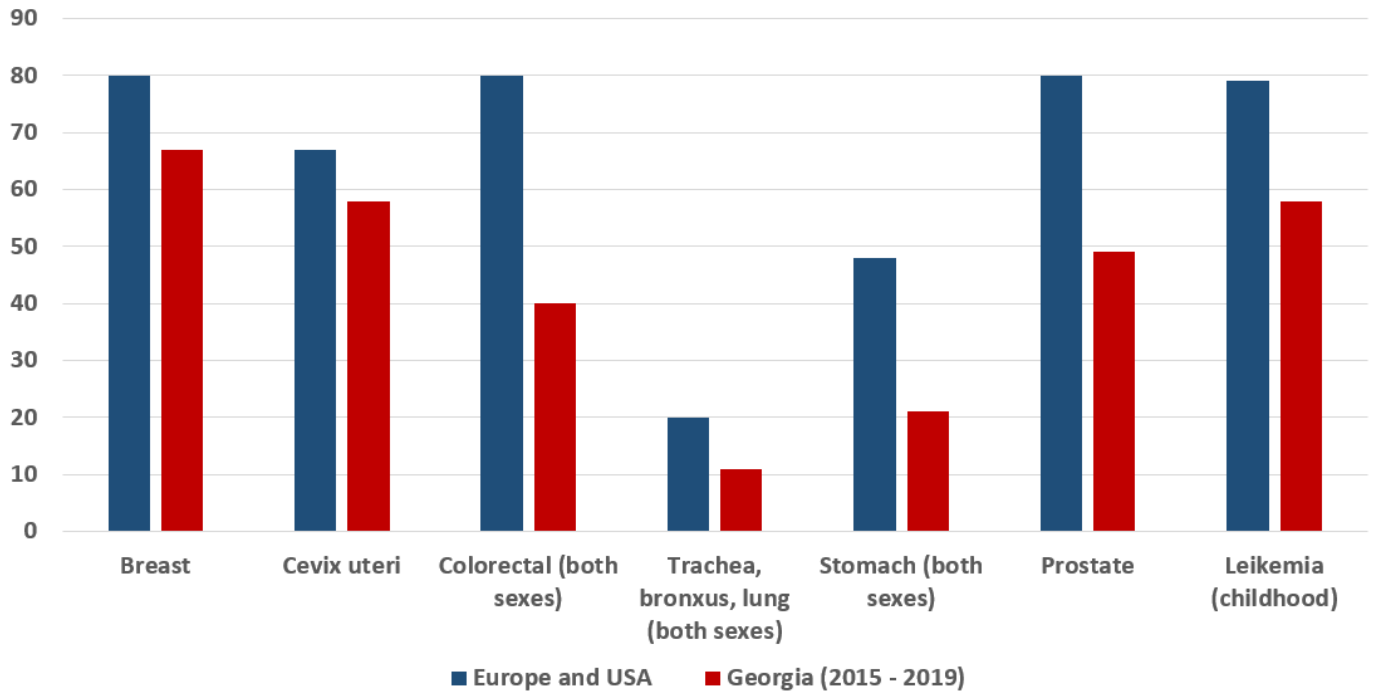
⁹ Survival rates in the given document are calculated using the direct method

¹⁰ Parkin D.M., Hakulinen T. Analysis of survival. International Agency for Research on Cancer. p.163-164

¹¹ A Dictionary of Epidemiology, Sixth Edition, Edited by Miquel Porta, 2015

¹² <https://stats.oecd.org/Index.aspx?QueryId=51882>; <https://seer.cancer.gov/statfacts/html/common.html>

Figure 4. 5 year survival rate for some cancer sites



Source: Georgian population cancer registry

<https://stats.oecd.org/Index.aspx?QueryId=51882>; <https://www.cdc.gov/cancer/dcpc/research/articles/concord-2.htm>

Table 3. Five-year survival rates of cancer by sites (%): breast (in women) and cervix uteri, 15 years and older, 2010-2014

Breast (females)		Cervix uteri	
USA	90.2	Iceland	80.1
Australia	89.5	Korea	77.3
Japan	89.4	Norway	73.2
Iceland	89.1	Japan	71.4
Sweden	88.8	Switzerland	71.4
Canada	88.6	Denmark	69.5
Finland	88.5	Sweden	68.3
Israel	88.0	China	67.6
New Zealand	87.6	Netherlands	67.5
Portugal	87.6	New Zealand	67.4
Norway	87.2	Finland	67.4
France	86.7	Canada	67.3
Korea	86.6	Italy	66.8
Netherlands	86.6	Israel	66.6
Belgium	86.4	Estonia	66.5
Switzerland	86.2	Australia	66.4
Denmark	86.1	Portugal	66.2
Germany	86.0	Slovenia	65.5
Italy	86.0	Belgium	65.4
United Kingdom	85.6	Germany	65.2
Spain	85.3	France	65.0
Austria	84.8	Spain	64.6
Slovenia	83.5	Austria	63.9
China	83.2	United Kingdom	63.8
Turkey	82.1	Ireland	63.6
Ireland	82.0	USA	62.6
Czechia	81.4	Czechia	61.0
Estonia	78.1	Turkey	60.7
Latvia	76.9	Slovakia	60.5
Poland	76.5	Lithuania	59.2
Slovakia	75.5	Russia	57.7
Lithuania	73.5	Georgia*	56.9
Russia	70.8	Poland	55.1
Georgia	66.0	Latvia	53.9

*Cancer population registry, 5 year survival rate for patients diagnosed in 2015

	High survival rate
	Average survival rate
	Low survival rate

Source:
<https://stats.oecd.org/Index.aspx?QueryId=51882>; NCDC

Table 4. Five-year survival rates of cancer by sites (%): colorectal cancer, trachea, bronchus and lung, 15 years and older, both sexes, 2010-2014

Colorectal (both sexes)		Trachea, bronchus, lung (both sexes)	
Australia	80.1	Japan	32.9
Israel	79.9	Israel	26.6
Korea	79.2	Korea	25.1
Iceland	78.7	Canada	21.3
Japan	78.6	USA	21.2
Canada	77.8	Switzerland	20.4
USA	77.6	Iceland	20.2
Belgium	77.2	China	19.8
Sweden	76.9	Austria	19.7
Switzerland	76.8	Sweden	19.5
Finland	76.7	Australia	19.4
Norway	76.1	Germany	18.3
New Zealand	75.8	Latvia	18.3
Germany	75.4	Belgium	18.2
France	75.2	Norway	18.1
Italy	75.1	Ireland	17.5
Netherlands	74.9	Netherlands	17.3
Austria	74.3	France	17.3
Spain	74.3	Estonia	16.9
Portugal	74.3	Denmark	16.6
United Kingdom	72.8	Italy	15.9
Slovenia	72.7	Portugal	15.7
Ireland	71.3	New Zealand	15.3
China	70.4	Turkey	14.9
Turkey	68.7	Slovenia	14.8
Estonia	68.3	Poland	14.4
Lithuania	65.2	Russia	13.7
Poland	64.7	Spain	13.5
Slovakia	63.7	United Kingdom	13.3
Latvia	62.9	Finland	13.0
Czechia	62.7	Georgia*	12.3
Denmark	60.3	Slovakia	11.2
Russia	57.9	Czechia	10.6
Georgia*	41.0	Lithuania	9.9

*Cancer population registry, 5 year survival rate
for patients diagnosed in 2015

	High survival rate
	Average survival rate
	Low survival rate

Source:
<https://stats.oecd.org/Index.aspx?QueryId=51882>; NCDC

Table 5. Five-year survival rates of cancer by sites (%): stomach and acute lymphoblastic leukemia, 15 year and older, both sexes, 2010-2014

Stomach (both sexes)		Acute lymphoblastic leukemia	
Korea	68.9	Finland	95.2
Japan	60.3	Denmark	94.0
Belgium	37.5	Canada	93.0
China	35.9	Iceland	92.4
Austria	35.4	United Kingdom	92.2
Germany	33.5	Germany	91.1
USA	33.1	Belgium	90.8
Israel	32.3	Australia	90.7
Portugal	32.2	Netherlands	90.4
Switzerland	32.2	Switzerland	90.3
Australia	31.8	United States	89.5
Italy	30.5	Sweden	89.0
Canada	29.5	France	88.6
Estonia	29.2	Ireland	88.3
Slovenia	28.8	Czech republic	88.2
Iceland	28.1	Israel	87.9
Ireland	27.6	Italy	87.8
Spain	27.2	Estonia	87.7
Lithuania	27.0	Japan	87.6
France	26.7	New Zealand	87.6
Norway	26.2	Slovakia	87.0
Finland	25.7	Poland	86.9
Latvia	25.1	Spain	84.7
Netherlands	25.0	Korea	84.4
Sweden	24.8	Greece	84.2
Turkey	24.6	Latvia	84.1
Slovakia	21.1	Norway	83.0
Russia	21.0	Turkey	80.9
Poland	20.9	Russia	76.9
United Kingdom	20.7	Lithuania	74.7
Georgia*	20.6	Brasil	66.6
Czechia	20.6	China	57.7
Denmark	19.9	Georgia*	50.0

* Cancer population registry, 5 year survival rate for patients diagnosed in 2015

Source:

<https://stats.oecd.org/Index.aspx?QueryId=51882>; NCDC

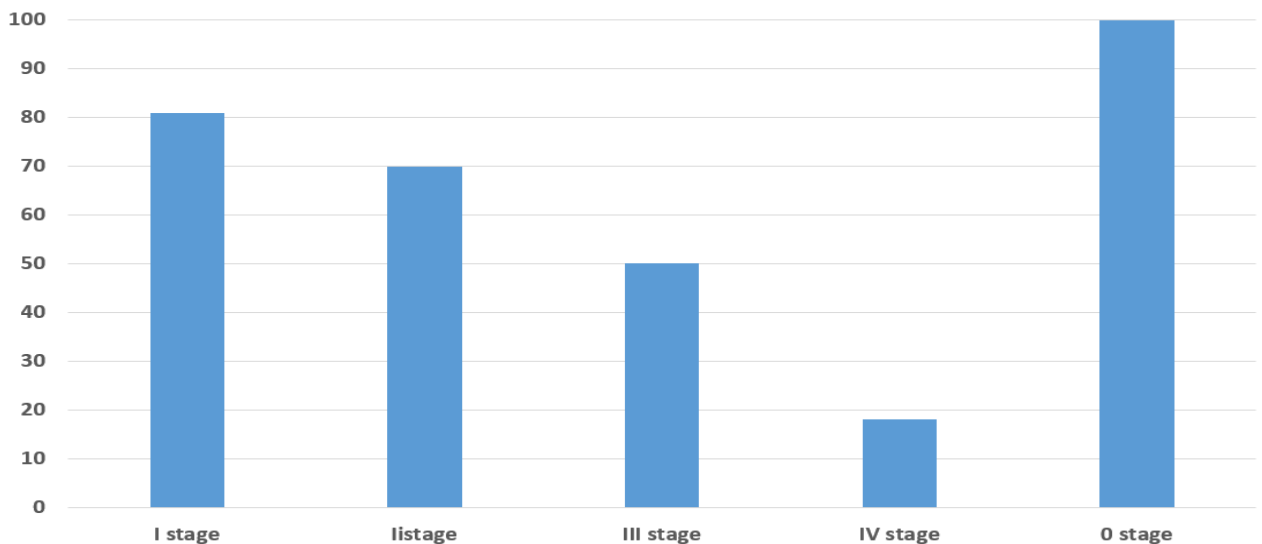
	High survival rate
	Average survival rate
	Low survival rate

Table 6.5 Five-year survival rates of cancer by sites (%), both sexes, Georgia¹³, 2015-2019

	Five-year survival rate, %
All sites	50.1
Including:	
Thyroid gland	92.8
In situ	89.1
Hodgkin's lymphoma	74.5
Kidney and renal pelvis	69.3
Corpus uteri	66.7
Other skin cancers	66.5
Breast (females)	66.0
Bladder	56.9
Cervix uteri	56.9
Larynx	50.8
Non-Hodgkin's lymphoma	47.9
Prostate	46.6
Leukemia	43.9
Mesothelial and soft tissues	43.2
Colorectal cancer	41.4
Ovary	39.1
Melanoma	37.7
Bone and articular cartilage	37.7
Brain	33.5
Stomach	22.7
Trachea, bronchus, lung	12.3
Pancreas	12.0
Liver and intrahepatic bile ducts	11.7

According to the Cancer Population Register, early diagnosis of cancer is positively correlated with the five-year survival rates. When cancer is diagnosed at late stages, the survival rate of decreases.

Figure 5. Five-year survival rates of cancer by stages, Georgia. 2015-2019

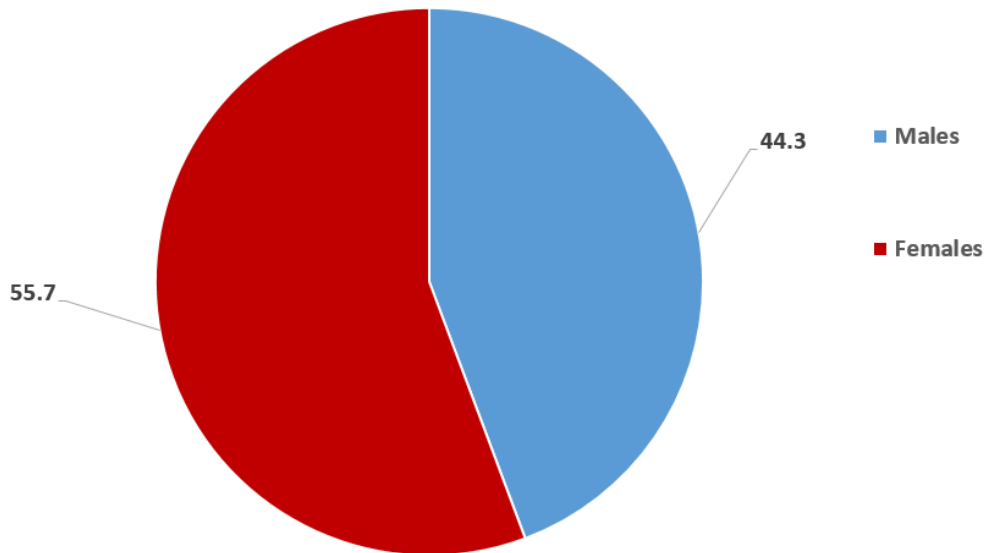


¹³ Cancer population registry, 5 year survival rate for patients diagnosed in 2015

AGE AND SEX STRUCTURE

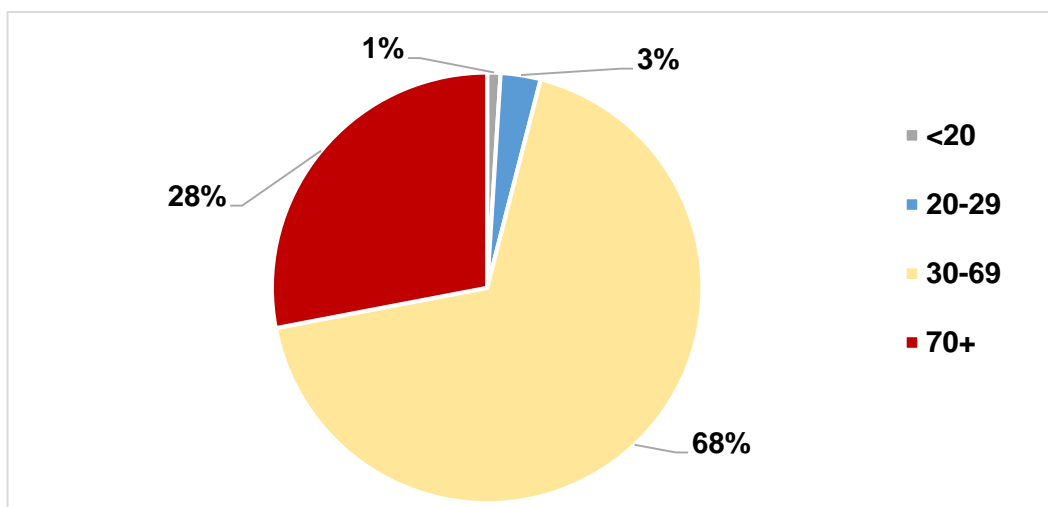
In 2019, in Georgia, a total of 10,339 new cases of cancer of all sites were registered (incidence per 100,000 population - 277.9), including 4,578 cases (44.3%) - in men and 5,761 cases (55.7%) - in women.

Figure 6. Distribution of all sites of cancer by sex, Georgia, 2019



68% of new cases are registered in the most able-bodied age group (30-70 years), and 28% of cases - in the age group of 70 years and older. 1% of new cases are from the age groups of 0 - 14 years and 15 - 19 years. Quarter (25%) of new cancers registered in women are from the group of reproductive age (15-49 years).

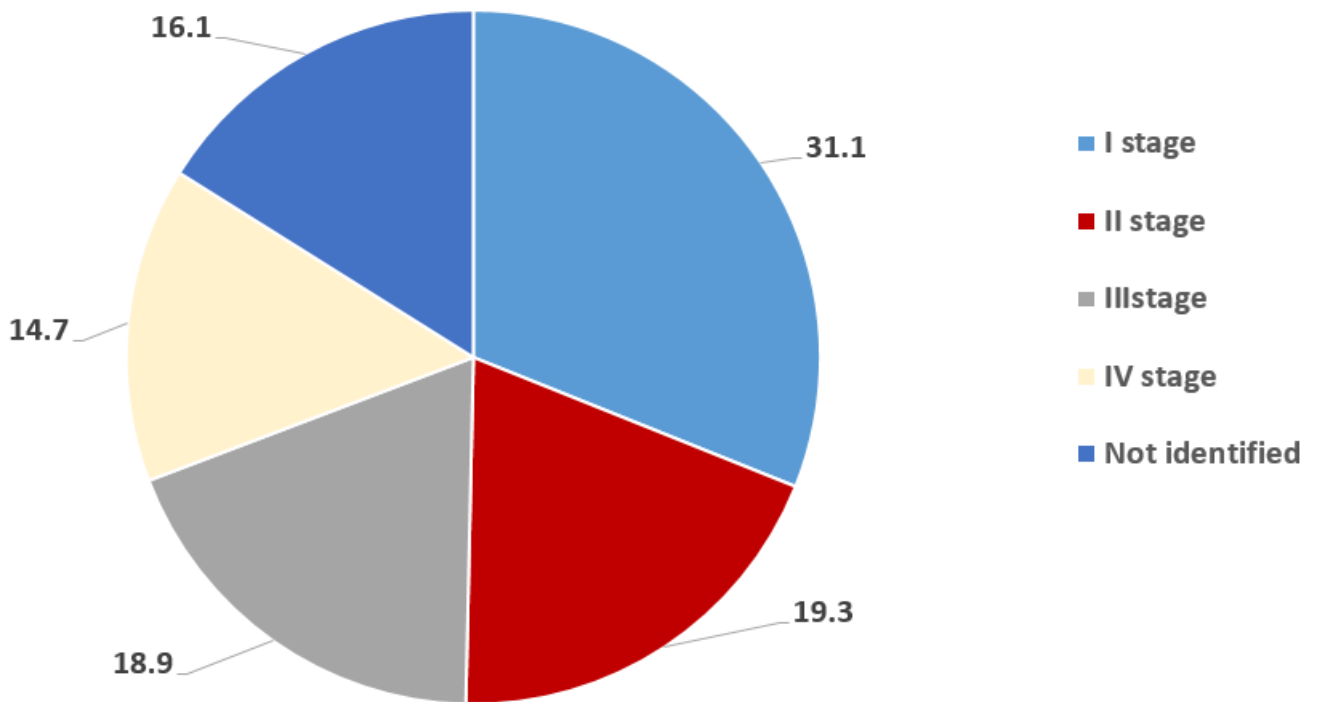
Figure 7. Cancers of all sites by age groups, Georgia, 2019



STAGES

In 2019, 43% of new cases of cancer of all sites (except malignant neoplasms of lymphoid, hematopoietic and related tissues) of both sexes were registered at the I and II stages, at the III and IV - 41%, while for the rest cases the stage was not identified.

Figure 8. Cancers of all sites by stages (except malignant neoplasms of lymphoid, hematopoietic and related tissues, Georgia, 2019)



TOP 5 SITES OF CANCER IN FEMALES

Table 7. New cases of cancer, females, Georgia, 2019

Site	Number of new cases	%
All sites	5587	100,0
Breast	1629	28,3
Thyroid gland	855	14,8
Skin cancers, other than melanoma	395	6,9
Colorectal	335	5,8
Corpus uteri	327	5,7
Cervix uteri	322	5,6
Ovary	279	4,8
Leukemia	148	2,6
Stomach	116	2,0
Bladder	110	1,9
Kidney and renal pelvis	102	1,8
Brain	74	1,3
Pancreas	78	1,4
Mesothelial and soft tissues	76	1,3
Lymphoma, other than non-Hodgkin's lymphoma	74	1,3
Trachea, bronchus, lung	74	1,3
Hepatic and intrahepatic biliary tract	58	1,0
Bone and articular cartilage	42	0,7
In situ	40	0,7
Melanoma	23	0,4
Hodgkin's lymphoma	23	0,4
Non-Hodgkin's lymphoma	22	0,4
Larynx	8	0,1
Other sites	551	9,6

Table 8. Top 5 cancers, females, Georgia, 2019

Site	Number of new cases	Incidence per 100000 females
Breast	1629	84,4
Thyroid gland	855	44,3
Colorectal	335	17,4
Corpus uteri	327	16,9
Cervix uteri	322	16,7
All sites	5587	289,5

1. BREAST CANCER IN FEMALES

In 2019, in Georgia, there were 1629 new cases of breast cancer in women registered. This is 28% of all new cases registered in this sex group. The five-year survival rate for breast cancer in women diagnosed in 2015 was 66%.

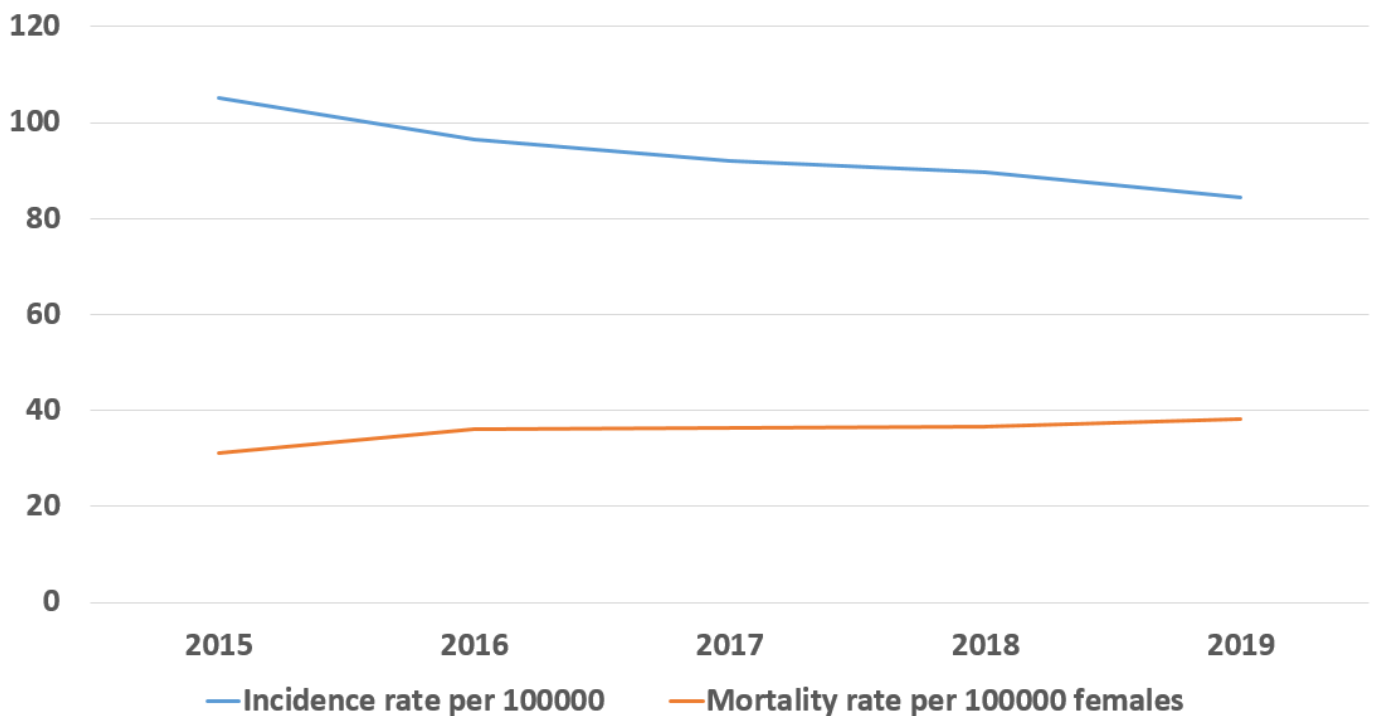
According to the American National Cancer Institute estimates, the lifetime risk of developing breast cancer in American women is 12.9%¹⁴.

