



Cancer in Georgia

2015-2021

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FOREWORD

In Georgia, on January 1, 2015, a Cancer Registry was launched in order to collect qualitative data on the spread of malignant neoplasms.

The implementation of the Cancer Registry led to the introduction of a personalized data system; The registry is constantly evolving, data quality and coverage are improving, although there are still some challenges that need to be addressed.

The given document covers data on malignant tumors registered during period of 2015-2021.

SUMMARY

- In 2015-2021, in Georgia, the total number of new cases of all sites of cancer (including in situ¹) ranges from 10,073 to 11,380. In 2021, 10,432 new cases of all sites of cancer were registered, with the incidence rate of 281.3 per 100,000 population.
- In 2021, 53% of new cases of cancer of all sites were registered in women, and 47% - in men.
- About 67% of new cases are registered in the most able-bodied age group (30 - 70 years), 29% of cases in the age of 70 years and older. About 1% of new cases are registered in the age groups of 0-15 years and 15-20 years. 23% 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 cancer;
 - Thyroid gland;
 - Colorectum;
 - Corpus uteri;
 - Servix uteri.
- Top 5 sites of cancers in men:
 - Prostate;
 - Trachea, bronchus, lung;
 - Bladder;
 - Colorectum;
 - Larynx.
- In Georgia, like in other countries, leukemia, lymphomas and the brain cancers are the most frequent malignant neoplasms in children.
- In 2021, 38.2% of new cases of all localizations² were registered in both sexes at stages I and II of the disease; 38.6% - at stages III and IV, for other cases the stage was not identified.
- In 2021, in Georgia 7388 persons died from cancer, among them the leading cause were trachea, bronchus and lung cancers (14%) and breast cancers (10%).
- The Cancer Registry made it possible to calculate the five-year survival rate in the country for 2015-2019, 2016-2020 and 2017-2021.
- In Georgia, the five-year survival rate for all sites of cancer, diagnosed in 2017, was 56.3% (calculated using the direct survival assessment method).
- In Georgia, the five-year survival rate for age group under 20 years is 77.9% for both sexes.

¹ Preinvasive cancer

² Excludes In situ and malignant tumors of lymphoid, hematopoietic and related tissues

- According to the US National Cancer Institute³, 51% of new cancer cases in Georgia require surgical treatment, 72% chemotherapy, and 57% radiotherapy.
- In 2021, according to the Cancer Registry, surgical treatment was performed in 64.8% of new cases, chemotherapy and hormone therapy - in 64.6%, radiotherapy - in 19.5%, iodine therapy⁴ - in 47.6%.
- 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)⁵.

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

⁴ *Patients with thyroid gland cancer*

⁵ https://gco.iarc.fr/tomorrow/graphic-isotype?type=0&type_sex=0&mode=population&sex=0&populations=935_268&cancers=39&age_group=va lue&apc_male=0&apc_female=0&single_unit=500000&print=0#collapse-group-0-3

30 GLOBAL DATA ON THE CANCER MORBIDITY⁶

- In 2020, the global burden of cancer consisted of 19.3 million new cases (18.1 million excluding non-melanoma skin cancer) and ~10 million deaths (9.9 million excluding non-melanoma skin cancer). Globally the most common sites of cancer are:
 - Breast cancer (2.3 million cases - 11.7% of cancer deaths).
 - Lung cancer (2.21 million cases - 11.4%).
 - Colorectal cancer (1.93 million cases - 10%).
 - Prostate cancer (1.41 million cases - 7.3%).
 - Stomach cancer (1.09 million cases - 5.6%).
- Lung cancer is the leading cause of global cancer mortality (1.8 million deaths - 18% of cancer deaths); followed by colorectal cancer (935000 deaths - 9.4%), liver cancer (830000 deaths - 8.3%), stomach cancer (769000 deaths - 7.7%) and female breast cancer (685000 - 6.9%)⁷.
- Globally, the total number of patients staying alive five years after diagnosis is estimated to be 43.8 million.
- About 70% of cancer-related deaths are recorded in middle- and low-income countries.
- About 1/3 of cancer-related deaths are caused by top five behavioral and dietary risk factors: obesity, insufficient consumption of fruits and vegetables, low physical activity, and excessive tobacco and alcohol consumption.
- The most important risk factor for cancer is tobacco use, 22% of cancer deaths associated with it.
- In low- and middle-income countries up to 25% of cancer cases are caused by cancer-related infectious such as hepatitis B and C, human papillomavirus (HPV), *Helicobacter pylori*, human immunodeficiency virus (HIV), etc.
- 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.
- On average one in five countries, which belongs to the group of low- and middle-income countries, has the evidence for necessity of sound cancer management policies.