Table 9. Breast cancer in females, incidence and mortality rates, Georgia, 2015-2019

	2015	2016	2017	2018	2019
New cases	2044	1875	1783	1735	1629
% of the total number of new cases	32.9	31.0	31.3	29.5	28.3
Incidence per 100000 females	105.1	96.5	91.9	89.6	84.4
Mortality per 100000 females	31.2	36.0	36.5	36.6	38.2

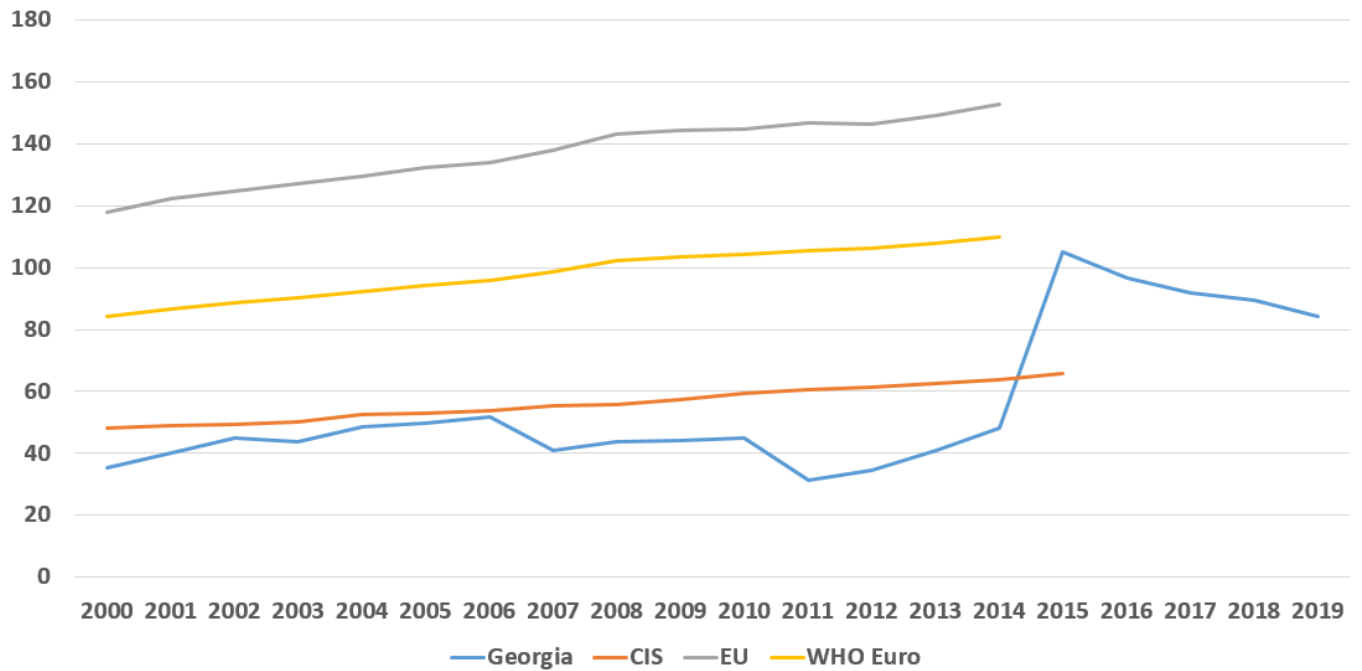
During 2015-2019, the incidence of breast cancer was declining, according to the number of registered cases, there is a 20% decrease over the last 5 years. The same time the breast cancer mortality increased by 23%.

Figure 9. Breast cancer in females, incidence and mortality rates, Georgia



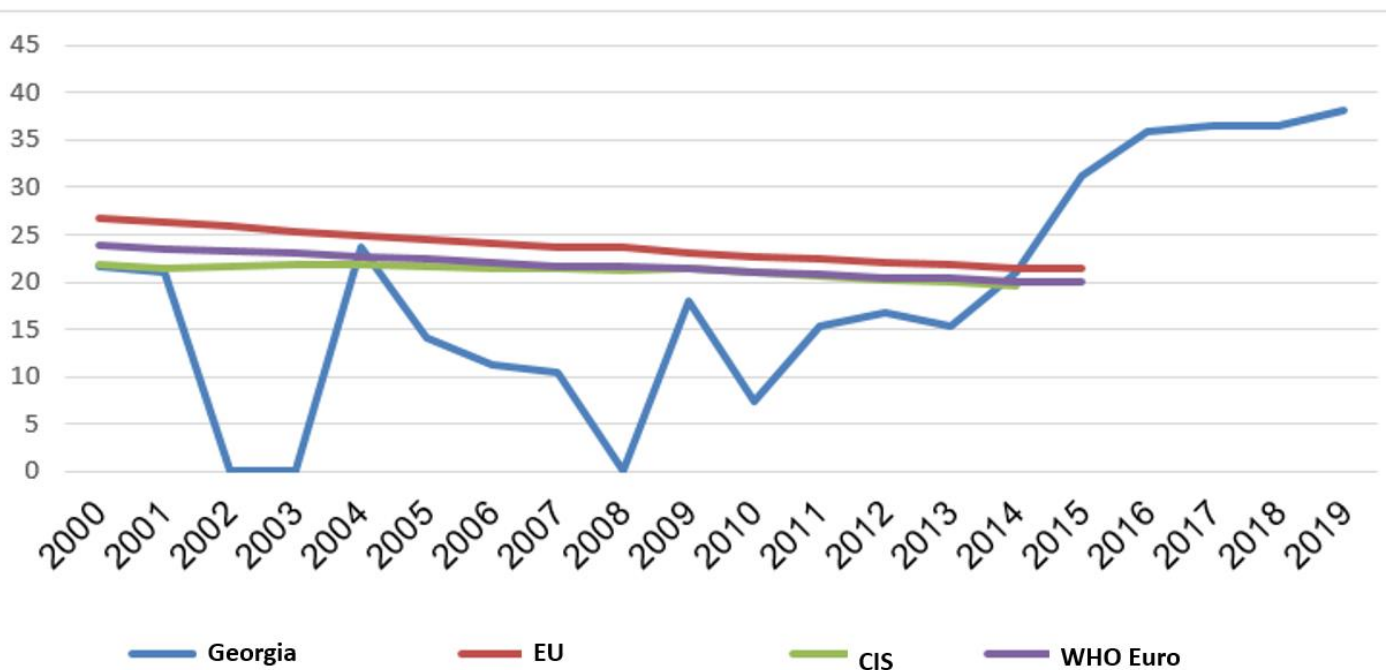
¹⁴ <https://seer.cancer.gov/statfacts/html/breast.html>

Figure 10. Breast cancer in females, incidence per 100000 females¹⁵



Source: WHO HFA DB, NCDC

Figure 11. Breast cancer in females, mortality rate per 100000 females



Source: WHO HFA DB, NCDC

The age-specific incidence of breast cancer increases with the age and reaches its maximum at the age of 60-69 years.

¹⁵ In 2015, Population Cancer Registry was introduced in Georgia

Figure 12. Breast cancer in females, age-specific incidence rate per 100000 females, Georgia, 2019

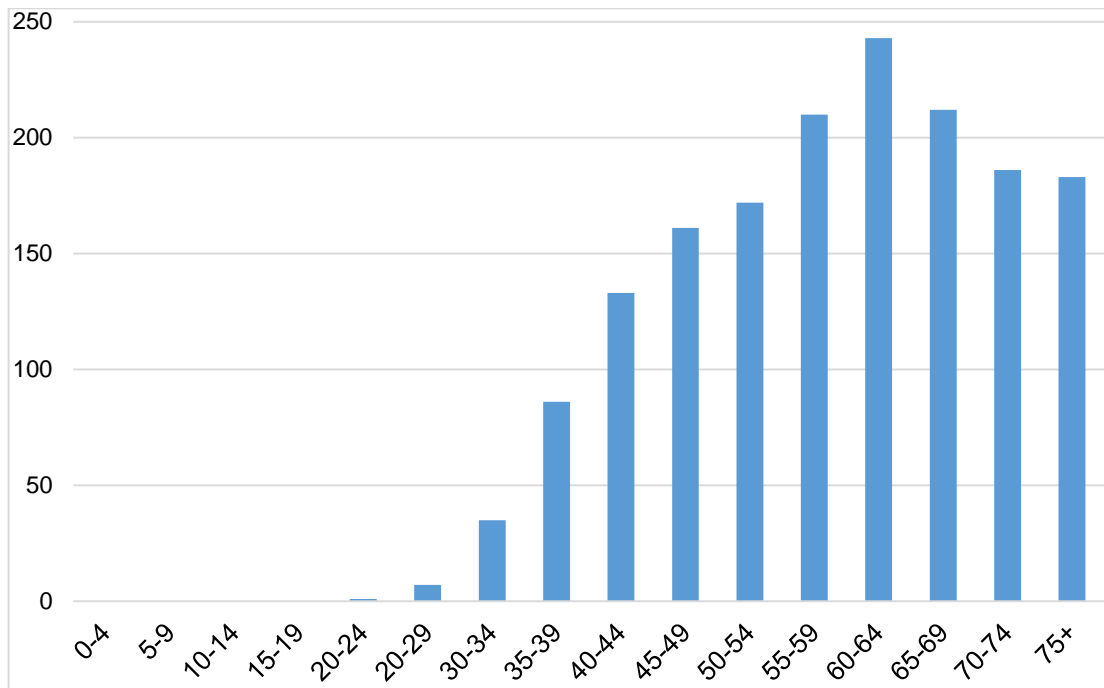
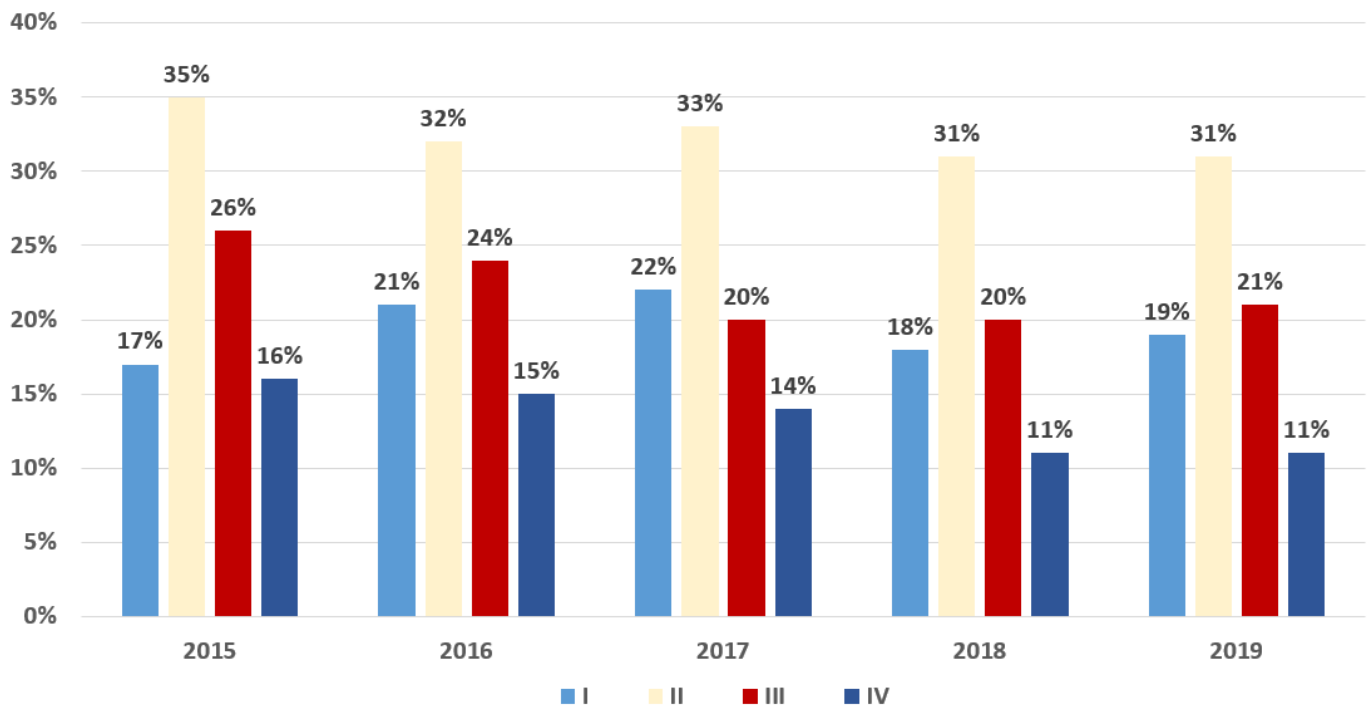


Table 10. Breast cancer in females, distribution of new cases by age groups, Georgia

Age	2015	2016	2017	2018	2019
15-19	0.0	0.0	0.0	0.1	0.0
20-24	0.3	0.2	0.1	0.1	0.1
25-29	0.5	0.9	0.8	0.5	0.4
30-34	1.9	2.2	2.1	1.8	2.1
35-39	4.0	4.9	4.8	3.7	5.3
40-44	7.5	8.1	7.9	7.4	8.2
45-49	10.8	10.6	10.5	11.6	9.9
50-54	13.0	12.9	12.8	12.4	10.6
55-59	14.8	15.7	14.4	15.2	12.9
60-64	14.3	12.7	15.3	15.9	14.9
65-69	11.4	13.7	13.0	13.8	13.0
70-74	9.1	6.8	7.2	7.1	11.4
75+	12.5	11.2	11.2	10.3	11.2
Total	100	100	100	100	100

Figure 13. Breast cancer in females, distribution of new cases by stages, Georgia



2. THYROID GLAND CANCER IN FEMALES

In 2019, in Georgia, there were 855 new cases of thyroid gland cancer in women registered. This is 14.8% of all new cases registered in this sex group. The five-year survival rate for thyroid cancer in women diagnosed in 2015 was 92.8%.

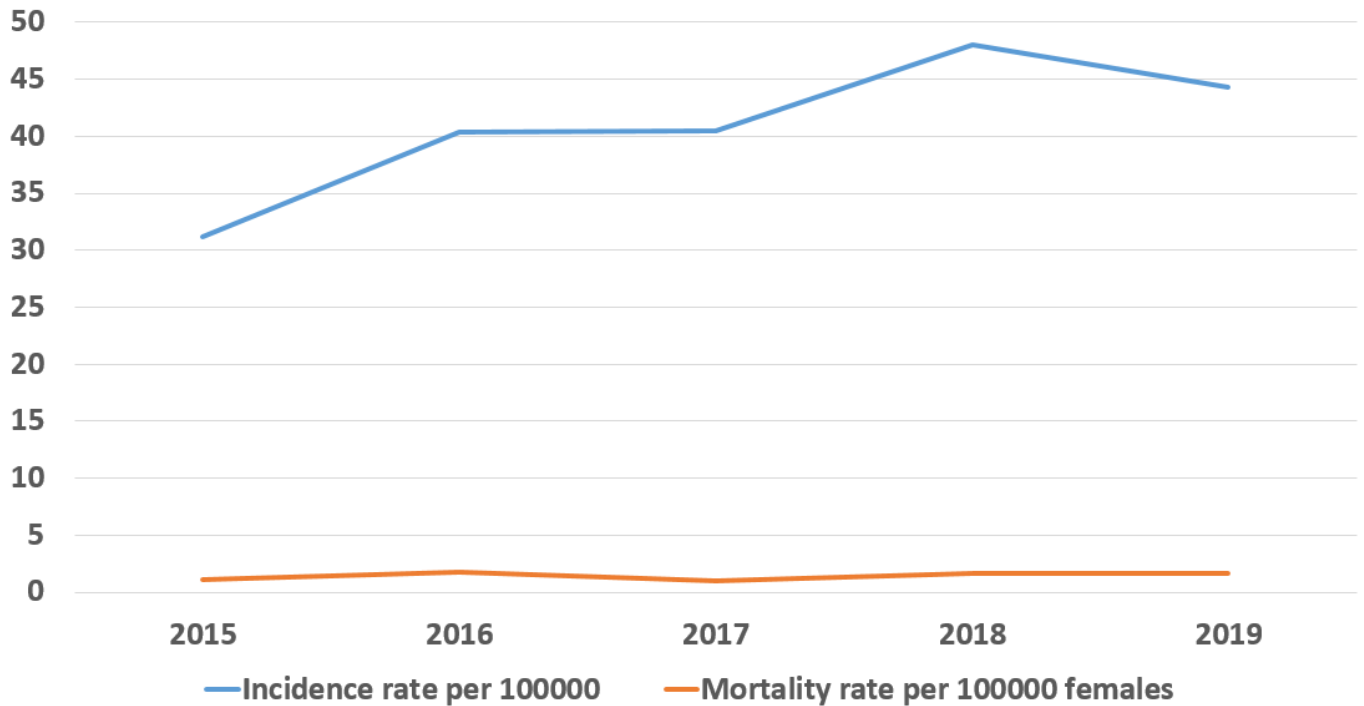
According to the American National Cancer Institute estimates, the lifetime risk of developing thyroid gland cancer in American women is 1.3%¹⁶.

Table 11. Thyroid gland cancer in females, incidence and mortality rates, Georgia, 2015-2019

	2015	2016	2017	2018	2019
New cases	607	784	785	929	855
% of the total number of new cases	9.8	12.9	13.8	15.8	14.8
Incidence per 100000 females	31.2	40.4	40.5	48.0	44.3
Mortality per 100000 females	1.1	1.8	1.0	1.6	1.7

¹⁶ <https://seer.cancer.gov/statfacts/html/thyro.html>

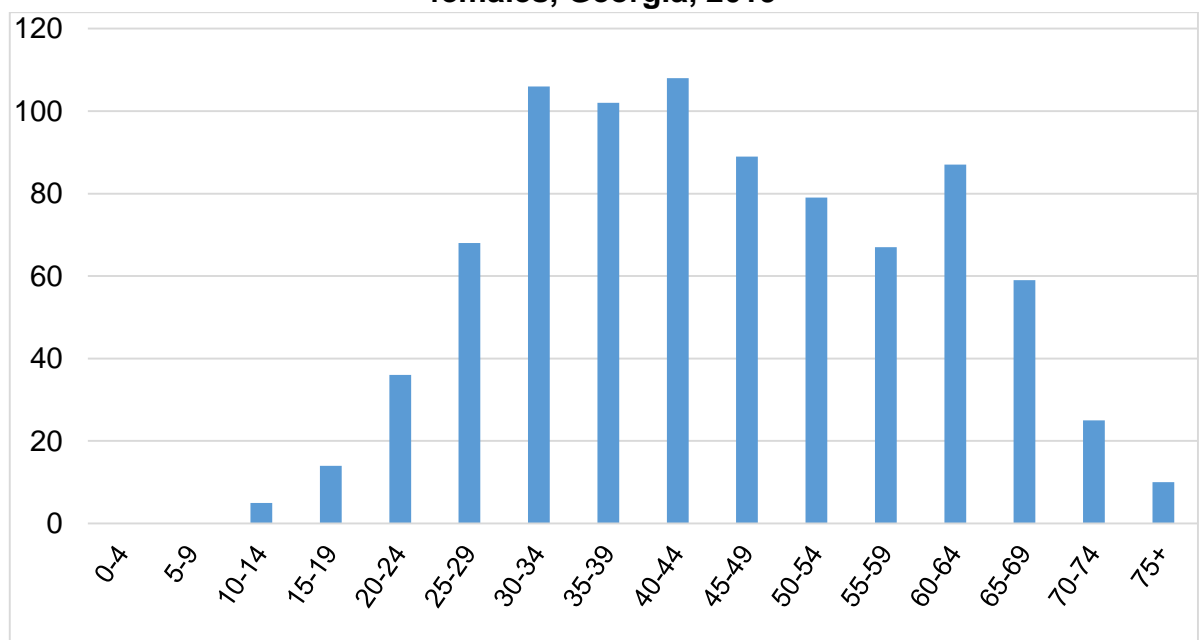
Figure 14. Thyroid gland cancer in females, incidence and mortality rates, Georgia



During 2015-2019, the incidence of thyroid gland cancer was raising, according to the number of registered cases, although, in 2019, there is a 9% decrease. The same time the thyroid gland cancer mortality is stable.

The age-specific incidence of thyroid gland cancer in females reaches its maximum at the age of 44-44 years.

Figure 15. Thyroid gland cancer in females, age-specific incidence rate per 100000 females, Georgia, 2019

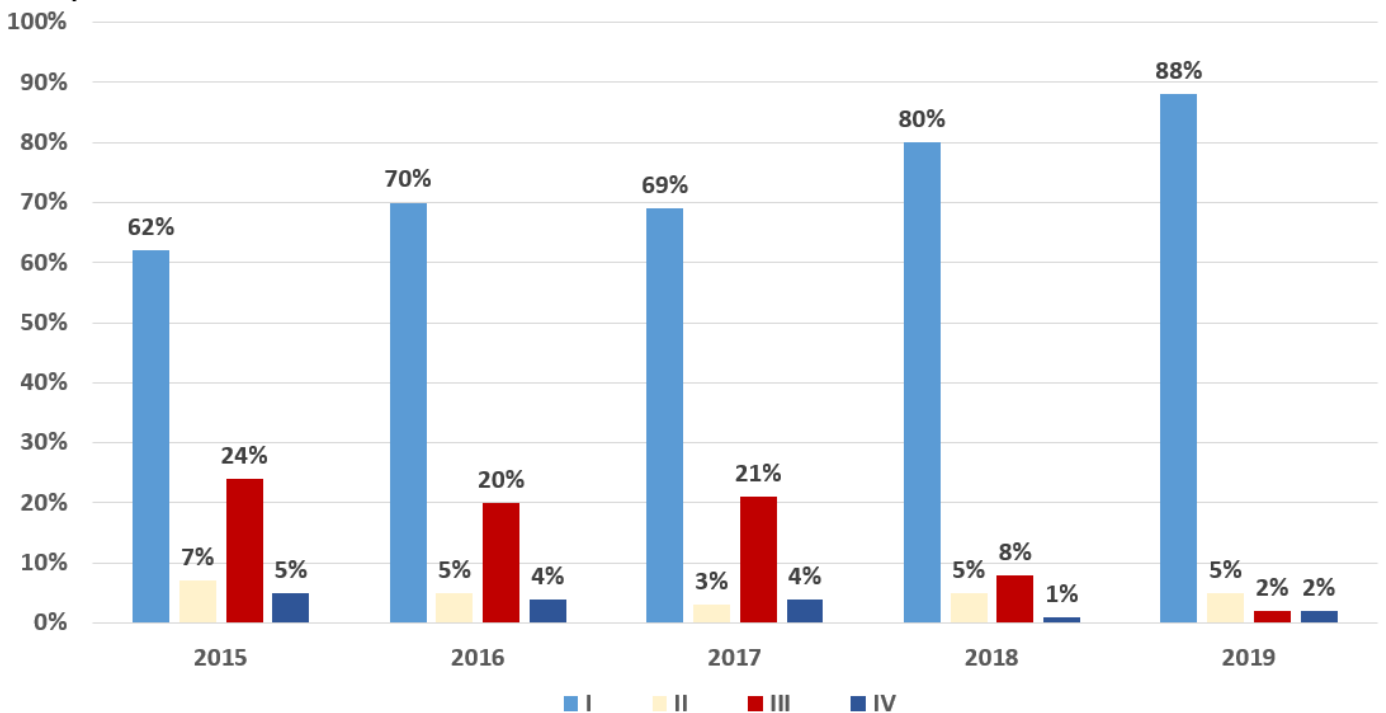


Unlike other malignant neoplasms (except hematopoietic cancers), new cases of thyroid cancer have been reported in girls under-20 years of age.

Table 12. Thyroid gland cancer in females, distribution of new cases by age groups, Georgia

Age	2015	2016	2017	2018	2019
10-14	0.3	0.4	0.4	0.2	0.6
15-19	2.1	1.4	2.3	1.3	1.6
20-24	4.4	4.7	5.4	4.7	4.2
25-29	10.9	8.5	8.4	8.3	8.0
30-34	7.7	13.0	11.1	12.2	12.4
35-39	9.7	8.7	13.1	10.4	11.9
40-44	9.9	10.2	10.8	9.9	12.6
45-49	9.4	10.1	10.4	10.0	10.4
50-54	10.4	10.7	8.9	13.1	9.2
55-59	13.5	12.8	8.7	9.0	7.8
60-64	10.9	9.4	11.6	9.6	10.2
65-69	6.1	6.5	4.7	6.7	6.9
70-74	2.6	2.0	2.4	3.0	2.9
75+	2.0	1.5	1.8	1.5	1.2
Total	100	100	100	100	100

Table 16. Thyroid gland cancer in females, distribution of new cases by stages, Georgia



3. COLORECTAL CANCER IN FEMALES

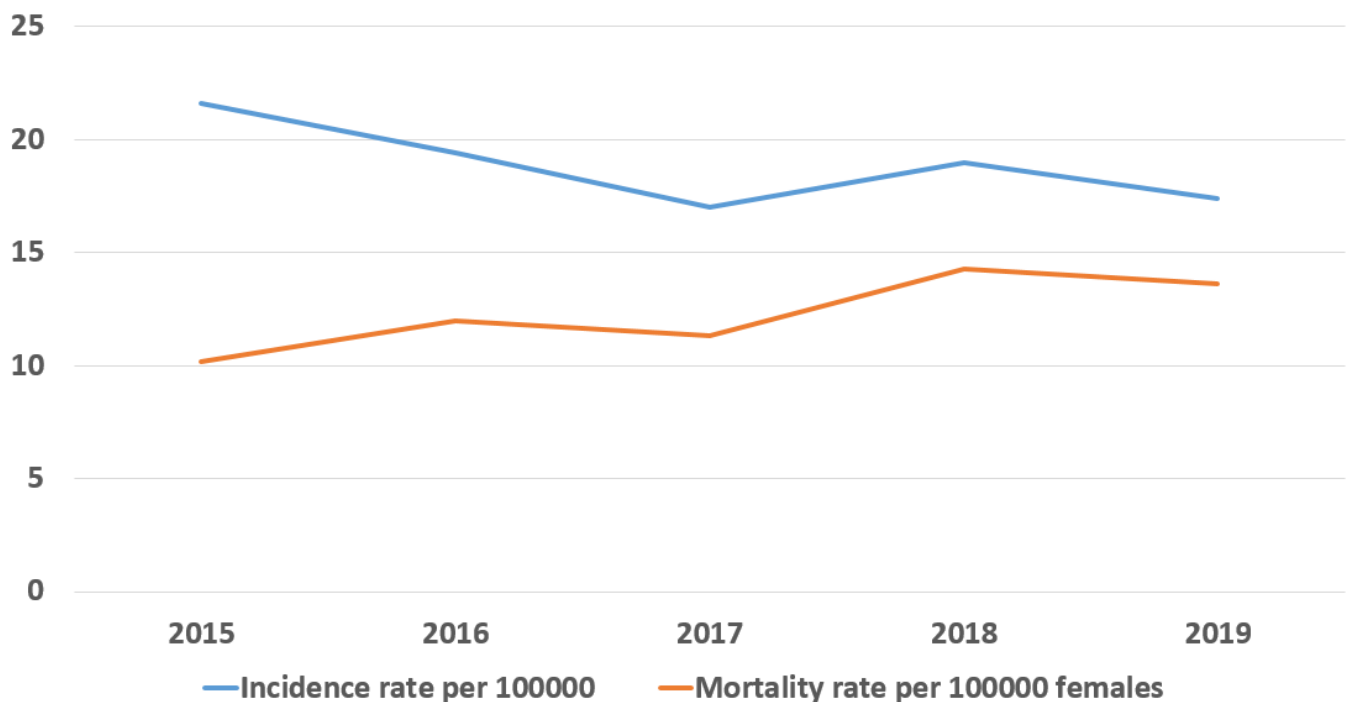
In 2019, in Georgia, there were 355 new cases of colorectal cancer in women registered. This is 5.8% of all new cases registered in this sex group. The five-year survival rate for colorectal cancer in women diagnosed in 2015 was 41.4%.