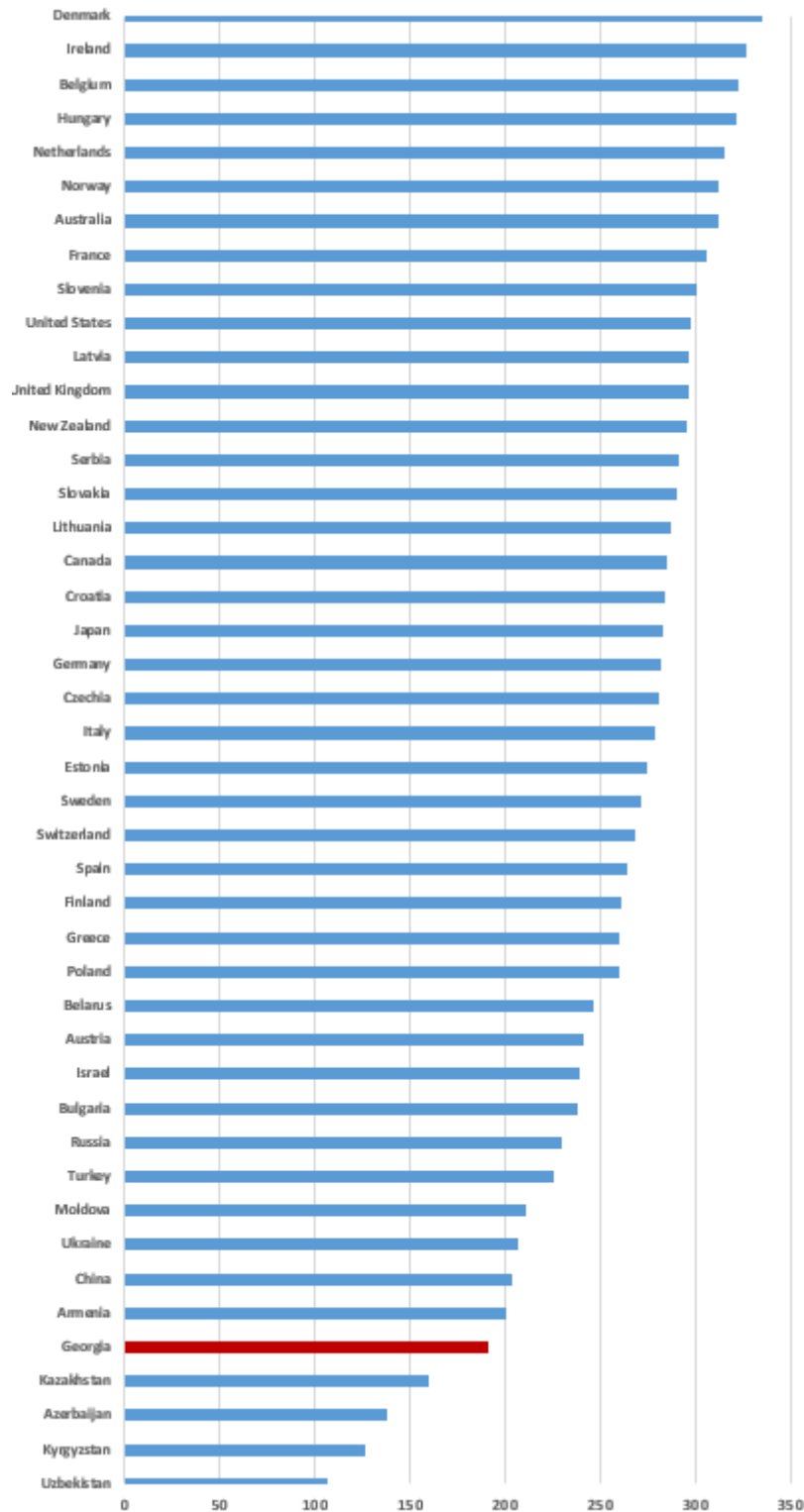
⁶ <https://www.who.int/news-room/fact-sheets/detail/cancer>

⁷ <https://acsjournals.onlinelibrary.wiley.com/doi/full/10.3322/caac.21660>

CANCER RELATED MORBIDITY AND MORTALITY

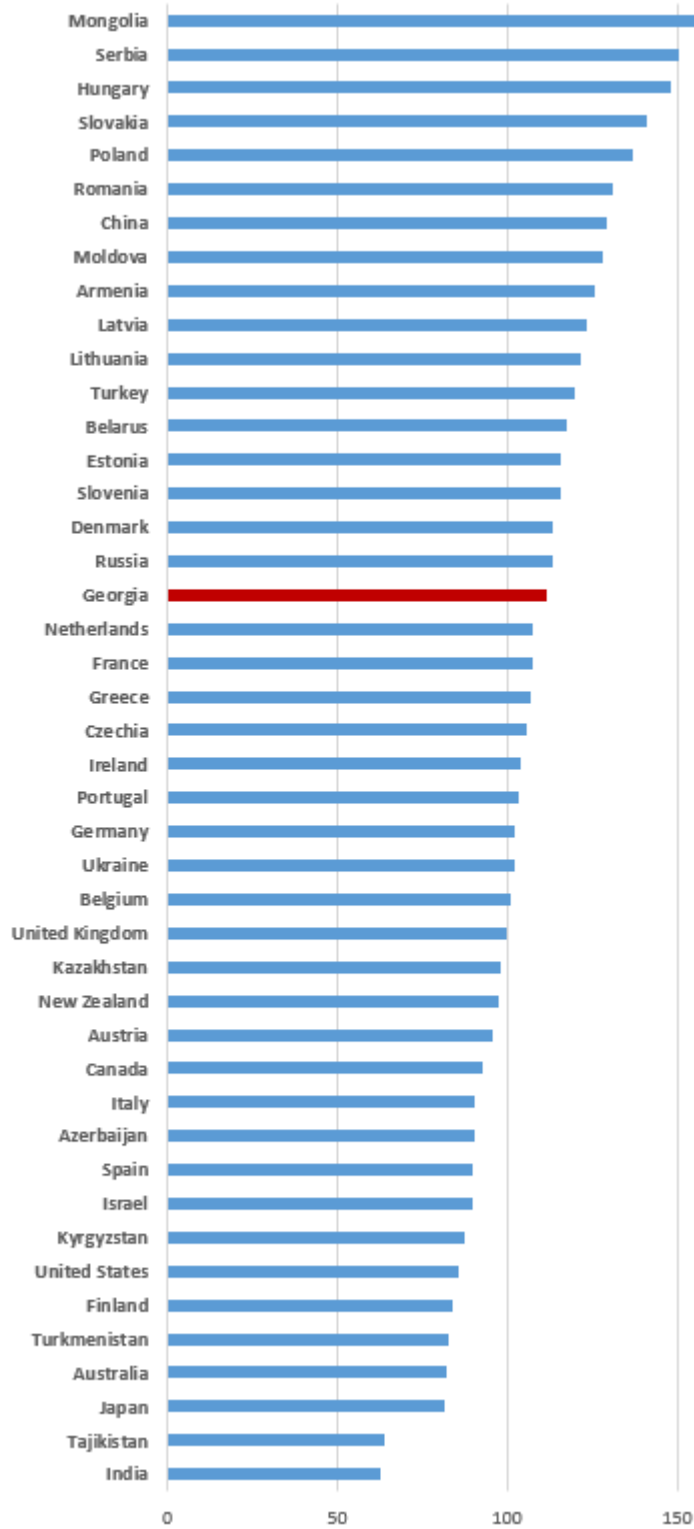
In 2021, in Georgia, 10,432 new cases of all sites cancer were registered, the incidence rate per 100,000 population was 281.3.