According to the American National Cancer Institute estimates, the lifetime risk of developing colorectal cancer in American women is 4.2%¹⁷.

Table 13. Colorectal cancer in females, incidence and mortality rates, Georgia, 2015-2019

	2015	2016	2017	2018	2019
New cases	420	377	329	367	335
% of the total number of new cases	6.8	6.2	5.8	6.2	5.8
Incidence per 100000 females	21.6	19.4	17.0	19.0	17.4
Mortality per 100000 females	10.2	12.0	11.3	14.3	13.6

Figure 17. Colorectal cancer in females, incidence and mortality rates, Georgia



During 2015-2019, the incidence of colorectal cancer was declining. In 2019, the incidence rate per 10000 females was 17.4, the same time the colorectal cancer mortality is increasing and, in 2019, it reached 13.6 per 100000 females.

The age-specific incidence of colorectal cancer increases with the age and reaches its maximum at the age of 70-74 years.

¹⁷ <https://seer.cancer.gov/statfacts/html/colorect.html>

Figure 18. Colorectal cancer in females, age-specific incidence rate per 100000 females, Georgia, 2019

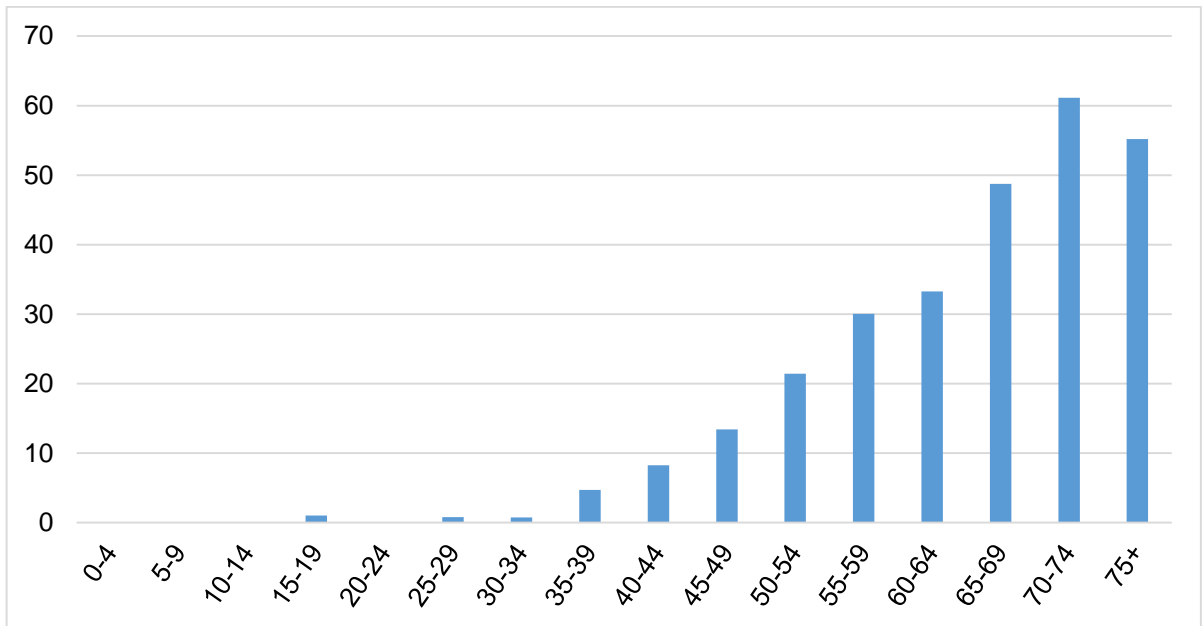
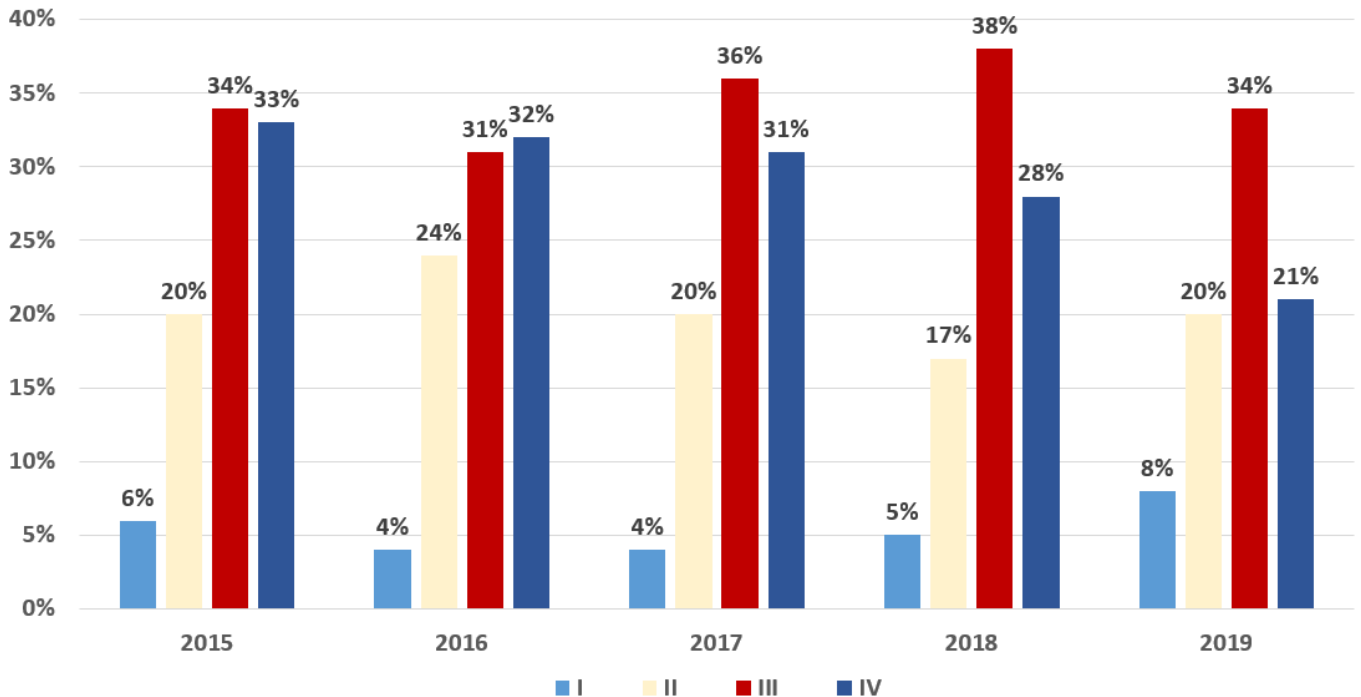


Table 14. Colorectal cancer in females, distribution of new cases by age groups, Georgia

Age	2015	2016	2017	2018	2019
15-19	0.0	0.0	0.6	0.3	0.3
20-24	0.2	0.0	0.3	0.0	0.0
25-29	0.2	0.5	0.9	0.0	0.3
30-34	1.2	0.0	0.6	0.3	0.3
35-39	1.2	0.3	0.6	1.1	1.8
40-44	0.7	3.2	2.4	1.9	3.0
45-49	6.2	3.7	3.0	4.6	4.8
50-54	6.7	7.7	6.4	6.3	7.8
55-59	12.4	8.8	11.2	11.7	12.5
60-64	15.0	17.5	16.1	15.8	12.8
65-69	16.9	18.0	16.7	17.2	16.4
70-74	13.8	10.9	13.4	12.8	14.6
75+	25.5	29.4	27.7	28.1	25.4
Total	100	100	100	100	100

Figure 19. Colorectal cancer in females, distribution of new cases by stages, Georgia



4. CORPUS UTERI CANCER

In 2019, in Georgia, there were 327 new cases of corpus uteri cancer registered. This is 5.7% of all new cases registered in women. The five-year survival rate for corpus uteri cancer diagnosed in 2015 was 66.7%.

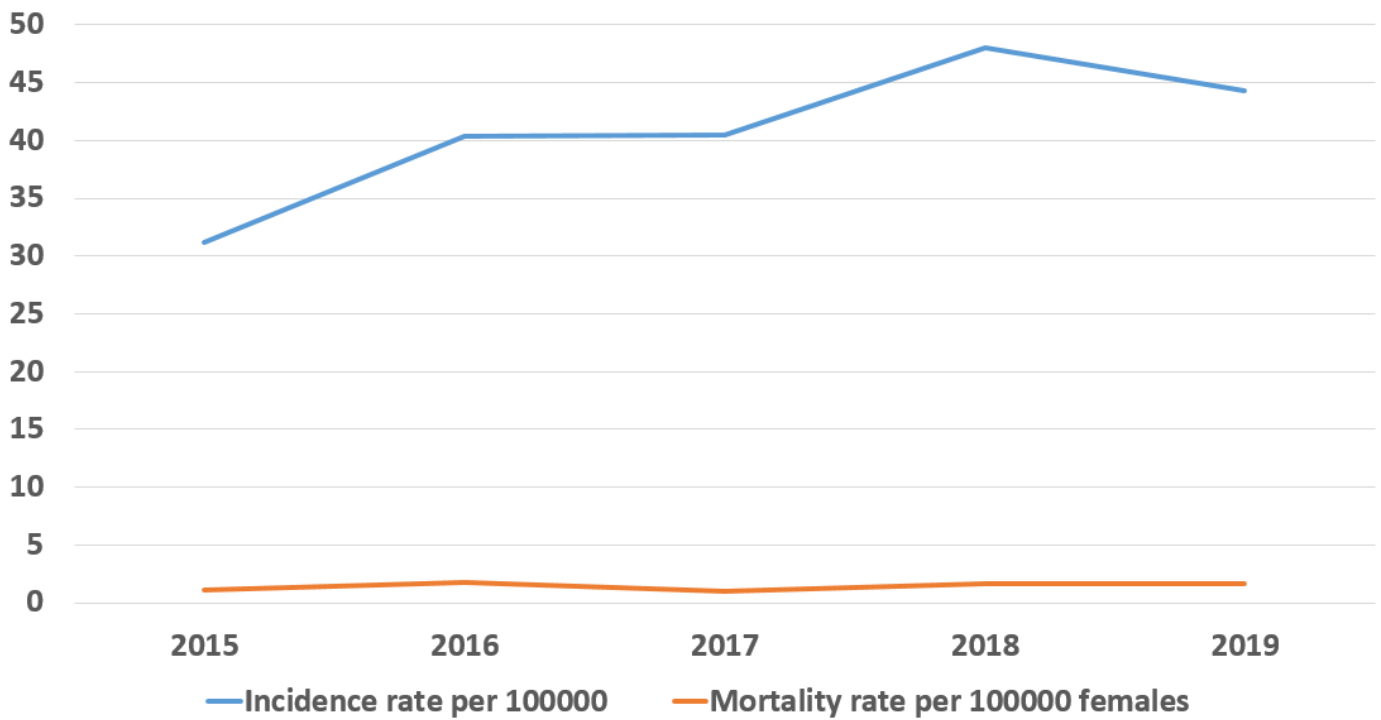
According to the American National Cancer Institute estimates, the lifetime risk of developing corpus uteri cancer in American women is 3.1%¹⁸.

Table 15. Corpus uteri cancer, incidence and mortality rates, Georgia, 2015-2019

	2015	2016	2017	2018	2019
New cases	369	373	344	372	327
% of the total number of new cases	5.9	6.2	6.0	6.3	5.7
Incidence per 100000 females	19.0	19.2	17.7	19.2	16.9
Mortality per 100000 females	4.8	6.2	6.6	7.4	7.9

¹⁸ <https://seer.cancer.gov/statfacts/html/corp.html>

Figure 20. Corpus uteri cancer, incidence and mortality rates, Georgia



In 2015-2018, the incidence of corpus uteri cancer remained stable, although, in 2019, the incidence decreased to 16.9 per 100,000 women. During the same period, the mortality rate from corpus uteri cancer was steadily increasing, and, in 2019 the rate reached 7.9 per 100,000 women.

The age-specific incidence of corpus uteri cancer reaches its maximum at the age of 60–69 years.

Figure 21. Corpus uteri cancer, age-specific incidence rate per 100,000 females, Georgia, 2019

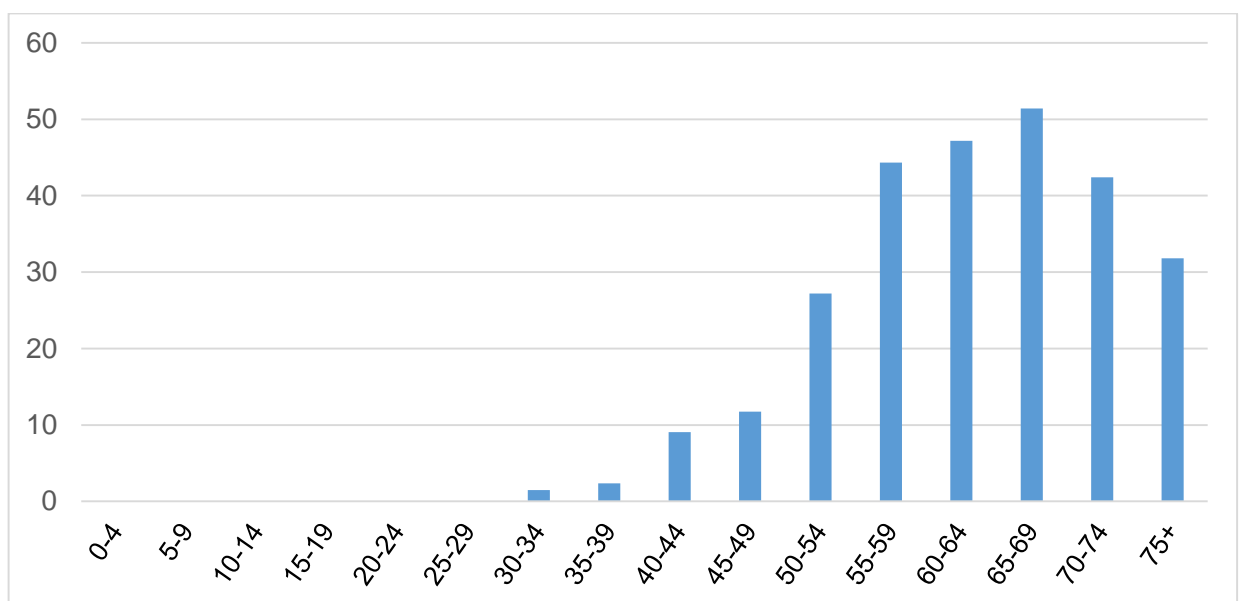
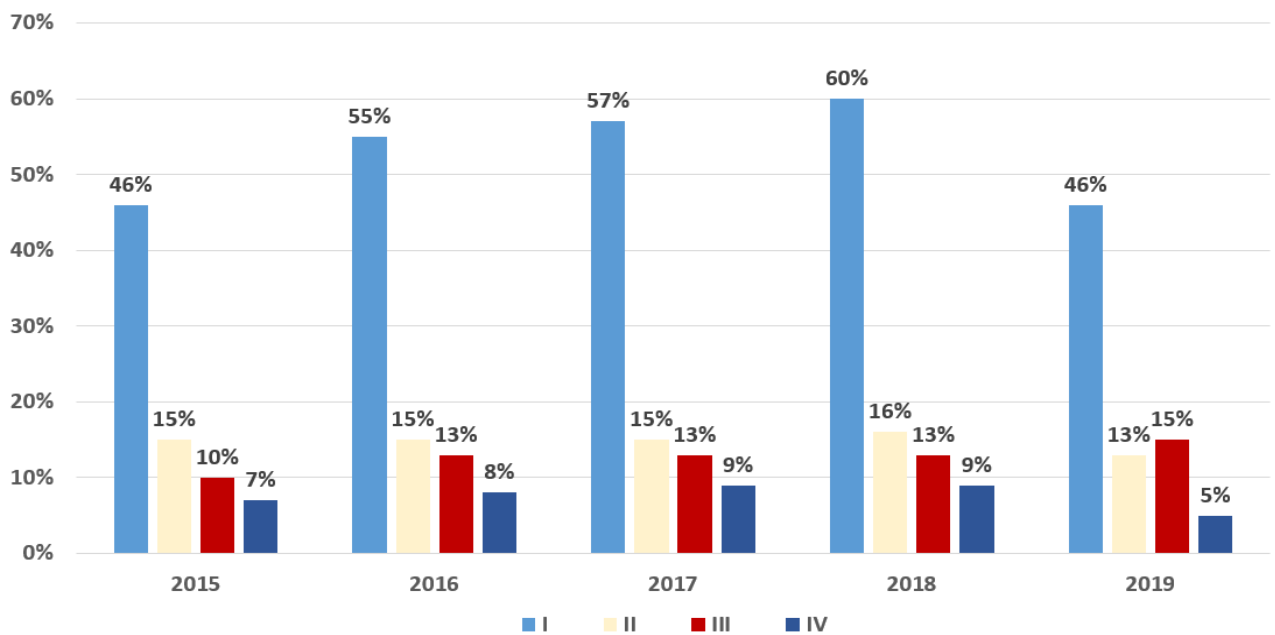


Table 16. Corpus uteri cancer, distribution of new cases by age groups, Georgia

Age	2015	2016	2017	2018	2019
20-29	0.0	0.0	0.3	0.0	0.0
30-34	0.5	0.8	0.6	0.3	0.6
35-39	1.6	1.9	1.2	1.6	0.9
40-44	1.1	3.8	2.0	1.6	3.4
45-49	5.1	4.8	4.7	6.7	4.3
50-54	14.9	12.3	11.3	7.3	10.1
55-59	20.6	16.9	18.9	16.4	19.0
60-64	18.4	21.2	22.1	22.8	18.7
60-69	19.5	19.8	18.9	21.2	17.7
70-74	9.5	7.5	8.1	12.1	10.4
75+	8.7	11.0	11.9	9.9	15.0
Total	100	100	100	100	100

Figure 22. Corpus uteri cancer, distribution of new cases by stages, Georgia



CERVIX UTERI CANCER

In 2019, in Georgia, there were 322 new cases of cervix uteri cancer registered. This is 5.6% of all new cases registered in women. The five-year survival rate for cervix uteri cancer diagnosed in 2015 was 56.9%.

According to the American National Cancer Institute estimates, the lifetime risk of developing cervix uteri cancer in American women is 0.6%¹⁹.

¹⁹ <https://seer.cancer.gov/statfacts/html/cervix.html>

Table 17. Cervix uteri cancer, incidence and mortality rates, Georgia, 2015-2019

	2015	2016	2017	2018	2019
New cases	357	406	308	291	322
% of the total number of new cases	5.8	6.7	5.4	4.9	5.6
Incidence per 100000 females	18.4	20.9	15.9	15.0	16.7
Mortality per 100000 females	8.5	6.2	8.1	8.6	8.5

Figure 23. Cervix uteri cancer, incidence and mortality rates, Georgia

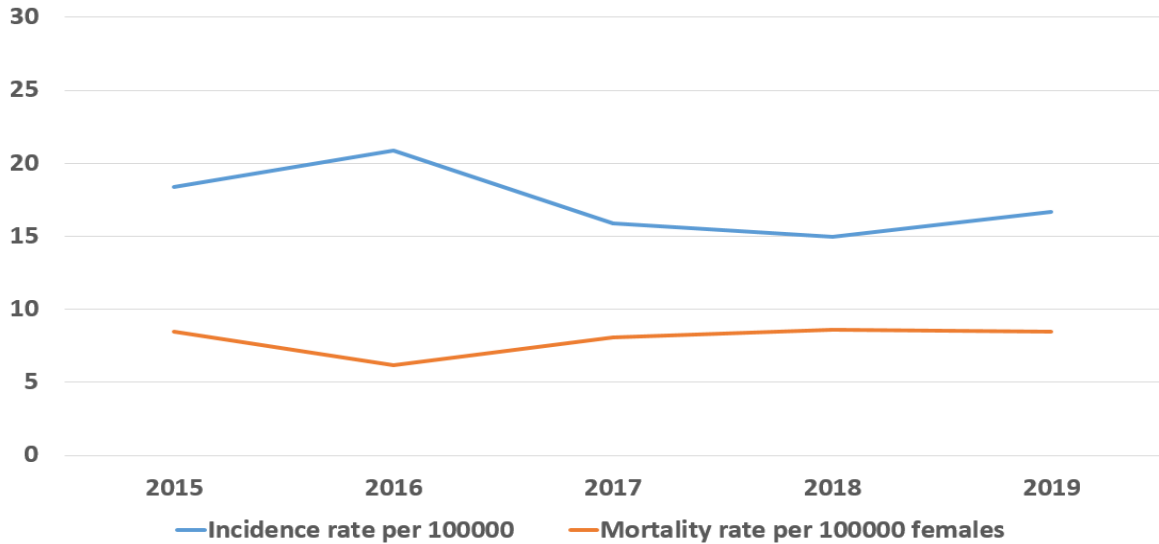
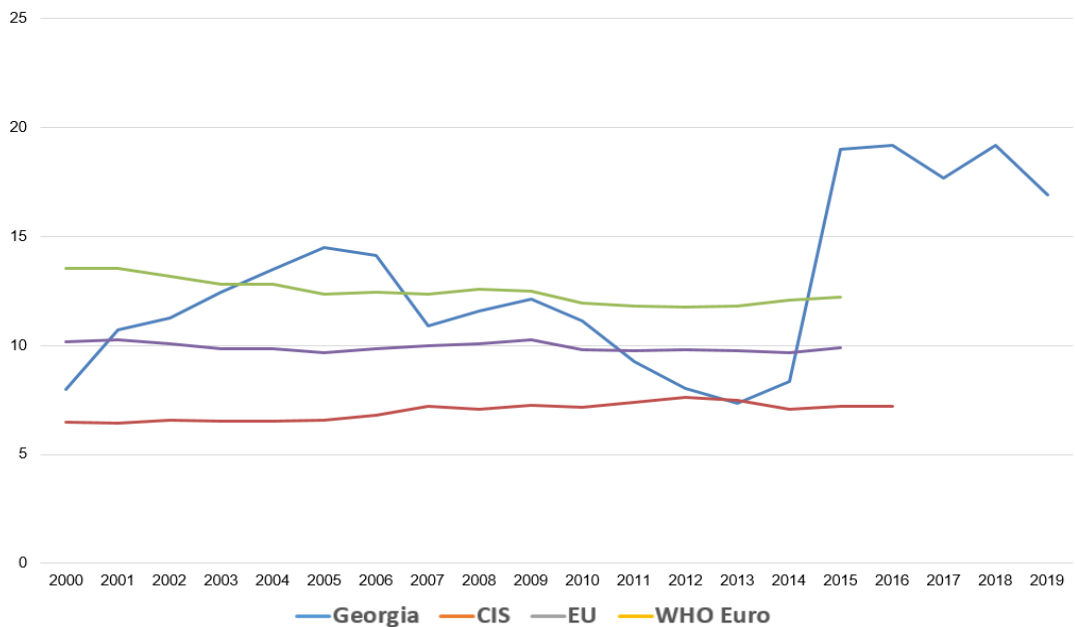


Figure 24. Cervix uteri cancer, incidence rate per 100000 females



Source: WHO HFA DB, NCDC

In 2015-2018, the incidence of cervix uteri cancer was declining. In 2019, the incidence rate increased and reached 5.6 per 100,000 women. During the same period, the mortality rate from cervix uteri cancer was increasing, and, in 2019, the rate reached 8.5 per 100,000 women.

The age-specific incidence of cervix uteri cancer reaches its maximum at the age of 50-54 years.