Figure 1. Cancer, age-standardized incidence per 100,000 population, 2020⁸F



⁸ <https://www.wcrf.org/dietandcancer/global-cancer-data-by-country/>

Figure 2. Cancer related mortality, age-standardized rate per 100,000 population, some countries and Georgia, 2020⁹

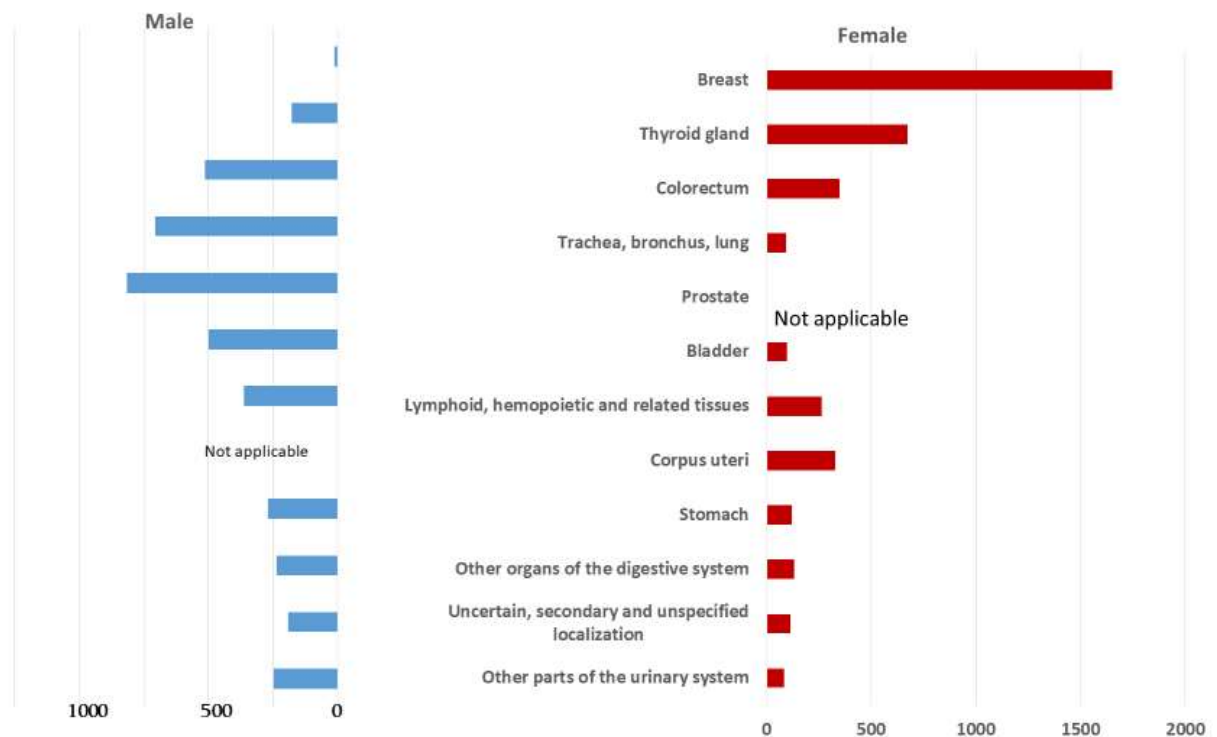


⁹ <https://www.wcrf.org/dietandcancer/global-cancer-data-by-country/>

Table 1. Cancer, main indicators of morbidity and mortality, Georgia, 2015-2021

	2015	2016	2017	2018	2019	2020	2021
Number of new cases of cancer, all sites	11,140	10,724	10,282	10,699	11,380	10,073	10,432
Incidence per 100,000 population	299.0	287.7	275.8	287.1	305.9	270.6	281.3
Number of new cases, except <i>in situ</i> and other skin cancer	10251	9922	9633	9934	10469	9253	9555
Incidence per 100,000 population	275.2	266.2	258.4	266.6	281.4	248.6	257.6
Number of Deaths by diagnosis of cancer ¹⁰	6268	6829	7095	7329	7873	8024	7388
Mortality per 100,000 population	168.3	183.2	190.3	196.7	211.6	215.5	199.2

Figure 3. Cancer, sites with high incidence by sex, Georgia, 2021




The number of cases of the above mentioned sites accounts for ~71% 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%¹¹.

¹⁰ According to the Geostat data

¹¹ 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 cancer¹²

Male	%		Female	%
All sites	40,5		All sites	38,9
Prostate	12,1		Breast	15,2
Trachea, bronchus, lungs	6,6		Trachea, bronchus, lungs	6,0
Colorectal	4,5		Colorectal	4,2
Melanoma	4,8		Corpus uteri	3,1
Non-Hodgkin lymphoma	2,4		Melanoma	3,3
Kidney and renal pelvis	2,2		Non-Hodgkin lymphoma	1,9
Leukaemia	1,8		Thyroid gland	1,9
Thyroid gland	0,7		Leukaemia	1,3
			Kidney and renal pelvis	1,3
			Ovary	1,2
		Cervix uteri	0,6	

Both sexes	%
Bladder	2.44
Pancreas	1.65
Lip, mouth and throat	1.17
Liver and intrahepatic biliary tract	1.03
Brain	0.62
Larynx	0.34
Hodgkin's lymphoma	0.21
Bone and articular cartilage	0.09

<https://surveillance.cancer.gov/devcan/canques.html>¹³

¹² <https://seer.cancer.gov/statfacts/>

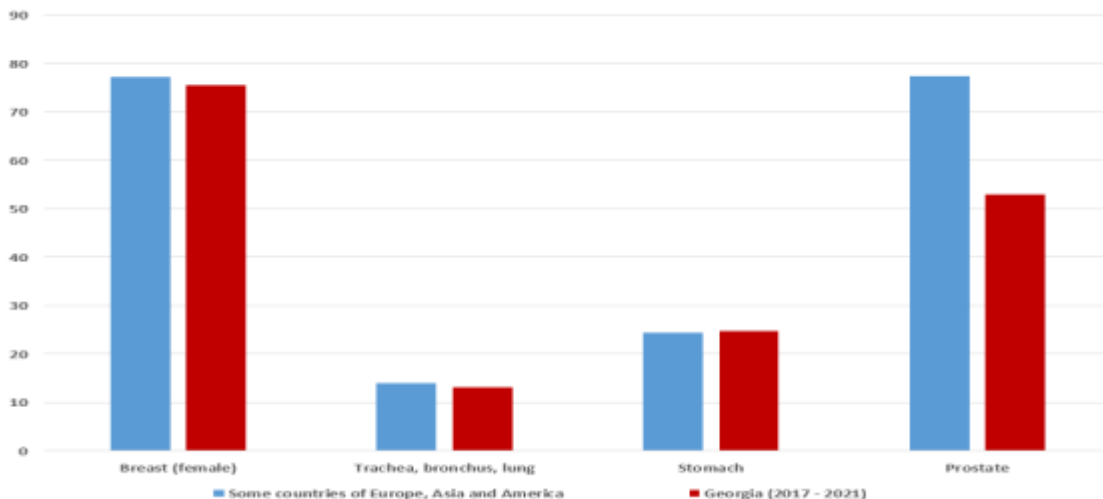
¹³ Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) DevCan database: "SEER 21 Incidence and Mortality, 2000-2017, with Kaposi Sarcoma and Mesothelioma". National Cancer Institute, DCCPS, Surveillance Research Program, Surveillance Systems Branch, released April 2019, based on the November 2018 submission. Underlying mortality data provided by NCHS (www.cdc.gov/nchs)

FIVE YEAR SURVIVAL RATE 8F¹⁴

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 median survival period is the average time interval (from the start of treatment or the time of diagnosis) during which patients survive¹⁵. 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 (e.g. five years)¹⁶.

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)¹⁷. According to the concept of survival, after one or five years, the patient will be alive, although the disease may recur or not recur (metastasis may or may not develop)¹⁸.