Figure 25. Cervix uteri cancer, age-specific incidence rate per 100000 females, Georgia, 2019

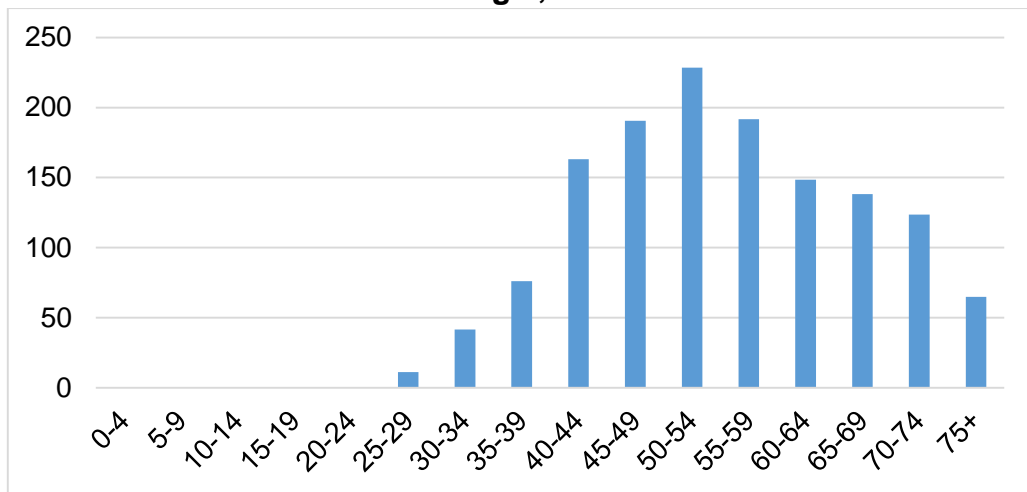
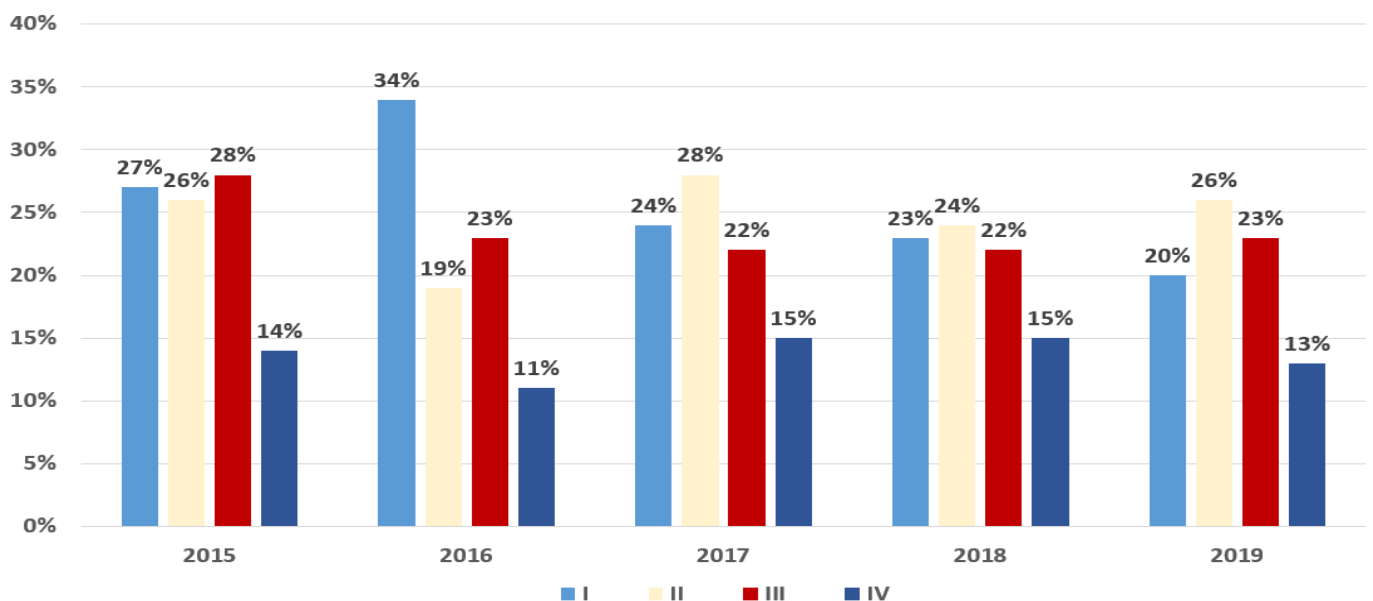


Table 18. Cervix uteri cancer, distribution of new cases by age groups, Georgia

Age	2015	2016	2017	2018	2019
25-29	0.6	1.0	1.3	0.3	0.9
30-34	3.4	4.2	3.9	3.4	1.6
35-39	7.0	6.7	5.8	3.1	5.6
40-44	15.1	8.9	10.7	10.7	13.7
45-49	16.0	14.8	11.4	11.7	12.7
50-54	17.1	18.7	14.0	19.6	12.4
55-59	12.3	17.0	15.9	17.9	16.8
60-64	11.2	8.6	12.3	12.7	13.0
65-69	7.3	9.4	10.7	9.3	9.9
70-74	3.9	5.4	7.5	6.2	6.8
75+	6.2	5.4	6.5	5.2	6.5
Total	100	100	100	100	100

Figure 26. Cervix uteri cancer, distribution of new cases by stages, Georgia



TOP 5 SITES OF CANCER IN MALES

Table 19. New cases of cancer, males, Georgia, 2019

Site	Number of new cases	%
All sites	4578	100.0
Trachea, bronchus, lung	623	13.6
Prostate	548	12.0
Bladder	405	8.8
Skin cancers, other than melanoma	402	8.8
Colorectal	376	8.2
Larynx	215	4.7
Stomach	206	4.5
Kidney and renal pelvis	188	4.1
Hepatic and intrahepatic biliary tract	151	3.3
Leukemia	147	3.2
Thyroid gland	142	3.1
Brain	121	2.6
Pancreas	82	1.8
Lymphoma, other than non-Hodgkin's lymphoma	63	1.4
Mesothelial and soft tissues	45	1.0
Bone and articular cartilage	43	0.9
Hodgkin's lymphoma	27	0.6
in situ	26	0.6
Melanoma	24	0.5
Breast	23	0.5
Non-Hodgkin's lymphoma	23	0.5
Other sites	698	15.2

Table 20. Top 5 cancers, males, Georgia, 2019

Site	Number of new cases	Incidence per 100000 females
Trachea, bronchus, lung	623	34,8
Prostate	548	30,6
Bladder	405	22,6
Trachea, bronchus, lung	376	21,0
Larynx	215	12,0
All sites	4578	255,7

1. TRACHEA, BRONCHUS, LUNG IN MALES

In 2019, in Georgia, there were 623 new cases of trachea, bronchus and lung cancer in men registered. This is 13.6% of all new cases registered in this sex group. According to international estimates, the most common cancers in men are malignant neoplasms of the trachea, bronchus and

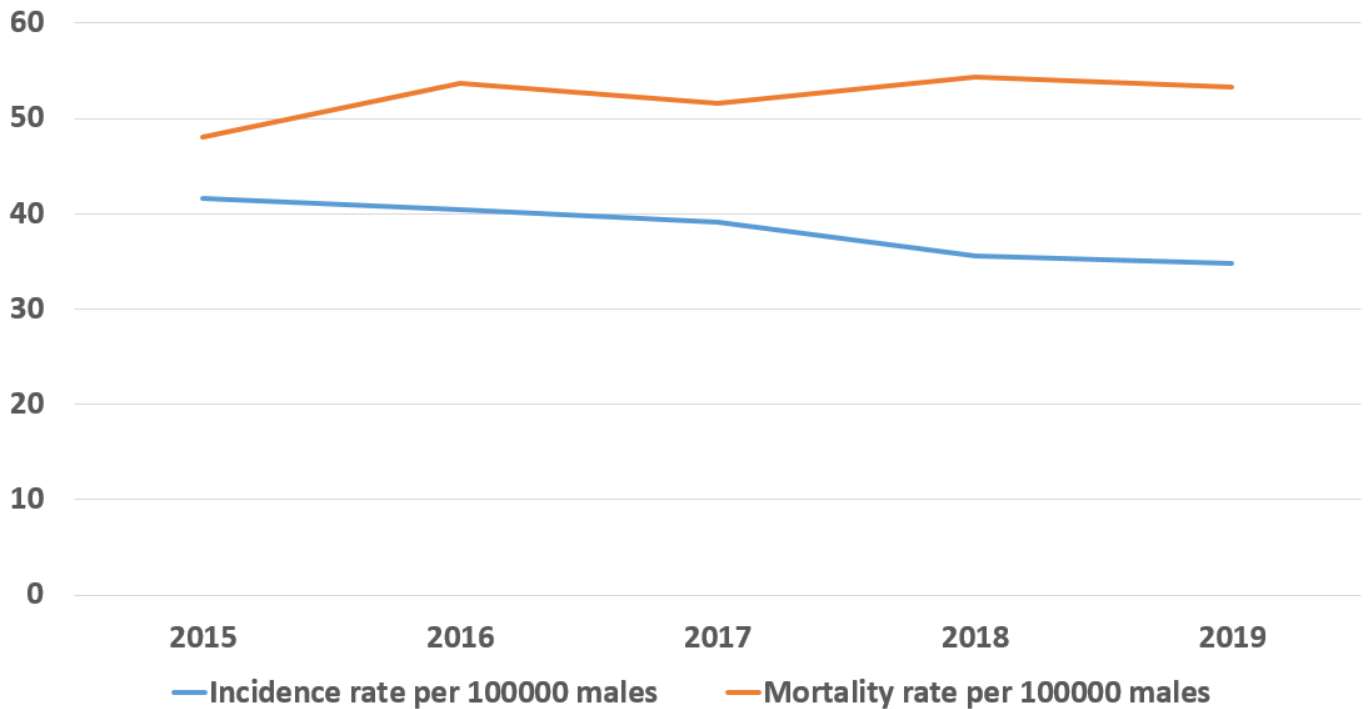
lungs. According to the American National Cancer Institute estimates, the lifetime risk of developing this cancer in American men is 6.3%²⁰.

The five-year survival rate for trachea, bronchus, and lung cancer in men diagnosed in 2015 was 17.1%.

Table 21. Trachea, bronchus and lung cancer in males, incidence and mortality rates, Georgia, 2015-2019

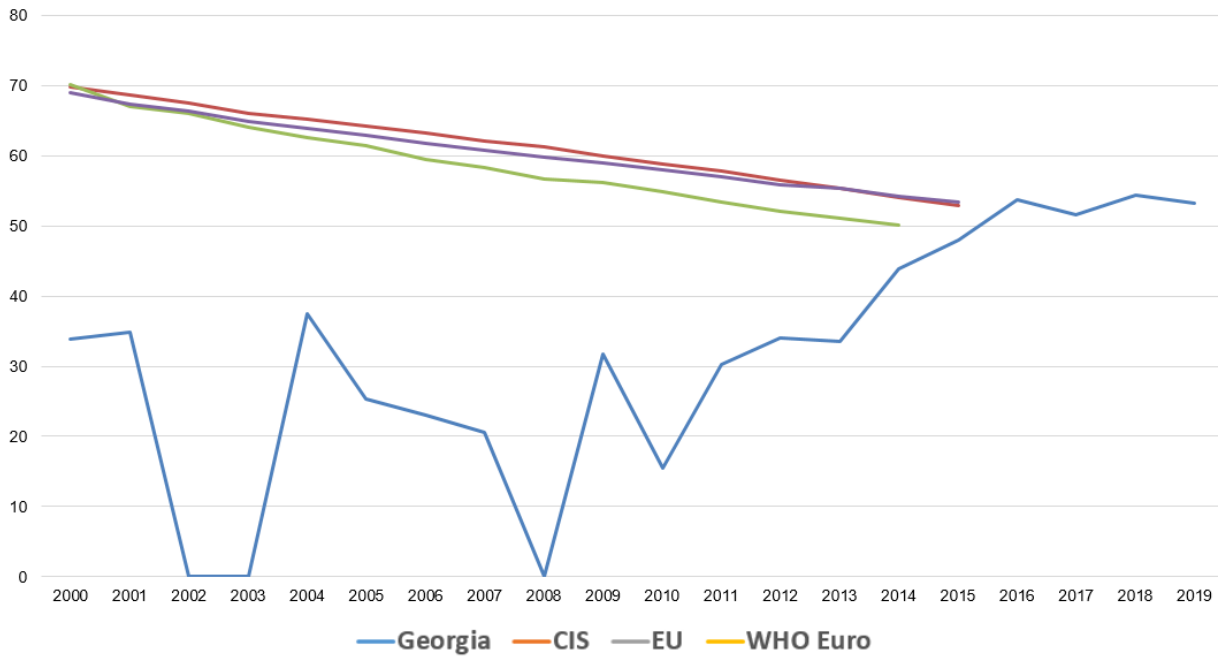
	2015	2016	2017	2018	2019
New cases	740	723	699	638	623
% of the total number of new cases	15.1	15.6	15.7	14.1	13.6
Incidence per 100000 males	41.6	40.5	39.1	35.6	34.8
Mortality per 100000 males	48.0	53.7	51.6	54.4	53.3

Figure 27. Trachea, bronchus and lung cancer in males, incidence and mortality rates, Georgia



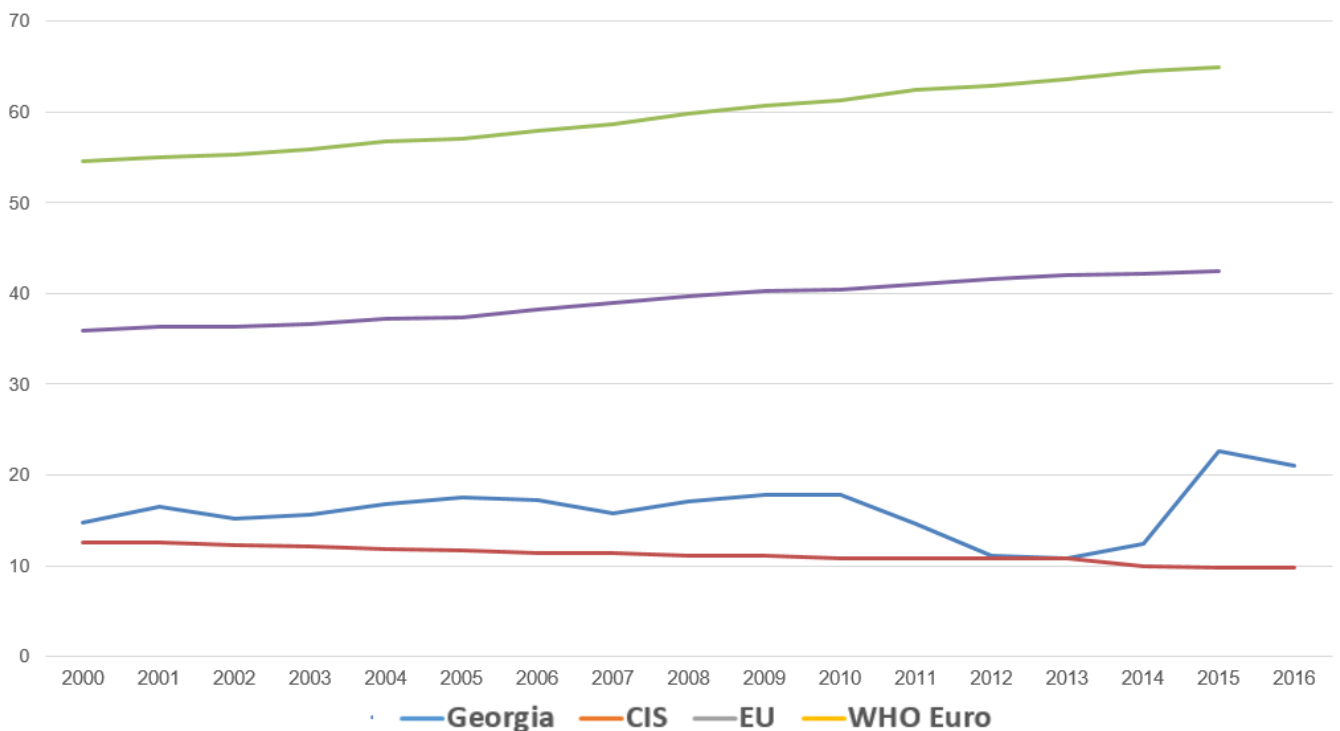
²⁰ <https://seer.cancer.gov/statfacts/html/prost.html>

Figure 28. Trachea, bronchus and lung cancer in males, mortality rate per 100000 males



Source: WHO HFA DB, NCDC

Figure 29. Trachea, bronchus and lung cancer in males, incidence rate per 100000 males



Source: WHO HFA DB, NCDC

During 2015-2019, the incidence of trachea, bronchus and lung cancer in men was declining, and, in 2019, it reached 34.8 per 100000 males. The same time the mortality due to trachea, bronchus and lung cancer increased and, in 2019, it reached 53.3.

The age-specific incidence of trachea, bronchus and lung cancer reaches its maximum at the age of 60-69 years.

Figure 30. Trachea, bronchus and lung cancer in males, age-specific incidence rate per 100000 males, Georgia, 2019

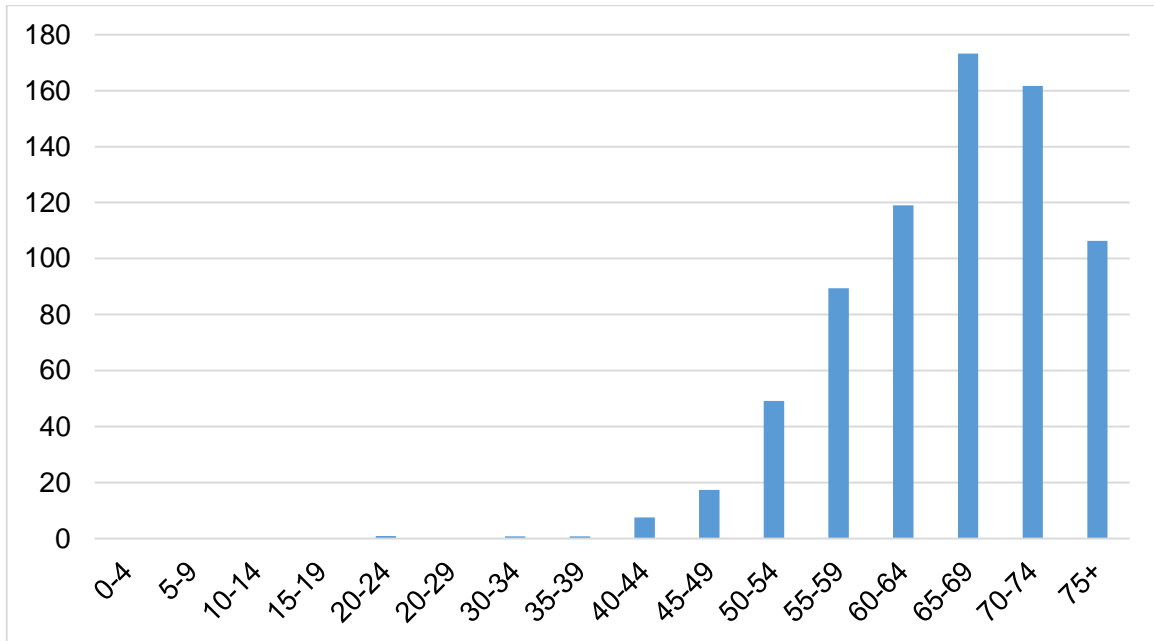
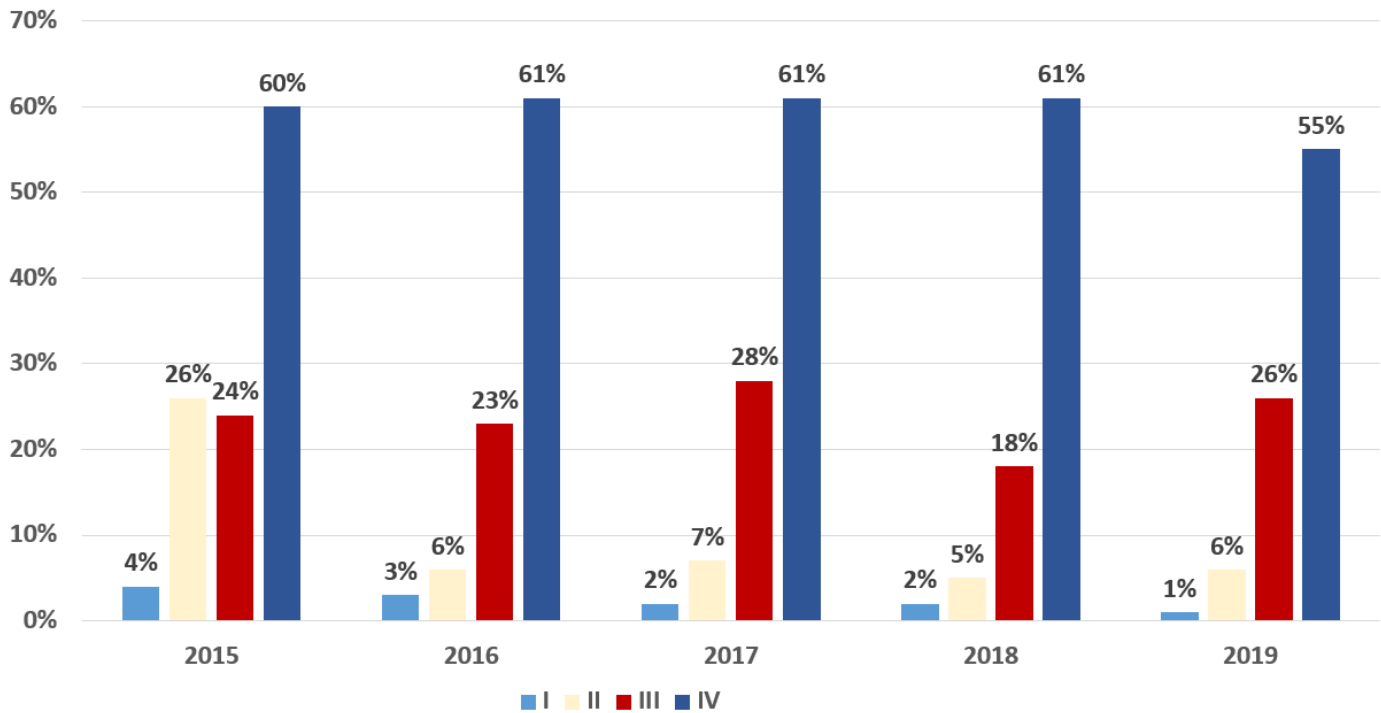


Table 22. Trachea, bronchus and lung cancer in males, distribution of new cases by age groups, Georgia

Age	2015	2016	2017	2018	2019
20-24	0.1	0.0	0.0	0.2	0.2
20-29	0.3	0.1	0.4	0.0	0.0
30-34	0.4	0.1	0.0	0.2	0.2
35-39	0.4	1.1	0.4	0.6	0.2
40-44	1.6	2.1	1.4	0.9	1.4
45-49	6.5	5.3	4.1	4.2	3.2
50-54	11.4	10.5	10.9	9.1	8.8
55-59	18.1	17.2	18.0	18.0	17.3
60-64	21.1	19.9	19.7	22.7	19.6
60-69	14.1	18.4	19.5	18.7	22.5
70-74	12.2	10.1	9.6	11.8	13.3
75+	13.9	15.2	15.9	13.6	13.3
Total	100	100	100	100	100

Figure 31. Trachea, bronchus and lung cancer in males, distribution of new cases by stages, Georgia



2. PROSTATE CANCER

In 2019, in Georgia, there were 548 new cases of prostate cancer registered. This is 12% of all new cases registered in this sex group. The five-year survival rate for prostate cancer diagnosed in 2015 was 46.6%.

According to the American National Cancer Institute estimates, the lifetime risk of developing this cancer in American men is 12.1%²¹.

Table 23. Prostate cancer, incidence and mortality rates, Georgia, 2015-2019

	2015	2016	2017	2018	2019
New cases	638	506	477	560	548
% of the total number of new cases	13.0	10.9	10.7	12.4	12.0
Incidence per 100000 males	35.8	28.4	26.7	31.3	30.6
Mortality per 100000 males	15.7	18.7	20.4	21.2	27.5

²¹ <https://seer.cancer.gov/staffacts/html/prost.html>

Figure 32. Prostate cancer, incidence and mortality rates, Georgia

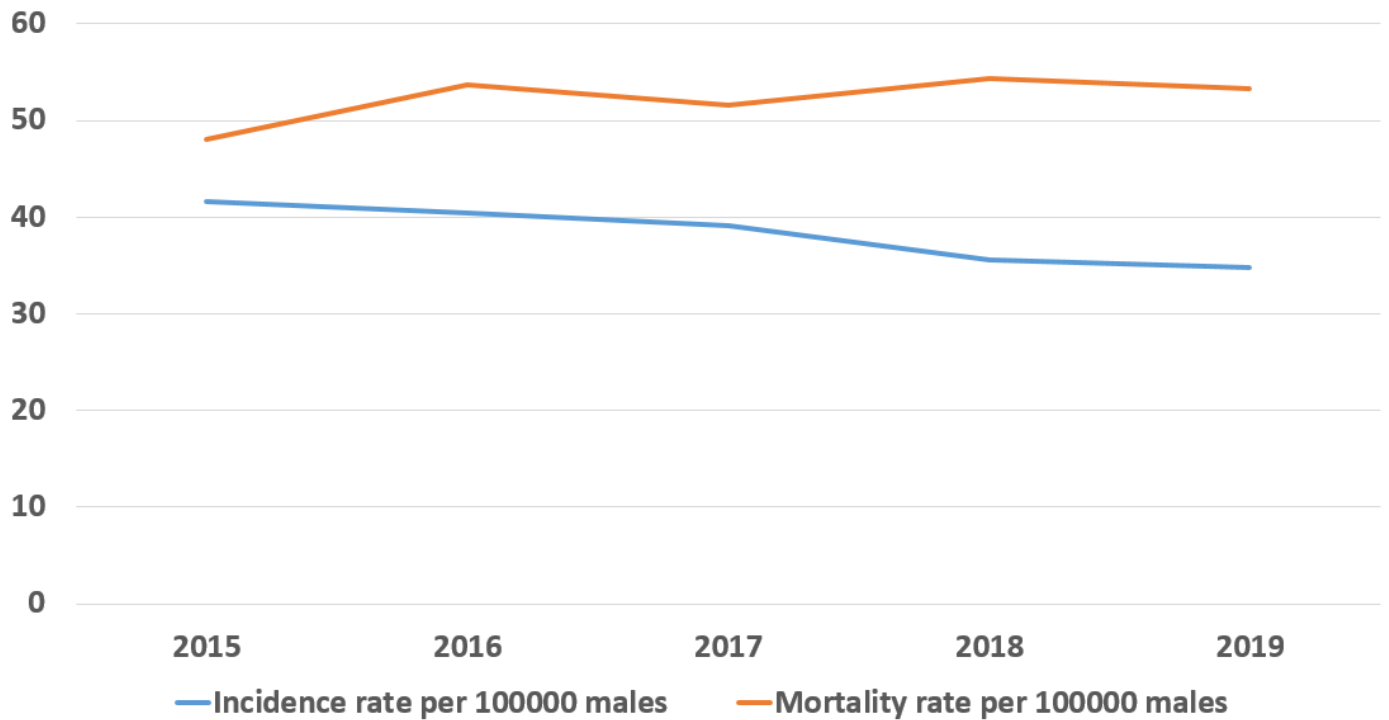
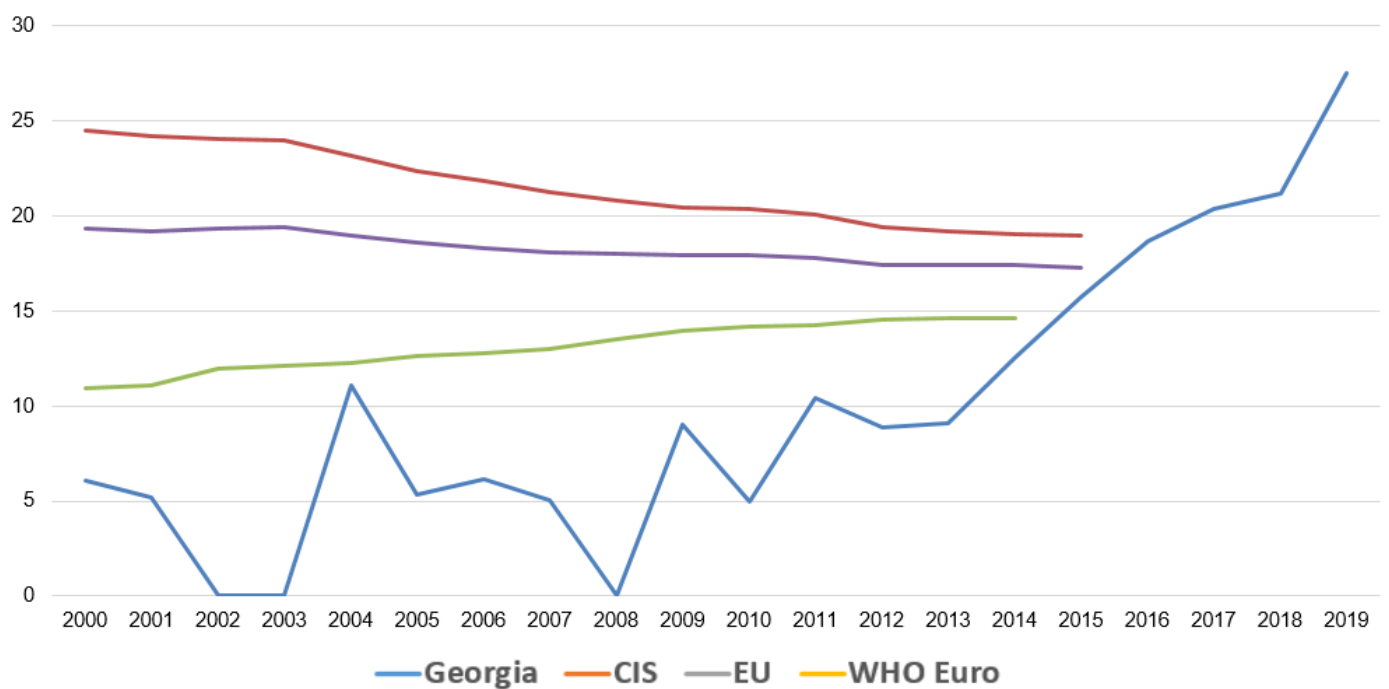


Figure 33. Prostate cancer, mortality rate per 100000 males



Source: WHO HFA DB, NCDC

During 2015-2019, the incidence of prostate cancer was declining, and, in 2019, it reached 30.6 per 100000 males. The same time the mortality due to prostate cancer sharply increased and, in 2019, it reached 27.5.

The age-specific incidence of prostate cancer reaches its maximum at the age of 70-74 years.

Figure 34. Prostate cancer, age-specific incidence rate per 100000 males, Georgia, 2019

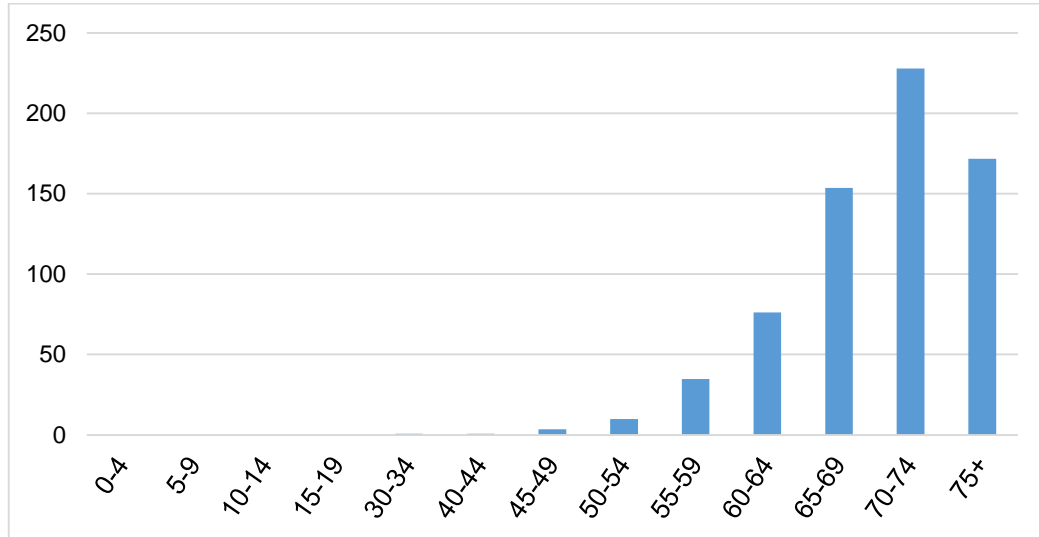
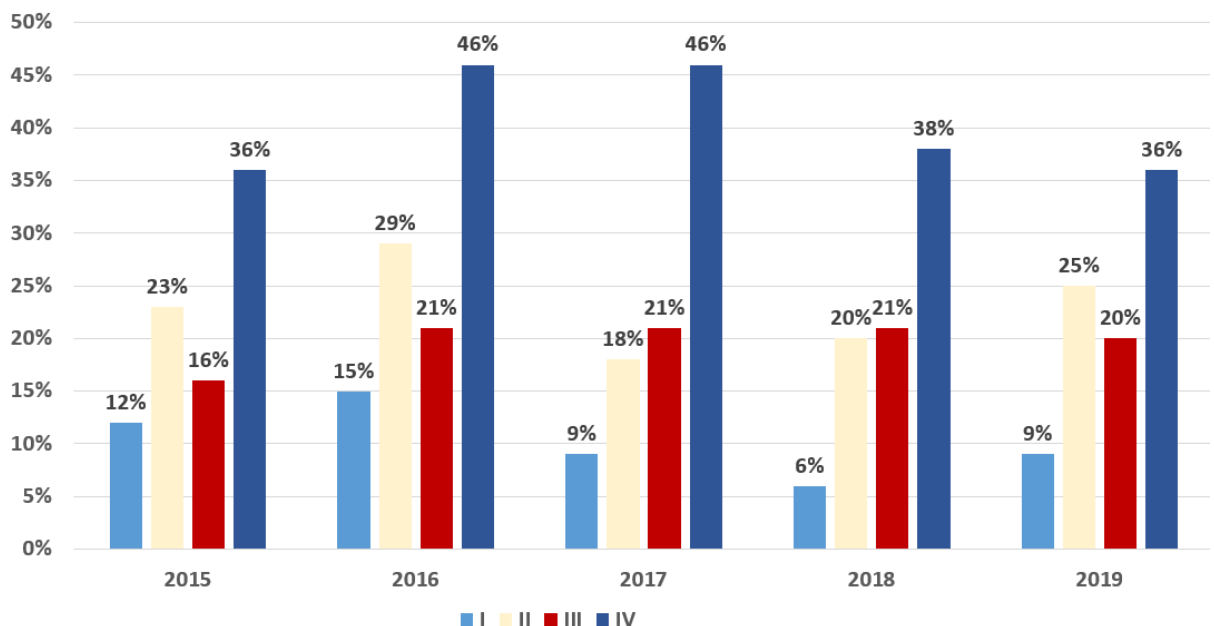


Table 24. Prostate cancer, distribution of new cases by age groups, Georgia

Age	2015	2016	2017	2018	2019
5-9	0.0	0.2	0.0	0.0	0.0
15-19	0.0	0.0	0.2	0.0	0.0
30-34	0.0	0.0	0.0	0.0	0.4
40-44	0.3	0.2	0.2	0.2	0.2
45-49	0.2	0.8	0.2	0.7	0.5
50-54	2.5	1.8	3.1	2.0	2.0
55-59	8.5	7.5	9.6	4.8	8.6
60-64	13.3	16.8	15.9	16.8	15.7
65-69	21.5	25.7	23.5	24.8	23.2
70-74	22.4	19.0	15.9	19.3	22.3
75+	31.3	28.1	31.2	31.4	27.2
Total	100	100	100	100	100

Figure 35. Prostate cancer distribution of new cases by stages, Georgia



3. BLADDER CANCER IN MALES

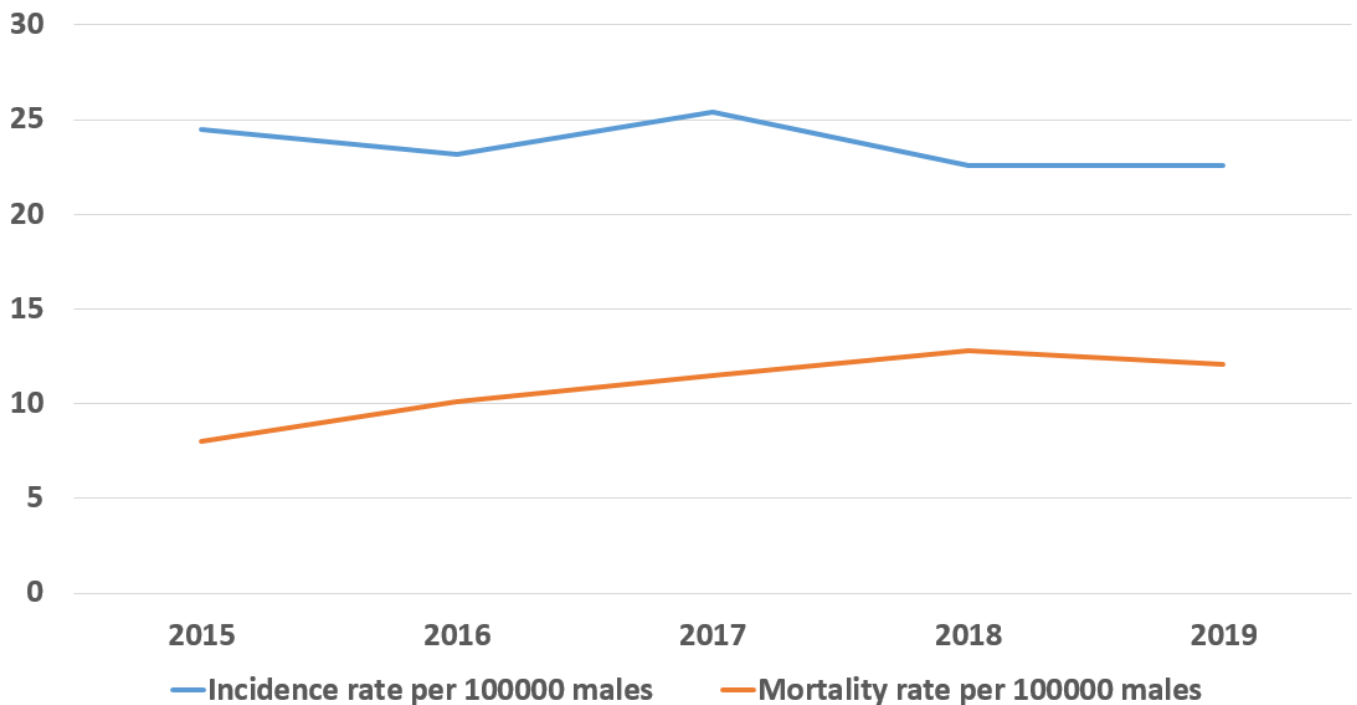
In 2019, in Georgia, there were 405 new cases of bladder cancer registered in men. This is 8.8% of all new cases registered in this sex group. The five-year survival rate for prostate cancer diagnosed in 2015 was 56.2%.

According to the American National Cancer Institute estimates, the lifetime risk of developing this cancer in American men is 2.4%.²²

Table 25. Bladder cancer in males, incidence and mortality rates, Georgia, 2015-2019

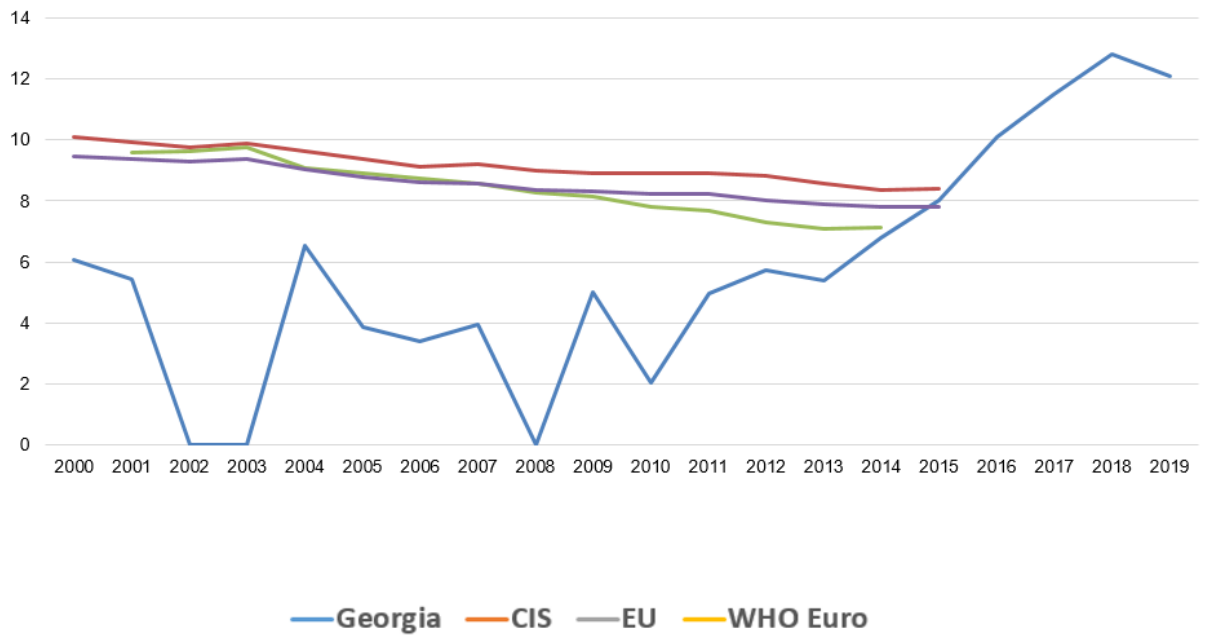
	2015	2016	2017	2018	2019
New cases	436	414	454	405	405
% of the total number of new cases	8.9	8.9	10.2	8.9	8.8
Incidence per 100000 males	24.5	23.2	25.4	22.6	22.6
Mortality per 100000 males	8.0	10.1	11.5	12.8	12.1

Figure 36. Bladder cancer in males, incidence and mortality rates, Georgia



²² <https://seer.cancer.gov/statfacts/html/urinb.html>

Figure 37. Bladder cancer in males, mortality rate per 100000males



Source: WHO HFA DB, NCDC

During 2015-2019, the incidence of bladder cancer in males was stable, and, in 2019, it reached 22.6 per 100000 males. The same time the mortality due to bladder cancer was increasing and, in 2019, it reached 12.1 per 100000 males.

The age-specific incidence of prostate cancer reaches its maximum at the age of 60-65 and 70 and older years.

Figure 38. Bladder cancer in males, age-specific incidence rate per 100000 males, Georgia, 2019

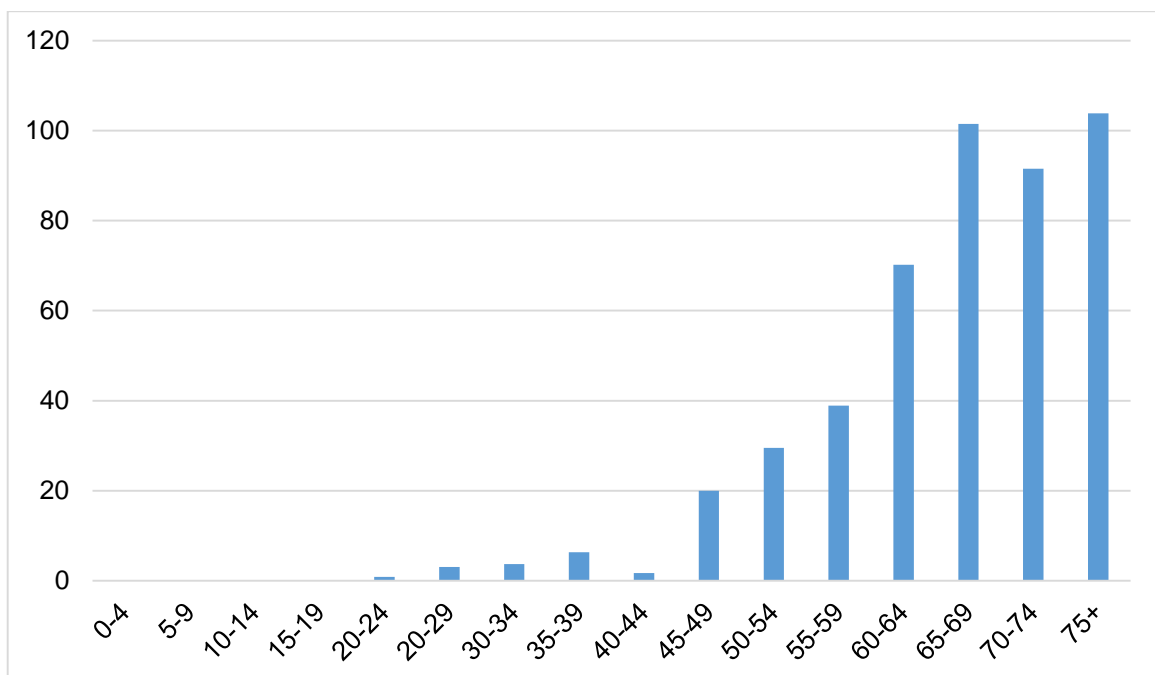
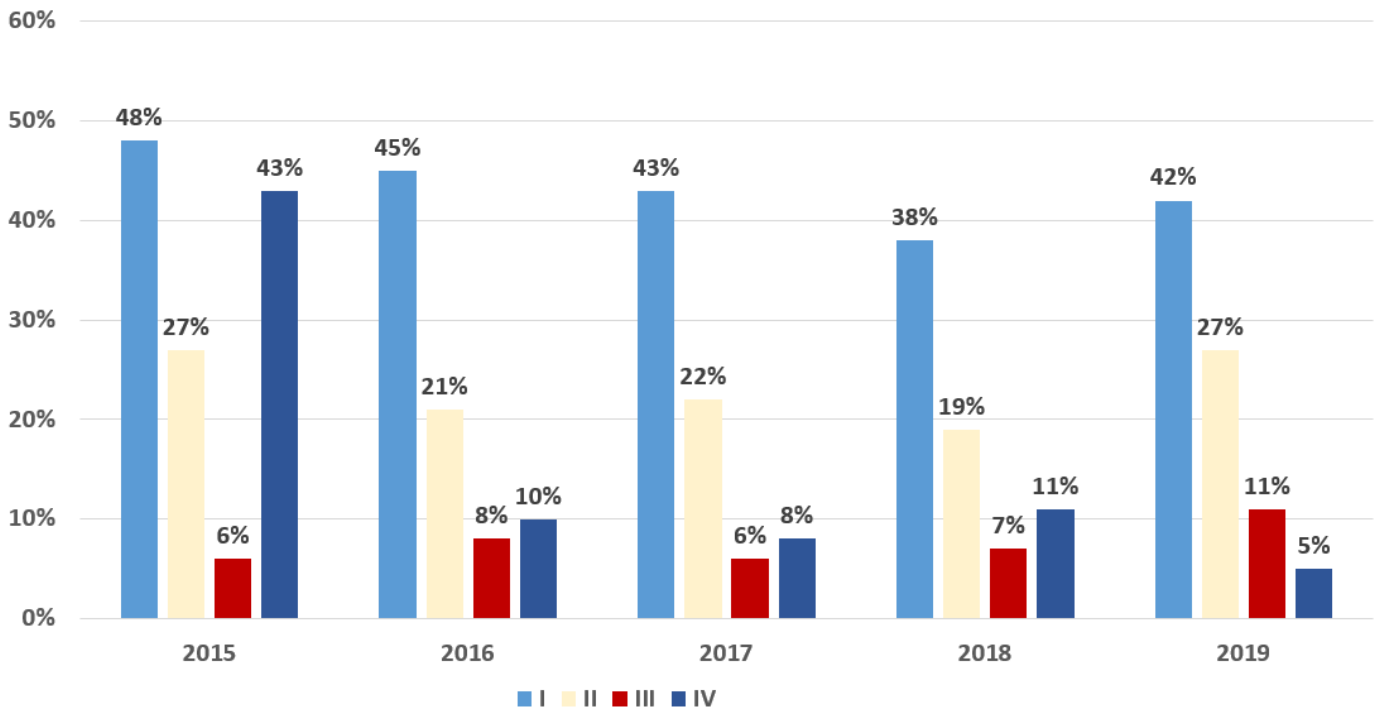


Table 26. Bladder cancer in males, age-specific incidence rate per 100000 males, Georgia

Age	2015	2016	2017	2018	2019
0-4	0.2	0.0	0.0	0.0	0.0
10-14	0.0	0.2	0.0	0.0	0.0
15-19	0.0	0.2	0.0	0.0	0.0
20-24	0.2	1.0	0.0	0.2	0.2
20-29	0.9	0.7	1.5	0.2	1.0
30-34	0.0	0.2	0.2	0.7	1.2
35-39	1.8	1.7	0.7	1.0	2.0
40-44	1.8	2.9	1.8	2.0	0.5
45-49	5.3	4.1	3.5	4.4	5.7
50-54	8.9	6.8	9.0	9.4	8.1
55-59	11.2	9.7	12.6	15.6	11.6
60-64	16.7	13.8	17.4	15.8	17.8
60-69	17.9	21.0	16.1	14.1	20.2
70-74	13.3	13.0	12.1	12.8	11.6
75+	21.6	24.6	25.1	23.7	20.0
Total	100	100	100	100	100

Figure 39. Bladder cancer distribution of new cases by stages, Georgia



4. COLORECTAL CANCER IN MALES

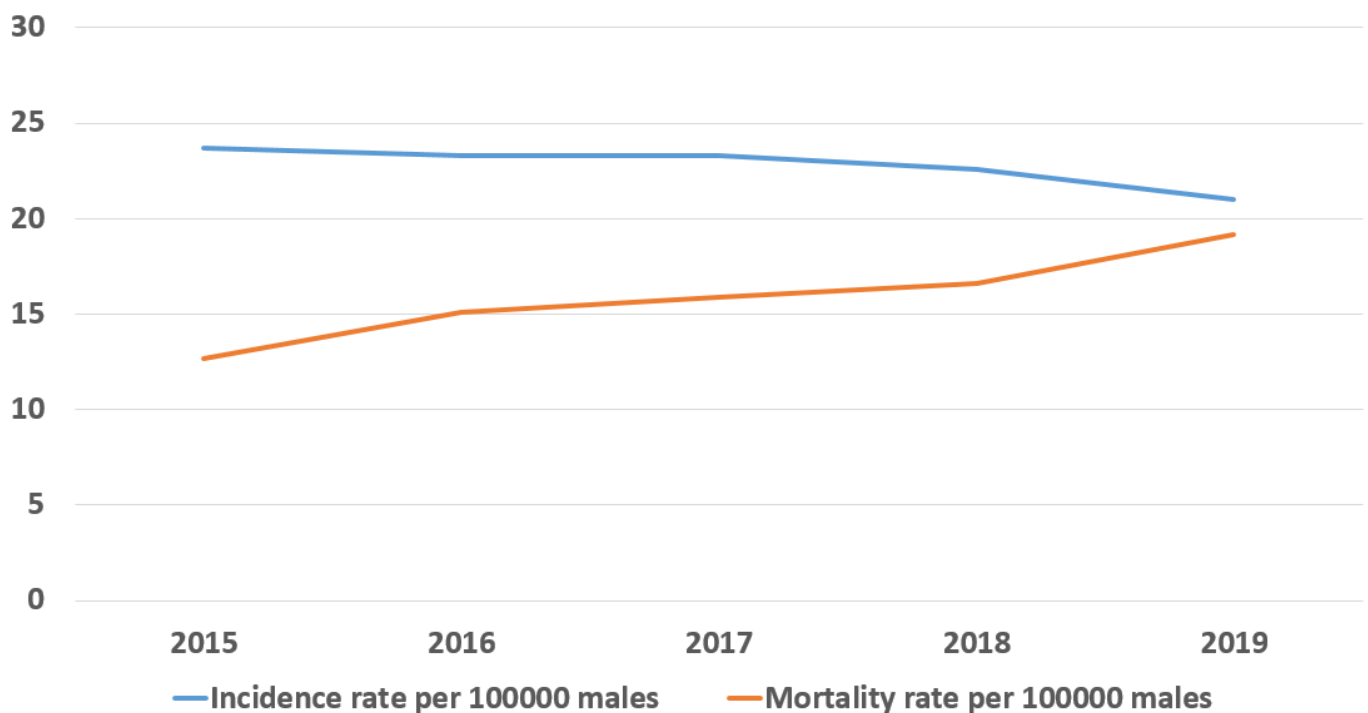
In 2019, in Georgia, there were 376 new cases of colorectal cancer registered in men. This is 8.2% of all new cases registered in this sex group. The five-year survival rate for prostate cancer diagnosed in 2015 was 40.3%.

According to the American National Cancer Institute estimates, the lifetime risk of developing this cancer in American men is 4.2%.²³

Table 27. Colorectal cancer in males, incidence and mortality rates, Georgia, 2015-2019

	2015	2016	2017	2018	2019
New cases	422	415	417	404	376
% of the total number of new cases	8.6	8.9	9.3	8.9	8.2
Incidence per 100000 males	23.7	23.3	23.3	22.6	21.0
Mortality per 100000 males	12.7	15.1	15.9	16.6	19.2

Figure 40. Colorectal cancer in males, incidence and mortality rates, Georgia



During 2015-2019, the incidence of colorectal cancer in males was decreasing, and, in 2019, it reached 21.0 per 100000 males. The same time the mortality due to colorectal cancer in males was increasing and, in 2019, it reached 19.6 per 100000 males.

The age-specific incidence of colorectal cancer in males reaches its maximum at the age of 70-74 years.

²³ <https://seer.cancer.gov/statfacts/html/colorect.html>

Figure 41. Colorectal cancer in males, age-specific incidence rate per 100000 males, Georgia, 2019

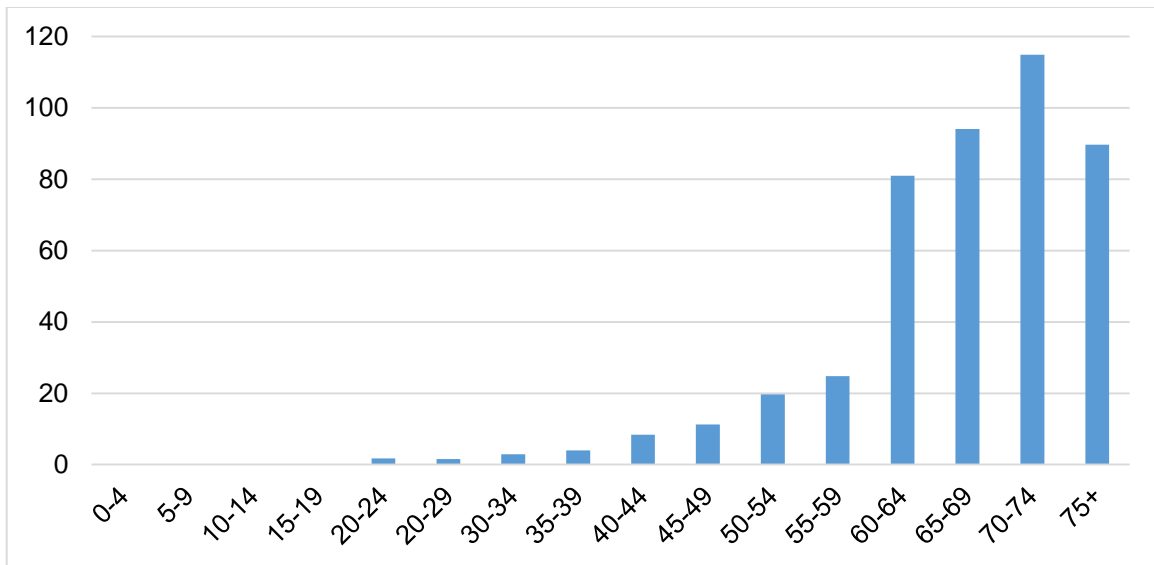
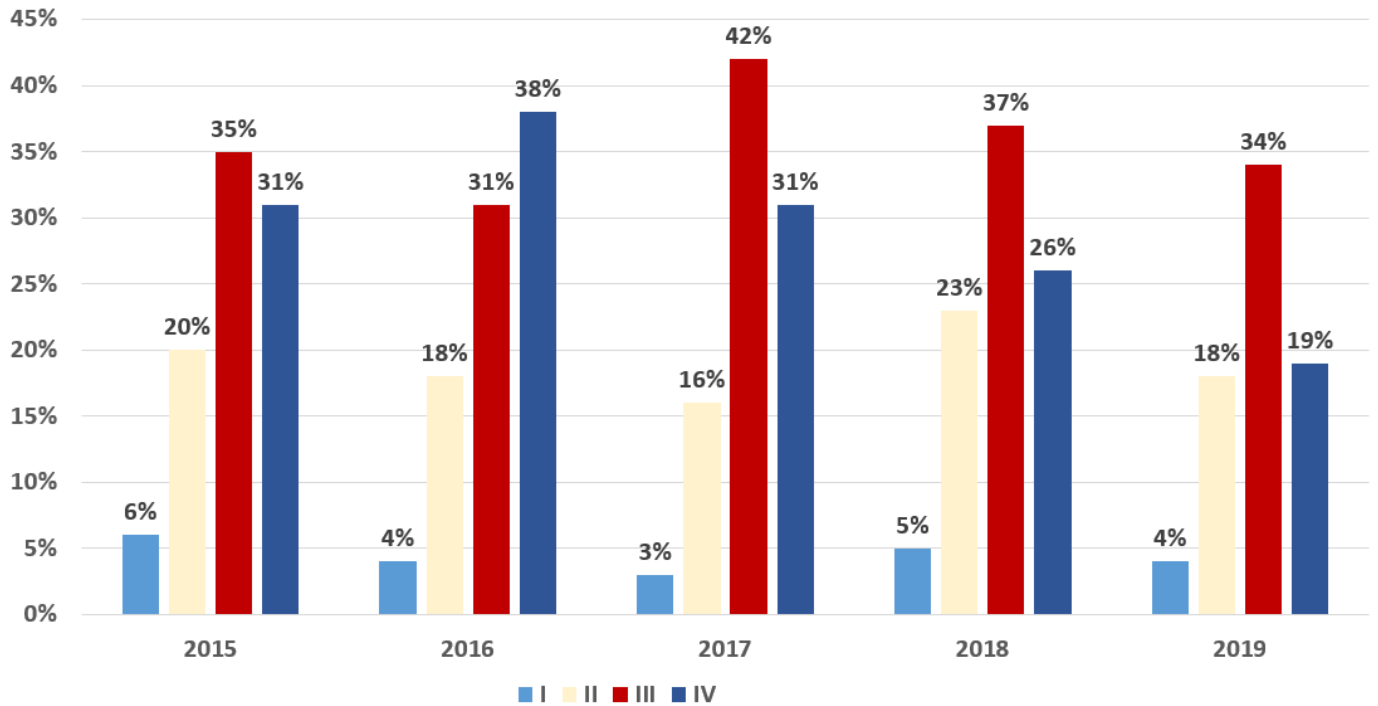


Table 28. Colorectal cancer in males, age-specific incidence rate per 100000 males, Georgia

Age	2015	2016	2017	2018	2019
0-4	0.0	0.0	0.2	0.0	0.0
10-14	0.0	0.0	0.2	0.0	0.0
20-24	0.0	0.0	0.2	0.2	0.5
20-29	0.7	0.2	0.2	0.5	0.5
30-34	0.9	1.4	1.4	0.5	1.1
35-39	0.9	1.2	1.2	2.2	1.3
40-44	2.1	2.7	1.4	3.0	2.7
45-49	5.0	3.9	4.1	4.0	3.5
50-54	8.5	6.7	6.5	4.7	5.9
55-59	13.3	13.7	15.8	11.4	8.0
60-64	16.4	16.6	15.1	17.3	22.1
60-69	15.6	16.4	21.3	18.8	20.2
70-74	13.5	11.8	12.0	12.1	15.7
75+	23.0	25.3	20.1	25.2	18.6
Total	100	100	100	100	100

Table 42. Colorectal cancer distribution of new cases by stages, Georgia



5. LARINX CANCER IN MALES

In 2019, in Georgia, there were 215 new cases of larynx cancer registered in men. This is 4.7% of all new cases registered in this sex group. The five-year survival rate for prostate cancer diagnosed in 2015 was 50.8%.

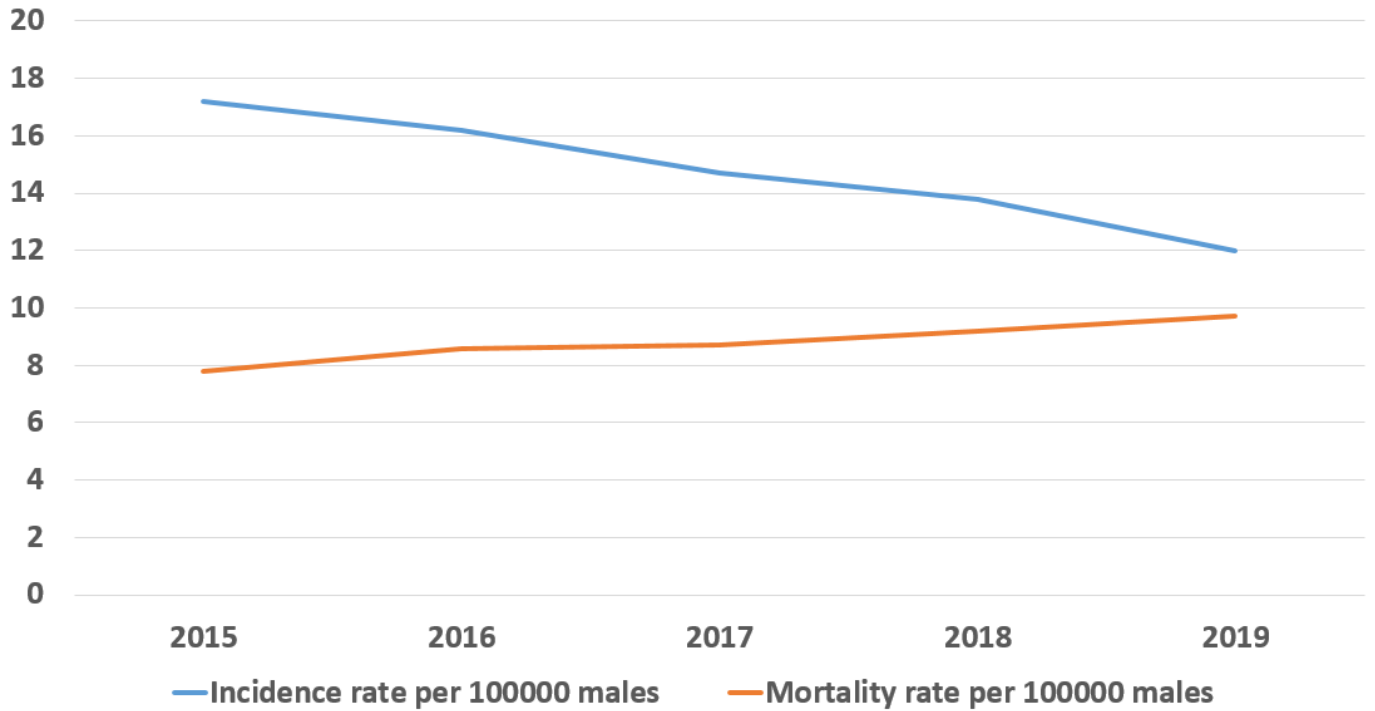
According to the American National Cancer Institute estimates, the lifetime risk of developing this cancer in American men is 0.3%²⁴.

Table 29. Larynx cancer in males, incidence and mortality rates, Georgia, 2015-2019

	2015	2016	2017	2018	2019
New cases	306	289	263	247	215
% of the total number of new cases	6.3	6.2	5.9	5.5	4.7
Incidence per 100000 males	17.2	16.2	14.7	13.8	12.0
Mortality per 100000 males	7.8	8.6	8.7	9.2	9.7

²⁴ <https://seer.cancer.gov/statfacts/html/laryn.html>

Figure 43. Larynx cancer in males, incidence and mortality rates, Georgia



During 2015-2019, the incidence of larynx cancer in males was decreasing, and, in 2019, it reached 12.0 per 100,000 males. The same time the mortality due to colorectal cancer in males was increasing and, in 2019, it reached 9.7 per 100,000 males.

The age-specific incidence of colorectal cancer in males reaches its maximum at the age of 55-59 years.

Figure 44. Larynx cancer in males, age-specific incidence rate per 100,000 males, Georgia, 2019

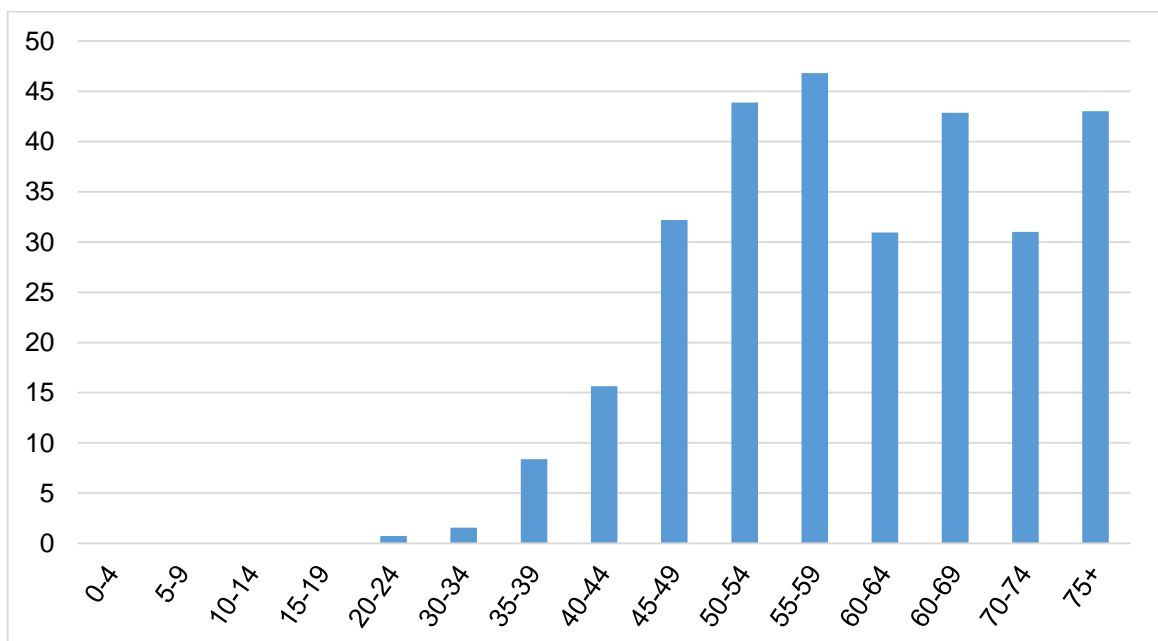
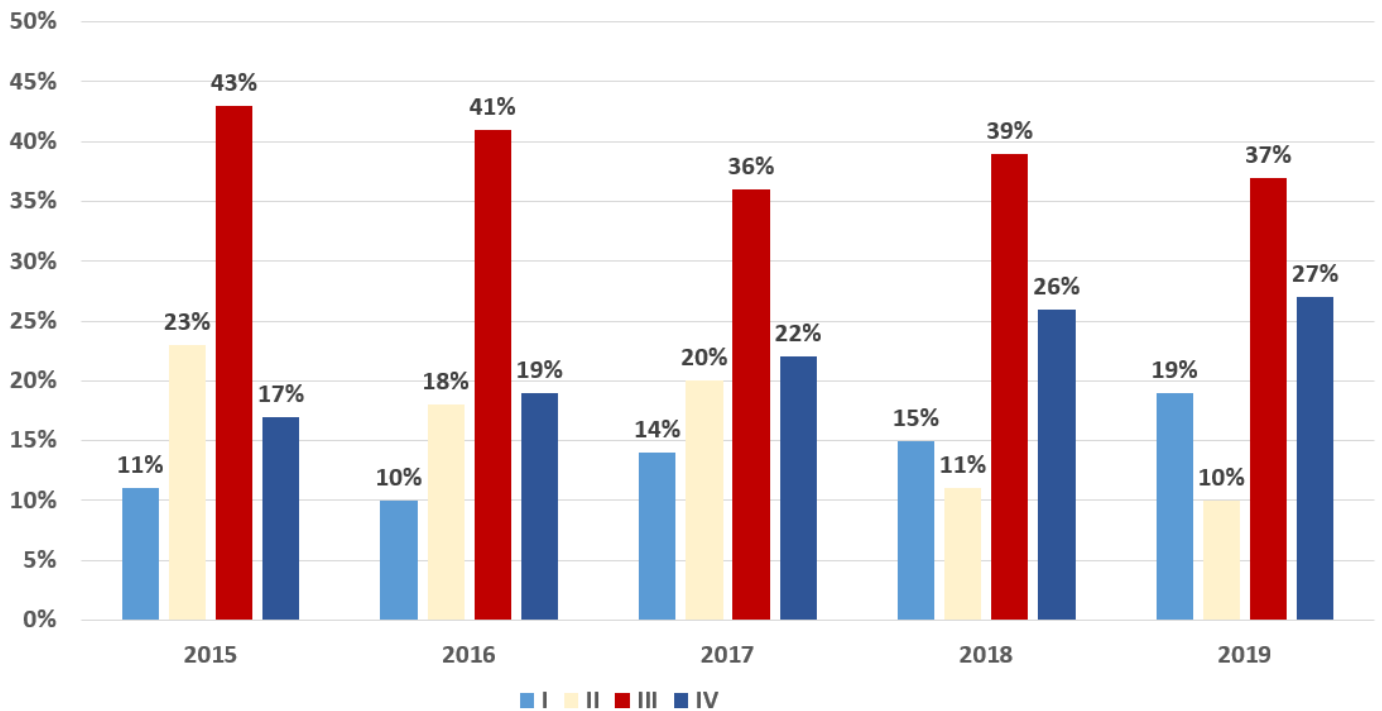


Table 30. Larynx cancer in males, age-specific incidence rate per 100000 males, Georgia

Age	2015	2016	2017	2018	2019
20-24	0.7	0.0	0.4	0.0	0.0
30-34	0.7	0.0	0.0	0.0	0.0
35-39	0.0	0.7	0.8	0.0	0.5
40-44	2.0	2.1	3.0	2.0	0.9
45-49	5.9	6.2	5.3	6.1	4.7
50-54	15.7	12.5	9.9	13.0	8.4
55-59	21.6	15.2	16.3	20.2	16.7
60-64	19.9	24.2	22.1	21.9	24.7
60-69	15.7	18.3	18.6	17.0	22.3
70-74	6.5	9.7	11.4	10.5	11.6
75+	11.4	11.1	12.2	9.3	10.2
Total	100	100	100	100	100

Figure 45. Larynx cancer distribution of new cases by stages, Georgia



CANCER IN EARLY AGES

Incidence rates are strongly related to age for all cancers combined, with the highest incidence rates being in older people. Some types of cancer are more common in children or adolescents than in adults. In 2019, in Georgia, a share of new cases registered in early age (under-20) is 1.3% of new cases of cancer registered in all age groups.

Treatment of cancer in children is often more successful and better adheres to certain methods t. This can be explained by the different types of malignant neoplasms in children, the absence of concomitant diseases that aggravate the condition of adult cancer patients, and often reduce the effectiveness of treatment²⁵.

The five-year survival rate of new cases registered in 2015 at early ages (under-20) is high - 93% for both sexes.

MALIGNANT NEOPLASMS IN CHILDREN AGED UNDER-15

During 2015-2019, the incidence of cancer in children was increasing, and, in 2019, it reached 11.4 per 100000 children (total of 86 cases).

Table 31. Cancer in children aged under-15, incidence and mortality rates, Georgia, 2015-2019

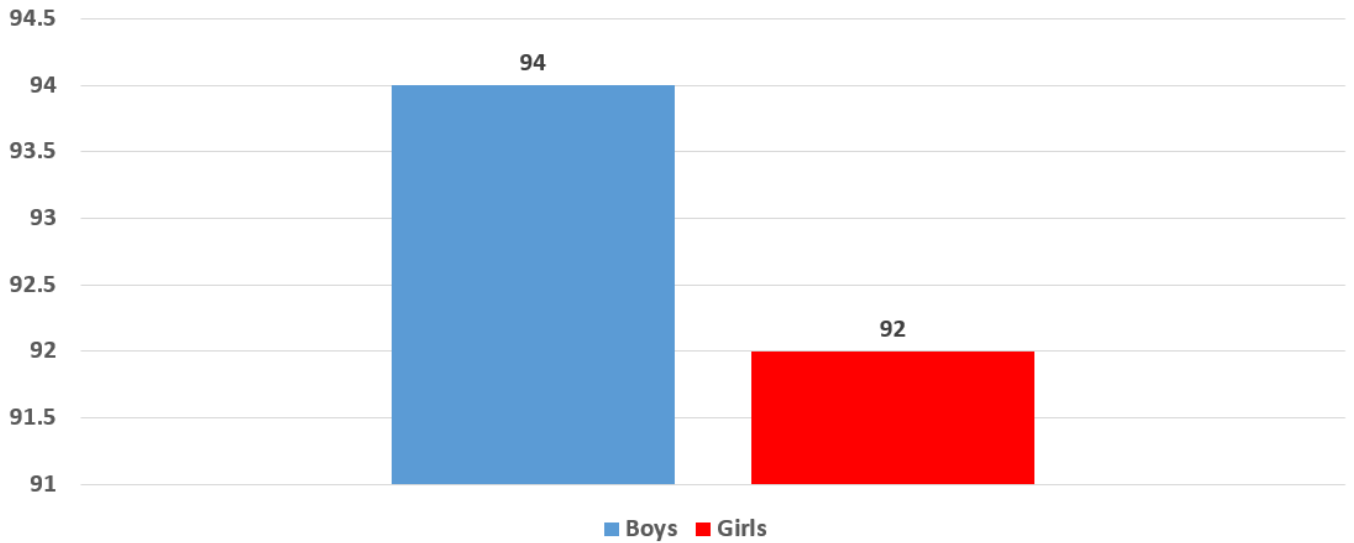
	2015	2016	2017	2018	2019
New cases	92	101	86	76	86
% of the total number of new cases	0.8	0.9	0.8	0.7	0.8
Incidence per 100000 males	12.9	13.9	11.8	10.1	11.4
Mortality per 100000 males	2.7	3.3	3.7	2.8	2.6

In 2019, in Georgia, there were 38 new cases of cancer registered in girls aged under-15, incidence rate per 100000 girls – 10.5, this is about 13% less than the number of cases in boys of the same age. In 2019, in Georgia, there were 48 new cases of cancer registered in boys aged under-15, incidence rate per 100000 boys – 12.2.

The five-year survival rate of cancers, diagnosed, in 2015, was higher in boys (94%), compared to girls (92%).

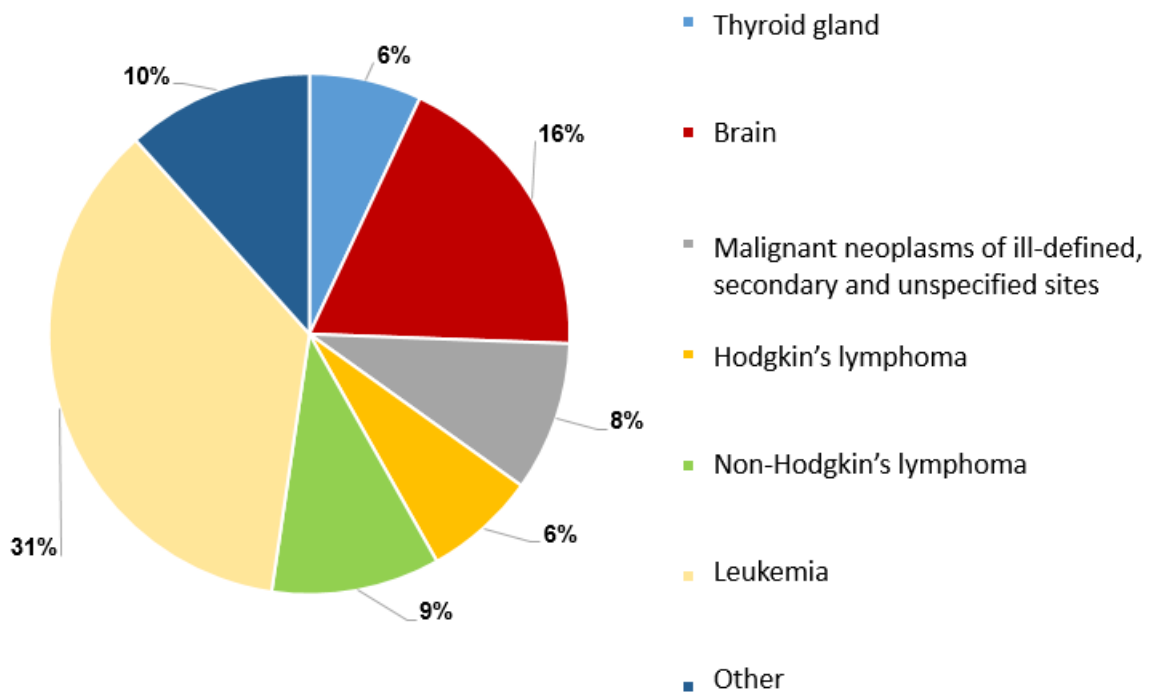
²⁵ <https://www.cancer.org/cancer/cancer-in-young-adults/finding-cancer-in-young-adults.html>

Figure 46. Five-year survival rate of cancers (%) in the age group under-15 by sex, Georgia



In children, for both sexes hematopoietic cancer accounts for the largest share among all sites.

Figure 47. New cases of cancer, percent distribution in children aged under-15, both sexes, Georgia



During last 5 years in Georgia, lymphoid leukemia and thyroid cancer are the leading sites of cancer in girls aged under-15 years, accounting for about 50% of the cases registered in this age and sex group. More than 80% of cases in boys are brain cancer and leukemia.

MALIGNANT NEOPLASMS IN ADOLESCENTS AGED 15–19 YEARS

The incidence of different types of cancer is characterized by age-related variability, with malignant neoplasms such as Hodgkin's lymphoma, testicular cancer, and sarcoma being more common in adolescents and less common for children and adults. Last 5 years, the incidence rate of new cases of cancer of all sites in the age group of 15-19 years of age is about 22 per 100,000 per relevant population.

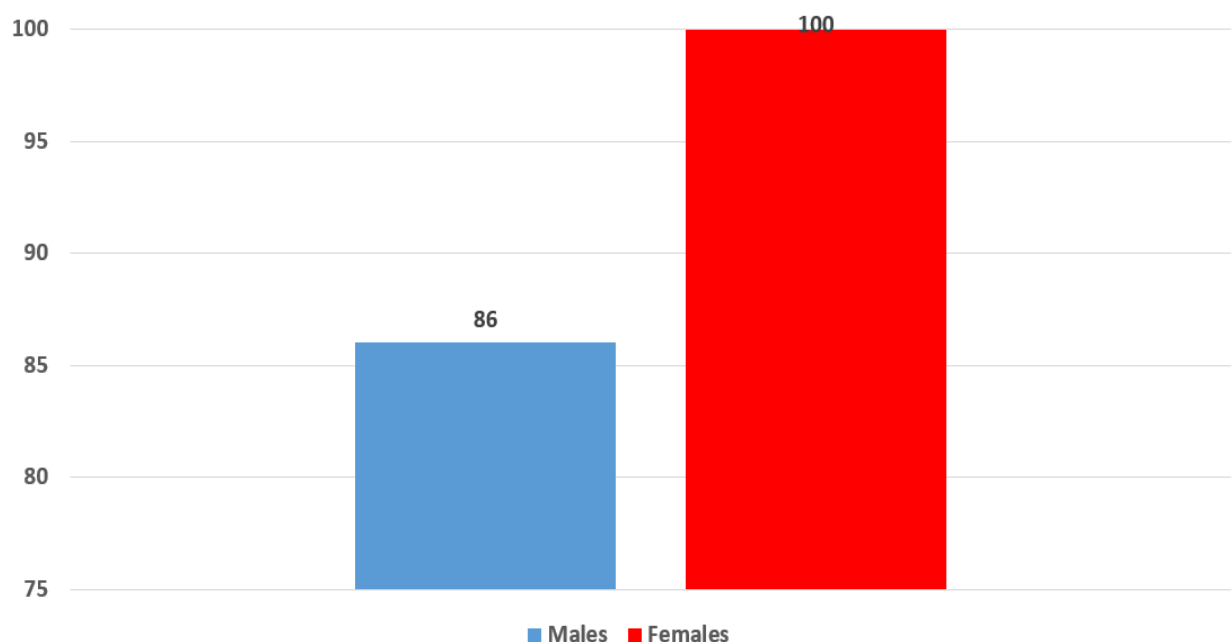
Table 32. Cancer in adolescents aged 15-19, incidence and mortality rates, Georgia, 2015-2019

	2015	2016	2017	2018	2019
New cases	56	43	57	41	49
% of the total number of new cases	0.5	0.4	0.6	0.4	0.5
Incidence per 100000 males	25.0	19.2	25.4	18.3	21.9
Mortality per 100000 males	4.9	2.7	4.2	5.8	5.4

In 2019, in Georgia, there were 27 new cases of cancer registered in young women aged 15-19 years, incidence rate per 100000 female – 28.0, this is 27.8% higher than the number of cases in males of the same age. In 2019, in Georgia, there were 22 new cases of cancer registered in males aged 15, incidence rate per 100000 males – 20.2.

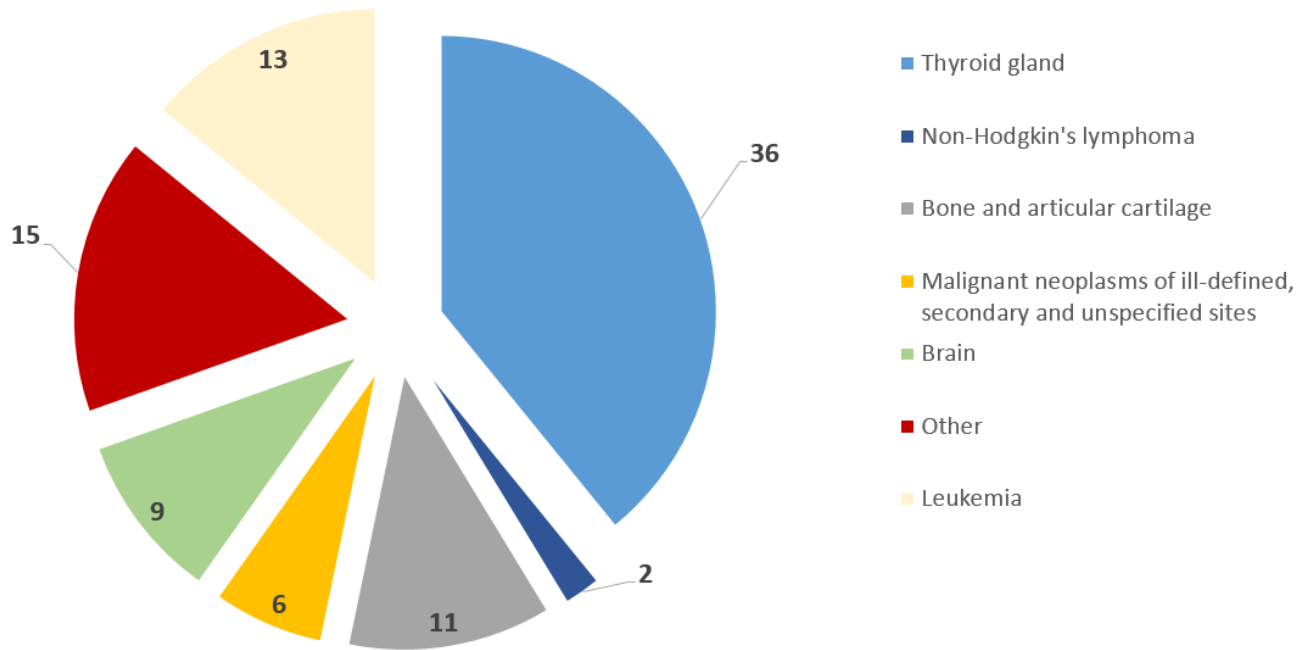
The five-year survival rate of cancers, diagnosed in this age group in 2015, in females is 100%, in males – 86%.

Figure 48. Five-year survival rate of cancers (%) in the age group 15 – 19 years by sex, Georgia



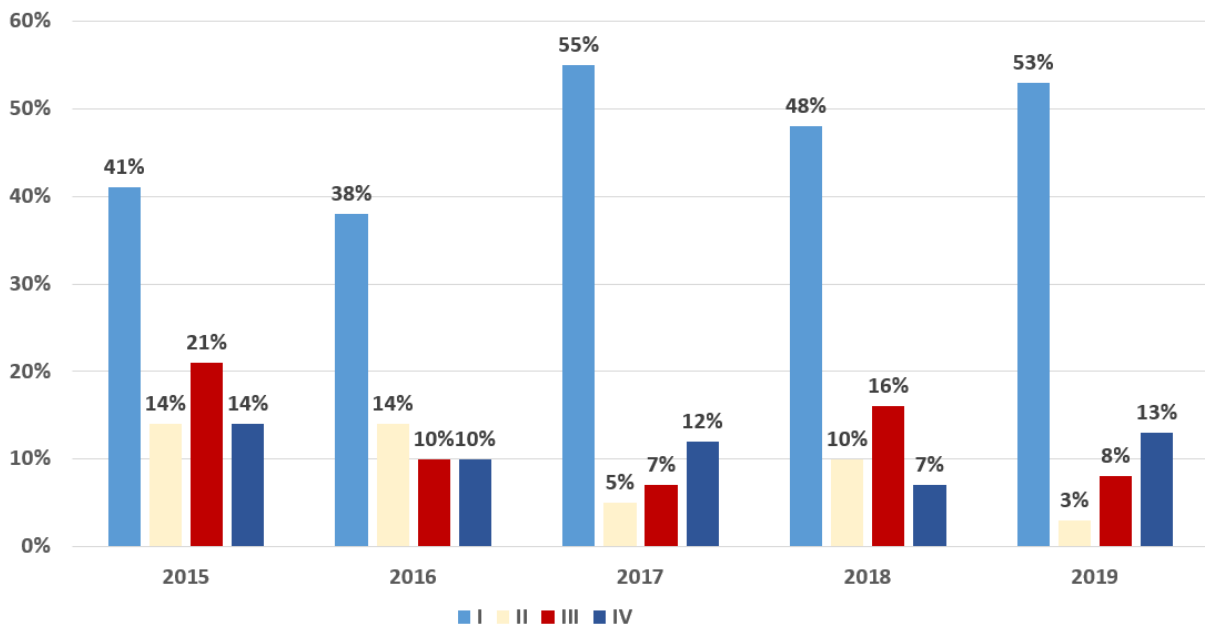
In adolescents, for both sexes thyroid gland cancer accounts for the largest share among all sites, this is caused by the cases registered in females.

Figure 49. New cases of cancer, percent distribution in adolescents aged 15-19, both sexes, Georgia



According to 2019 data, thyroid cancer is the leading malignant neoplasm in young women aged 15–19 years and accounts for more than 50% of new cases registered in this age-sex group. In boys, 40% of cases are due to hematopoietic cancer. In the 15-19 age group, more than 50% of new cases of cancer of all sites are registered at stage I.

Figure 50. Cancer, new cases in adolescents aged 15-19, by stages²⁶ in percent, both sexes, Georgia



²⁶ Except malignant neoplasms of lymphoid, hematopoietic and related tissues

GEOGRAPHIC DISTRIBUTION

The Cancer Population Register collects personalized data, which include a patients' demographic characteristics, including the patients' place of residence, various specific characteristics of the disease, and location of medical care provider, allowing geographic assessment of cancer-related morbidity and possible clusters of high disease concentrations.

Table 33. Cancer, distribution of new cases by regions of Georgia (patient's place of residence)

	2015	2016	2017	2018	2019
Abkhazia	140	135	100	160	292
Ajara	974	916	923	952	937
Guria	377	329	304	296	348
Tbilisi	4160	3993	3860	3950	3449
Imereti	1470	1439	1358	1316	1269
Kakheti	822	749	702	782	756
Mtskheta-Mtianeti	221	239	228	243	265
Racha-Lechkhumi and Kvemo Svaneti	109	110	96	107	93
Samegrelo and Zemo Svaneti	984	926	788	730	723
Samtskhe-Javakheti	308	328	303	352	283
Kvemo Kartli	879	884	885	891	888
Shida Kartli	650	639	592	609	713
Unknown	5	12	10	29	323
Georgia	11099	10699	10149	10417	10339

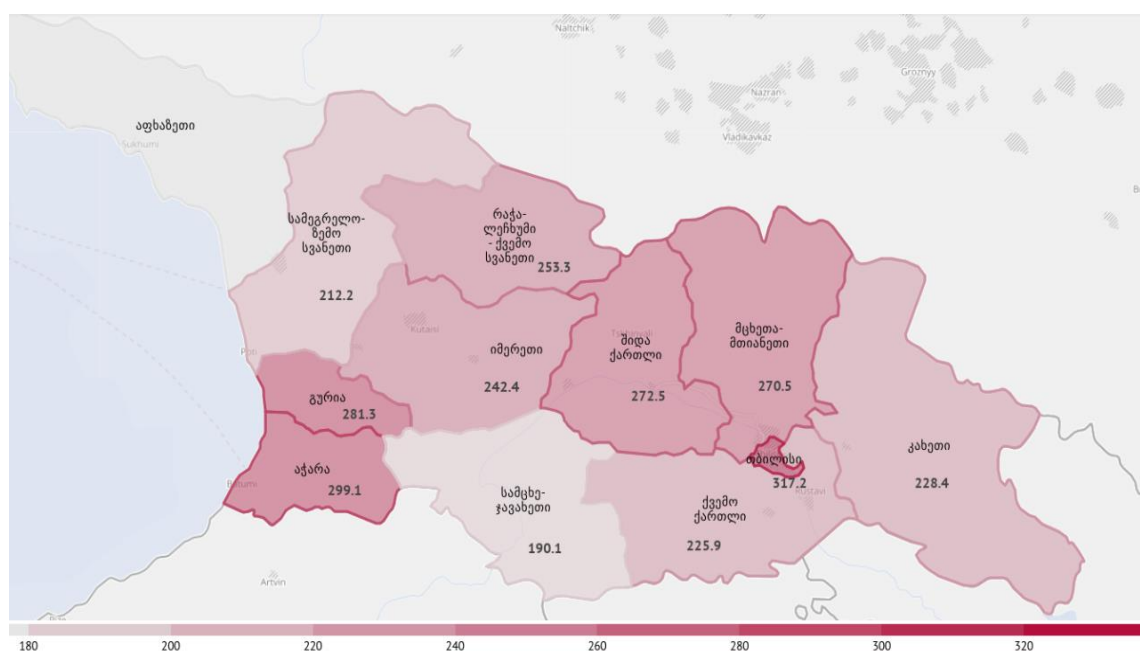
Cancer clusters are defined as concentration of more than expected cases of cancer of the same site or similar etiology, which are manifested in a specific period of time and in specific population groups in a given settlement (common age group, impact of similar occupational factors, etc.).

Age-standardized (age-adjusted) incidence rates were used to detect cancer clusters, this helped avoiding variability due to age structure differences between geographical points (e.g., an increased number of the aged population, which is increasing crude morbidity of cancer).

Age standardization involves rearranging of different populations to the same age structure. In this case, the variation in the age-standardized morbidity rate between regions only indicates different intensities of risk factors. The age distribution of the population of Georgia was selected as a comparable age structure of the population for the regions.

Table 34. Cancer, crude and age-standardized incidence rates per 100,000 population

	Crude incidence	Age-standardized incidence ²⁷
Ajara	267.4	299.1
Guria	320.0	281.3
Tbilisi	292.8	317.2
Imereti	257.8	242.4
Kakheti	242.9	228.4
Mtskheta-Mtianeti	283.5	270.5
Racha-Lechkhumi and Kvemo Svaneti	316.4	253.3
Samegrelo and Zemo Svaneti	230.5	212.2
Samtskhe-Javakheti	184.8	190.1
Kvemo Kartli	204.7	225.9
Shida Kartli	278.3	272.5
Georgia	277.9	277.9

Map 1. Age-standardized incidence per 100,000 population, municipalities of Georgia, 2019

²⁷ The structure of the mid-year population of Georgia in 2019 is used

Table 35. Cancer, crude and age-standardized incidence rates per 100,000 population, by municipalities, Georgia, 2019

	Crude incidence	Age-standardized incidence ²⁸
Abasha	203.9	179.5
Adigeni	259.4	262.9
Ambrolauri	292.9	214.7
Aspindza	208.7	207.4
Akhalkalaki	136.1	148.2
Akhaltzikhe	165.0	173.3
Akhmeta	157.2	147.6
Batumi	303.2	358.7
Baghdati	237.0	211.5
Bolnisi	176.4	181.0
Borjomi	227.5	212.2
Gardabani	211.0	226.9
Gori	272.2	275.4
Gurjaani	275.0	242.6
Dedoplistskaro	264.0	232.5
Dmanisi	258.6	251.8
Dusheti	320.9	287.4
Vani	218.7	193.7
Zestafoni	227.8	213.2
Zugdidi	227.7	214.5
Tbilisi	287.1	311.2
Tetritskaro	167.1	157.1
Telavi	267.9	258.3
Terjola	198.6	186.5
Tianeti	217.1	186.8
Kaspi	298.7	282.8
Lagodekhi	155.3	154.6
Lanchkhuti	253.9	229.1
Lentekhi	387.8	361.3
Marneuli	196.3	232.4
Simple	228.3	201.6
Mestia	232.6	214.1
Mtskheta	245.4	251.0
Ninotsminda	164.4	183.2
Ozurgeti	346.8	303.5
Oni	296.9	239.8
Rustavi	192.2	227.6
Sagarejo	197.2	205.4
Samtredia	244.8	224.3
Sachkhere	275.8	254.6

²⁸ The structure of the mid-year population of Georgia in 2019 is used

Senaki	191.4	173.2
Signagi	292.4	247.0
Tkibuli	248.5	218.3
Poti	231.0	229.1
Kareli	237.3	231.0
Ridge	268.0	277.0
Kobuleti	237.3	256.4
Kutaisi	275.1	287.3
Kazbegi	421.0	367.6
Kvareli	211.1	194.5
Shuakhevi	212.3	209.4
Chokhatauri	281.0	249.9
Chkhorotsku	203.7	189.6
Tsageri	335.0	262.7
Tsalenjikha	246.2	218.9
Tsalka	169.5	182.4
Tskaltubo	180.4	169.5
Chiatura	317.4	288.5
Kharagauli	212.7	187.6
Khashuri	201.9	195.7
Khelvachauri	209.7	241.7
Khobi	221.4	206.0
Khoni	240.3	217.6
Khulo	157.2	169.3

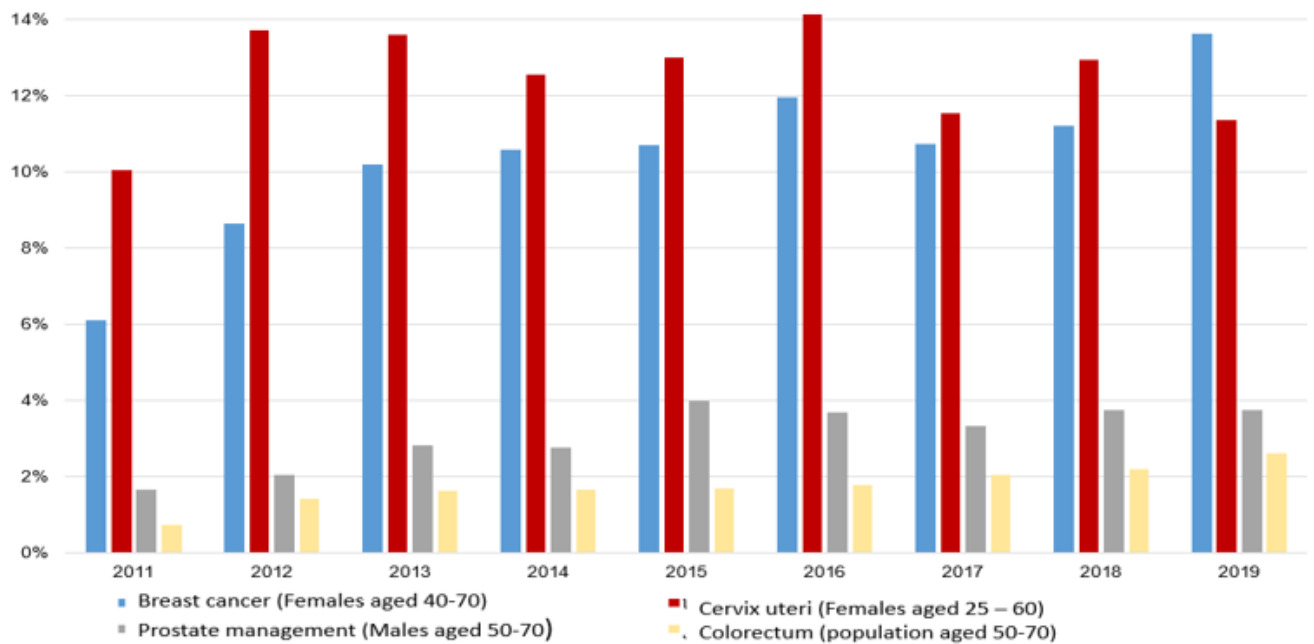
	Above average value
	Average value
	Below average value

SCREENING OF CANCER

Since 2011, the following cancer screening programs have been implemented in the country:

- Breast cancer screening for 40-70-year-old women;
- Cervical cancer screening for 25-60-year-old women;
- Prostate cancer management for 50-70-year-old men;
- Colorectal cancer screening for 50-70-year-old population.

Figure 51. Cancer screening rates, target population (%), Georgia²⁹



²⁹The State program for regions was launched on May 1, 2011, thus, 2011 data cover only 8 months

TREATMENT

Coincided data from the Cancer Population Register and the Social Services Agency database were used to describe treatment methods of malignant neoplasms.

Table 36. Treatment methods of all sites of cancer, both sexes, all age groups, Georgia, 2019

Methods of treatment	Number of patients treated	Percent of the total number of patients
Surgical treatment	7316	70.8
Chemiathery and hormone therapy	5520	53.4
Radiotherapy	2736	26.5
Iodine therapy	529	5.1
Palliative treatment	336	3.2
Immunotherapy	63	0.6

Table 37. Surgical operations by site of cancer, both sexes, 2019

Site	Total number of patients	Number of patients treated	Percent of the total number of patients
Total	10339	7316	70.8%
Including:			
Breast	1652	1477	89.4
Thyroid gland	997	895	89.8
Colorectal cancer	711	575	80.9
Trachea, bronchus, lung	697	262	37.6
Prostate	548	278	50.7
Bladder	515	456	88.5
Corpus uteri	327	296	90.5
Stomach	322	208	64.6
Cervix uteri	322	272	84.5
Ovary	279	246	88.2
brain	267	174	65.2
Larynx	223	166	74.4
Lip, mouth and throat	219	113	51.6
Pancreas	160	78	48.8
Soft tissue	121	99	81.8
Bone and articular cartilage	85	44	51.8
Multiple myeloma	79	28	35.4
Hodgkin's lymphoma	50	10	20.0
Melanoma	47	42	89.4
Non-Hodgkin lymphoma	45	18	40.0
In situ	66	56	84.8

TREATMENT: TOP 5 SITES OF CANCER IN FEMALES

In 2019, surgical interventions constituted the largest share among treatment methods of the top 5 sites of cancer registered in women. Surgical operations are used in 89% of new cases of breast cancer in women.

Table 38. Breast cancer in females, new treatment methods distribution (%), Georgia, 2019

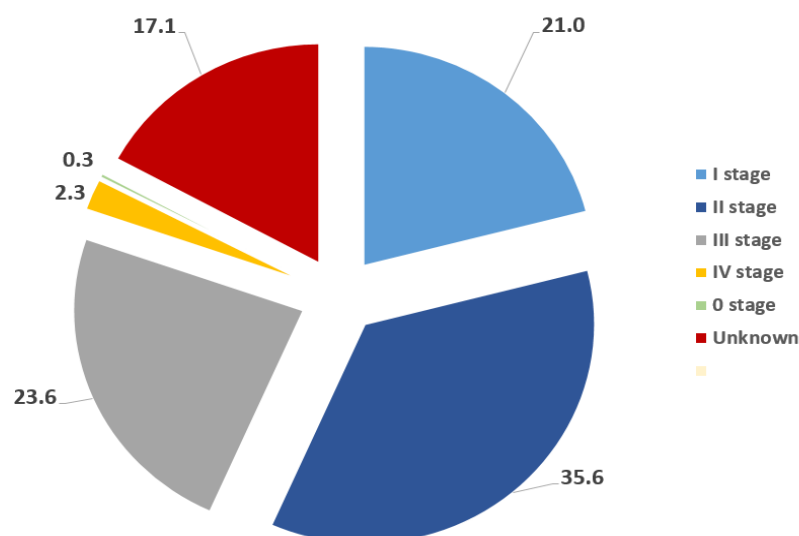
Total number of new cases of breast cancer in females - 1629		
Methods of treatment	Number of patients treated	Percent of the total number of patients
Chemiotherapy and hormone therapy	1221	75,0
Radiotherapy	745	45,7
Surgical treatment	1453	89,2

In 2019, 1453 women had got surgery for breast cancer, this is 89% of women registered with breast cancer diagnosis; including, 57% of patients - in stages I and II of the disease. Surgery was performed on 72% of patients diagnosed at stages III and IV of the disease.

Table 39. Breast cancer in women, share of surgical treatment (%) by stages, Georgia, 2019

	Total number of patients	Percent of treated patients
Stage 0	4	100.0
Stage I	302	98.3
Stage II	508	99.8
Stage III	347	99.4
Stage IV	182	19.8
Unknown	286	92.3

Figure 52. Breast cancer in women, share of surgical treatment (%) by stages, Georgia, 2019



Among patients with thyroid gland cancer, 92% received surgical treatment and 50% - iodine therapy.

Table 40. Thyroid gland cancer in females, treatment methods distribution (%), Georgia, 2019

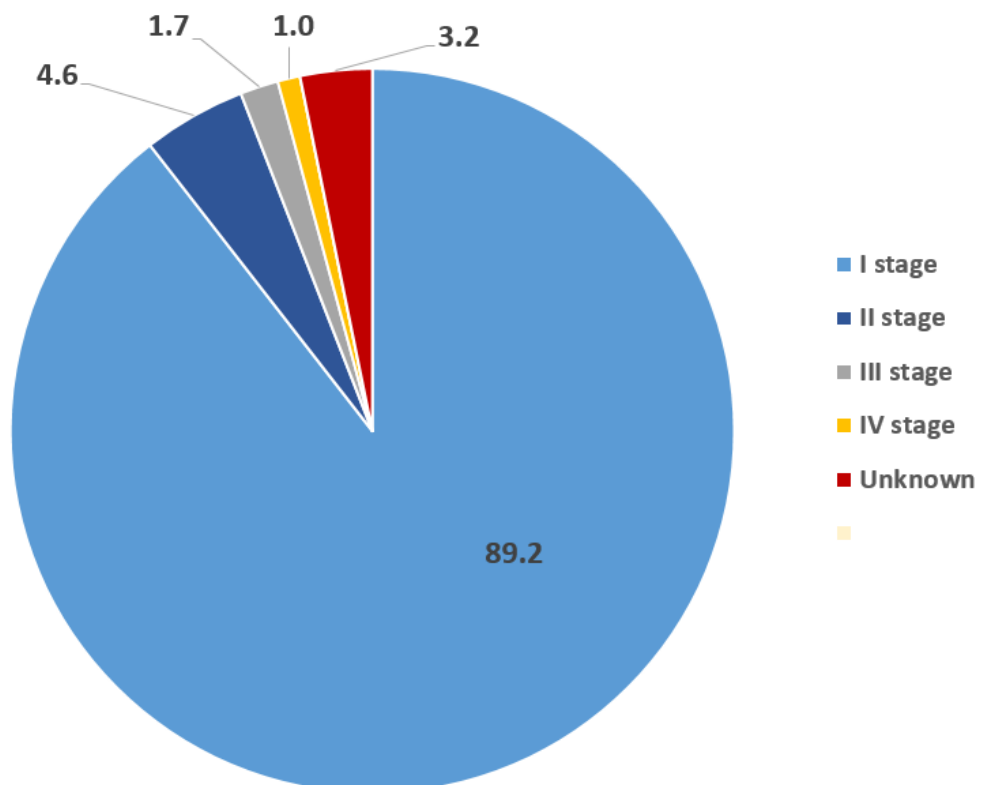
Total number of new cases of thyroid gland cancer in females - 855		
Methods of treatment	Number of patients treated	Percent of the total number of patients
Iodine therapy	423	49.5
Radiotherapy	13	1.5
Surgical treatment	783	91.6

Figure 41. Thyroid gland cancer in females, share of surgical treatment (%) by stages, Georgia, 2019

	Total number of patients	Percent of treated patients
Stage I	752	92.8
Stage II	42	85.7
Stage III	20	65.0
Stage IV	14	57.1
Unknown	27	92.6

In 2019, 783 women had got thyroid gland surgery, including 94% at stages I and II.

Figure 53. Thyroid gland cancer in women, share of surgical treatment (%) by stages, Georgia, 2019



Among women with new cases of colorectal cancer, 84% received surgical treatment.

Table 42. Colorectal cancer in females, treatment methods distribution (%), Georgia, 2019

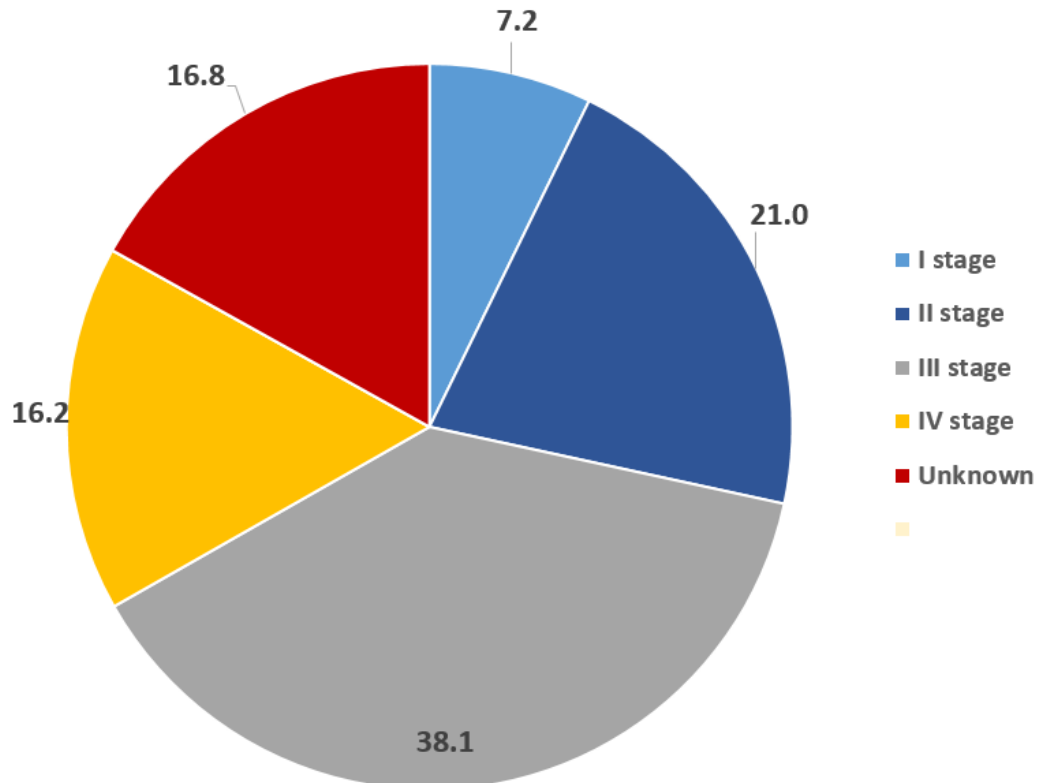
Total number of new cases of colorectal cancer in females - 335		
Methods of treatment	Number of patients treated	Percent of the total number of patients
Chemotherapy and hormone therapy	229	68,4
Radiotherapy	62	18,5
Surgical treatment	282	84,2

Table 43. Colorectal cancer in women, share of surgical treatment (%) by stages, Georgia, 2019

	Total number of patients	Percent of treated patients
Stage I	26	76.9
Stage II	66	92.4
Stage III	115	92.2
Stage IV	70	64.3
Unknown	58	82.8

In 2019, 282 women had got surgery due to colorectal cancer, including 28% at stages I and II.

Figure 54. Colorectal cancer in women, share of surgical treatment (%) by stages, Georgia, 2019



Among women with new cases of corpus uteri cancer, 95% received surgical treatment.

Table 44. Corpus uteri cancer, treatment methods distribution (%), Georgia, 2019

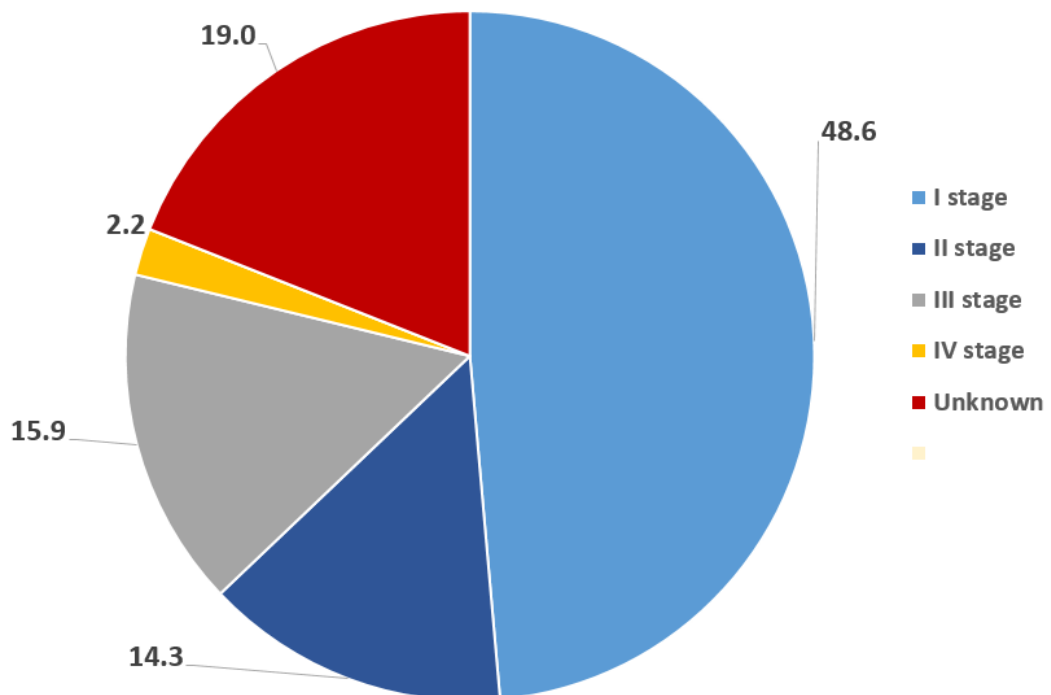
Total number of new cases of corpus uteri cancer - 327		
Methods of treatment	Number of patients treated	Percent of the total number of patients
Chemiotherapy and hormone therapy	102	31.2
Radiotherapy	155	47.4
Surgical treatment	296	90.5

Table 45. Corpus uteri cancer, share of surgical treatment (%) by stages, Georgia, 2019

	Total number of patients	Percent of treated patients
Stage I	154	94.2
Stage II	44	97.7
Stage III	51	92.2
Stage IV	18	38.9
Unknown	60	90.0

In 2019, 296 women had got surgery due to corpus uteri cancer, including 63% at stages I and II.

Figure 55. Corpus uteri cancer, share of surgical treatment (%) by stages, Georgia, 2019



Among women with new cases of cervix uteri cancer, 96% received chemotherapy or hormone therapy, 79% received surgical treatment.

Table 46. Cervix uteri cancer, treatment methods distribution (%), Georgia, 2019

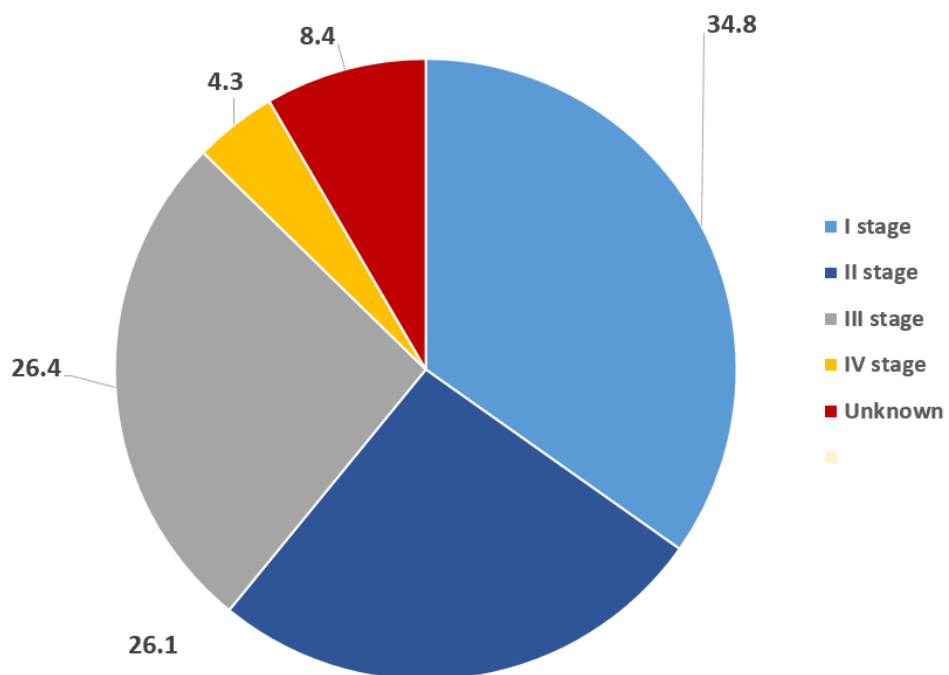
Total number of new cases of cervix uteri cancer - 322		
Methods of treatment	Number of patients treated	Percent of the total number of patients
Chemiathery and hormone therapy	310	96.3
Radiotherapy	287	89.1
Surgical treatment	253	78.6

Table 47. Cervix uteri cancer, share of surgical treatment (%) by stages, Georgia, 2019

	Total number of patients	Percent of treated patients
Stage I	76	98.7
Stage II	84	85.7
Stage III	86	84.9
Stage IV	44	22.7
Unknown	32	71.9

In 2019, 253 women had got surgery due to cervix uteri cancer, including 61% at stages I and II.

Figure 56. Cervix uteri cancer, share of surgical treatment (%) by stages, Georgia, 2019



TREATMENT: TOP 5 SITES IN MALES

Surgical operations are used in 37% of new cases of trachea, bronchus and lung cancer in men.

Table 48. Trachea, bronchus and lung cancer in males, treatment methods distribution (%), Georgia, 2019

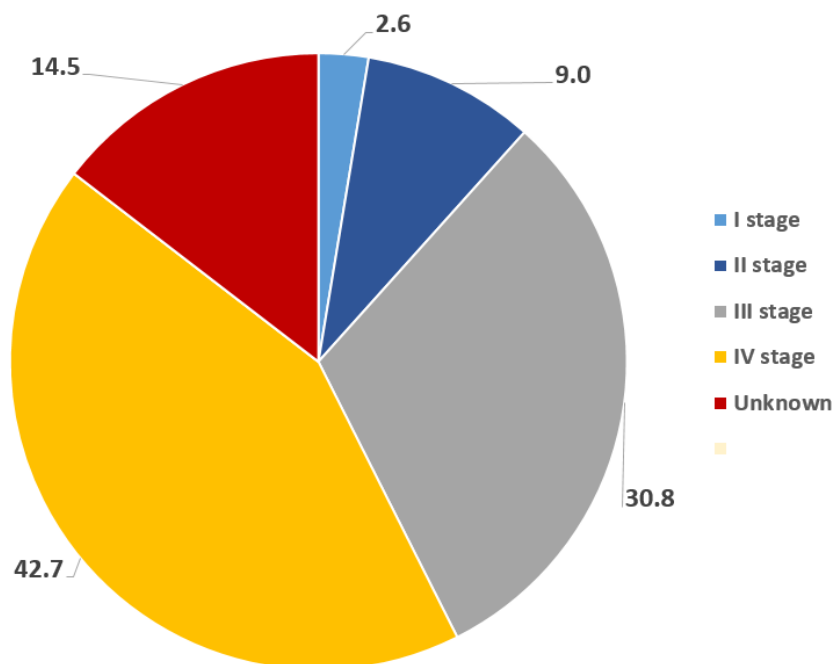
Total number of new cases of trachea, bronchus and lung cancer in males - 623		
Methods of treatment	Number of patients treated	Percent of the total number of patients
Chemiotherapy and hormone therapy	406	65,2
Radiotherapy	214	34,3
Surgical treatment	233	37,4

Table 49. Trachea, bronchus and lung cancer in males, share of surgical treatment (%) by stages, Georgia, 2019

	Total number of patients	Percent of treated patients
Stage I	7	85.7
Stage II	37	56.8
Stage III	163	44.2
Stage IV	342	28.9
Unknown	74	47.3

Cancer at the stage IV has got the largest share of surgeries performed due to trachea, bronchus and lung cancer in men

Figure 57. Trachea, bronchus and lung cancer in males, share of surgical treatment (%) by stages, Georgia, 2019



Among patients with prostate cancer, 65% received chemotherapy / hormone therapy and 51% received surgical treatment.

Table 50. Prostate cancer, treatment methods distribution (%), Georgia, 2019

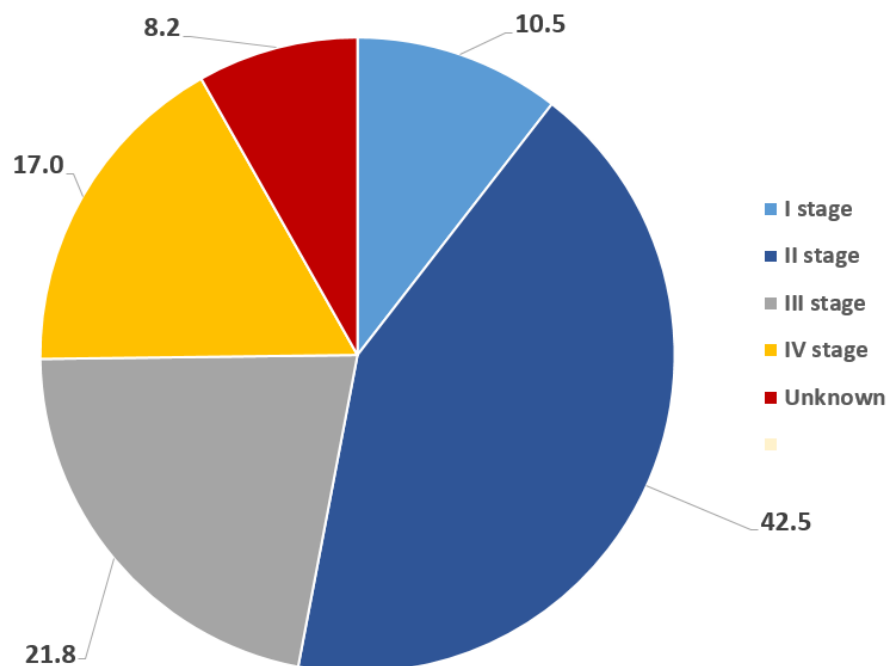
Total number of new cases of prostate cancer - 548		
Number of patients treated	Number of patients treated	Number of patients treated
Chemiathery and hormone therapy	358	65.3
Radiotherapy	90	16.4
Surgical treatment	278	50.7

Table 51. Prostate cancer, share of surgical treatment (%) by stages, Georgia, 2019

	Total number of patients	Percent of treated patients
Stage I	50	60.0
Stage II	138	83.3
Stage III	112	53.6
Stage IV	196	25.0
Unknown	52	46.2

In 2019, 278 men had got surgery due to prostate cancer, including 53% at stages I and II.

Figure 58. Prostate cancer share of surgical treatment (%) by stages, Georgia, 2019



Surgical operations are used in 90% of new cases of bladder cancer in men.

Table 52. Bladder cancer in males, treatment methods distribution (%), Georgia, 2019

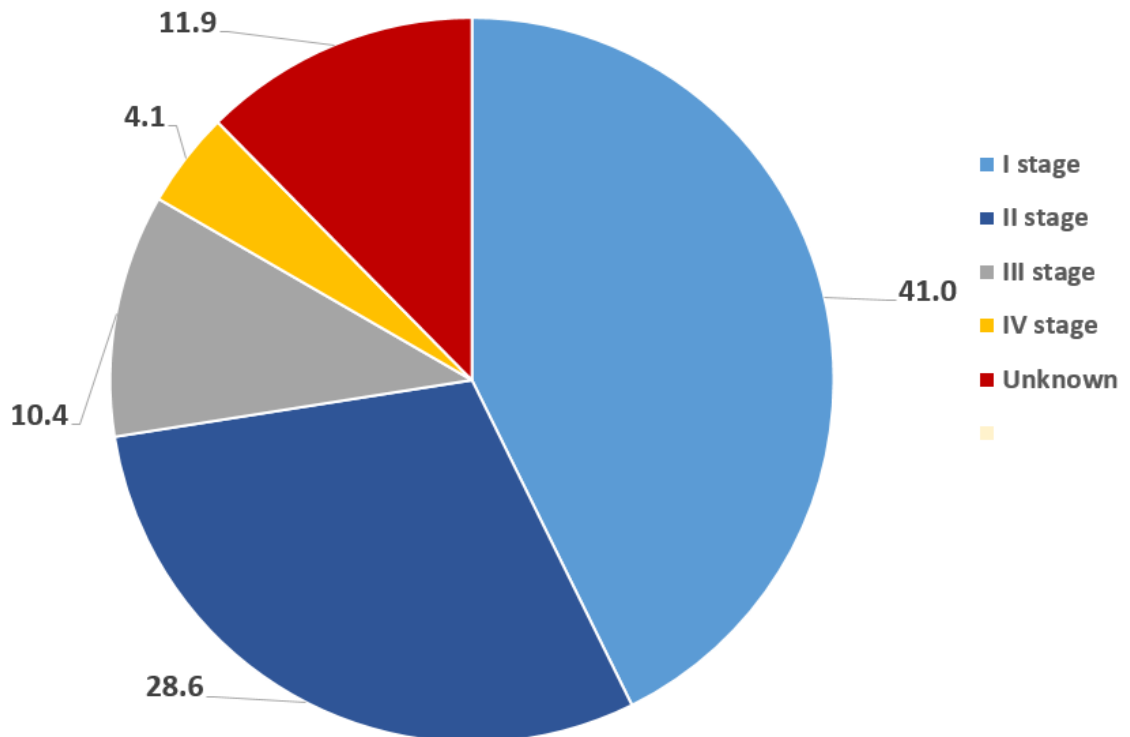
Total number of new cases of bladder cancer in males - 405		
Methods of treatment	Number of patients treated	Percent of the total number of patients
Chemiathery and hormone therapy	236	58.3
Radiotherapy	14	3.5
Surgical treatment	363	89.6

Table 53. Bladder cancer in males, share of surgical treatment (%) by stages, Georgia, 2019

	Total number of patients	Percent of treated patients
Stage I	171	93.0
Stage II	111	89.2
Stage III	46	78.3
Stage IV	23	65.2
Unknown	54	100.0

In 2019, 363 men had got surgery due to bladder cancer, including 70% at stages I and II.

Figure 59. Bladder cancer in males, share of surgical treatment (%) by stages, Georgia, 2019



In 2019, 78% of men with new cases of colorectal cancer had got surgery and 67% - chemia therapy / hormone therapy.

Table 54. Colorectal cancer in men, share of surgical treatment (%) by stages, Georgia, 2019

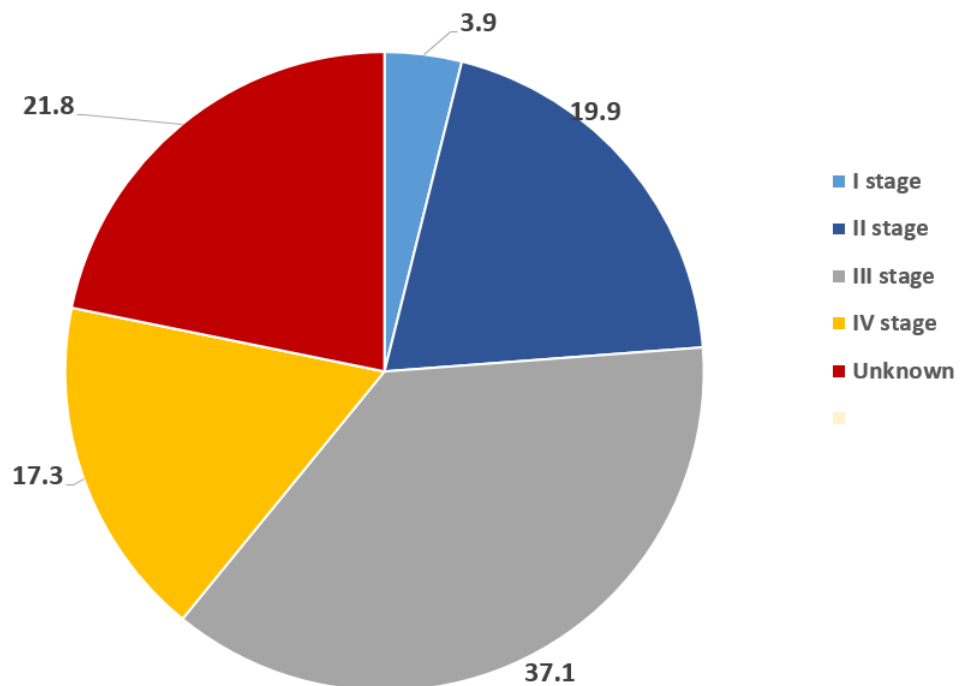
Total number of new cases of colorectal cancer in males - 376		
Methods of treatment	Number of patients treated	Percent of the total number of patients
Chemiathery and hormone therapy	250	66.5
Radiotherapy	73	19.4
Surgical treatment	307	77.9

Table 55. Colorectal cancer in men, share of surgical treatment (%) by stages, Georgia, 2019

	Total number of patients	Percent of treated patients
Stage I	15	80.0
Stage II	68	82.4
Stage III	128	86.7
Stage IV	72	66.7
Unknown	93	71.0

In 2019, 307 men had got surgery due to colorectal cancer, including 24% at stages I and II.

Figure 60. Colorectal cancer in men, share of surgical treatment (%) by stages, Georgia, 2019



Surgical operations are used in 76% of new cases of larynx cancer in men, in 63% chemotherapy / hormone therapy are used.

Table 56. Larynx cancer in males, treatment methods distribution (%), Georgia, 2019

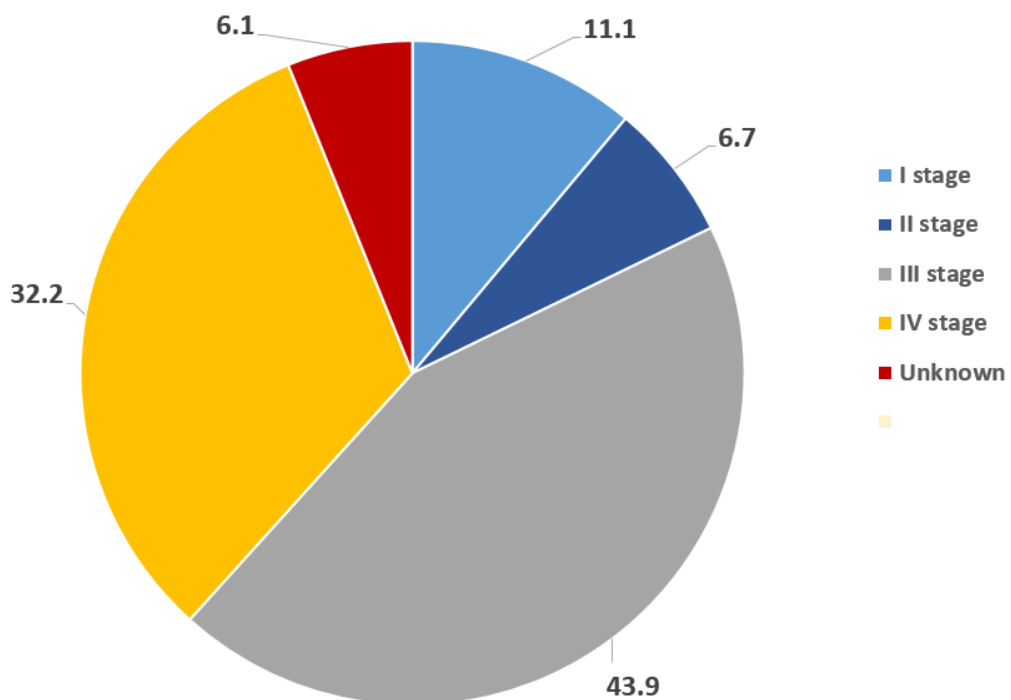
Total number of new cases of larynx cancer in males - 215		
Methods of treatment	Number of patients treated	Percent of the total number of patients
Chemiathery and hormone therapy	136	63.3
Radiotherapy	211	98.1
Surgical treatment	164	76.3

Table 57. Larynx cancer in males, share of surgical treatment (%) by stages, Georgia, 2019

	Total number of patients	Percent of treated patients
Stage I	41	48.8
Stage II	21	52.4
Stage III	80	82.5
Stage IV	57	100.0
Unknown	16	62.5

In 2019, 164 men had got surgery due to larynx cancer, including 18% at stages I and II.

Figure 61. Larynx cancer share of surgical treatment (%) by stages, Georgia, 2019



The booklet is prepared by the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs and the Department of Medical Statistics of the National Center for Disease Control and Public Health named after L.Sakvarelidze.

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