Figure 4. Five-year survival rates for some cancer sites¹⁹



Source: <https://worldpopulationreview.com/country-rankings/cancer-survival-rates-by-country>, *NCDC*

¹⁴ Survival rates in this document are calculated using the direct method

¹⁵ <https://stats.oecd.org/Index.aspx?QueryId=51882>; <https://seer.cancer.gov/statfacts/html/common.html> (2011 – 2016)

¹⁶ Parkin D.M., Hakulinen T. *Analysis of survival*. International Agency for Research on Cancer. p.163-164

¹⁷ *A Dictionary of Epidemiology, Sixth Edition*, Edited by Miquel Porta, 2015

¹⁸ <https://stats.oecd.org/Index.aspx?QueryId=51882>; <https://seer.cancer.gov/statfacts/html/common.html> (2011 – 2016)

¹⁹ <https://worldpopulationreview.com/country-rankings/cancer-survival-rates-by-country> (CONCORD-3 report)

Table 3. Five-year survival rates of cancer by sites (%), breast and stomach, 2017-2021

Breast		Stomach	
USA	88.6	Belgium	33.4
Brasil	87.4	Austria	33.1
France	86.9	Portugal	32.6
Finland	86.8	Italy	32.4
Australia	86.2	Iceland	32.3
Italy	86.2	Norway	32.3
Sweden	86.2	Germany	31.6
Norway	85.9	China	31.3
Canada	85.8	Switzerland	30.4
Switzerland	85.5	USA	29.1
Belgium	85.4	Australia	27.9
Germany	85.3	France	27.7
Iceland	85.3	Spain	27.3
Netherlands	85.0	New Zealand	26.7
New Zealand	83.7	Lithuania	26
Spain	83.7	Finland	25.2
Portugal	83.4	Brasil	24.9
Austria	82.9	Canada	24.8
Denmark	82.0	Georgia*	24.7
United Kingdom	81.1	Sweden	23.2
China	80.9	Czechia	23.2
Ireland	80.0	Estonia	22.8
Czechia	80.0	Latvia	22.8
Turkey	78.6	Ireland	22.7
Georgia*	75.5	Romania	22.1
Romania	75.0	Netherlands	21.4
Poland	74.1	Russia	19.9
Bulgaria	73.9	India	18.7
Estonia	72.4	Poland	18.6
Lithuania	72.1	United Kingdom	18.5
Latvia	71.1	Denmark	17.9
Russia	70.6	Turkey	17.1
India	60.4	Mongolia	15.1
Mongolia	56.5	Bulgaria	12.9

* Cancer population registry, 5-year survival rate for cases diagnosed in 2017

	High survival rate
	Average survival rate
	Low survival rate

Source:
<https://worldpopulationreview.com/country-rankings/cancer-survival-rates-by-country>; *NCDC*

Table 4. Five-year survival rates of cancer by sites (%):prostate and trachea, bronchus and lung, 2017-2021

Prostate		Trachea, bronchus and lung, (both sexes)	
USA	97.2	USA	18.7
Brasil	96.1	Brasil	18.0
Finland	93.2	Austria	17.9
Belgium	92.6	China	17.5
Lithuania	92.4	Canada	17.3
Canada	91.7	Belgium	16.6
Germany	91.2	Switzerland	16.5
Austria	90.5	Germany	16.2
France	90.5	Latvia	16.2
Italy	89.7	Romania	16.2
Portugal	89.4	Russia	15.7
Sweden	89.2	Sweden	15.6
Australia	88.5	Australia	15.0
Ireland	88.4	Iceland	15.0
Switzerland	88.0	Norway	15.0
Spain	87.1	Netherlands	14.8
Norway	86.3	Italy	14.7
Netherlands	85.8	France	13.6
Iceland	83.5	Poland	13.4
United Kingdom	83.2	Georgia*	13.2
Czechia	83.1	Ireland	12.9
Turkey	80.6	Portugal	12.8
Romania	76.5	Spain	12.6
Poland	74.1	New Zealand	12.4
Latvia	73.9	Finland	12.3
Estonia	73.2	Czechia	12.3
Denmark	71.2	Estonia	11.9
Russia	69.6	Denmark	11.3
China	63.8	Turkey	10.1
Bulgaria	53.4	United Kingdom	9.6
Georgia*	52.9	India	9.6
Indonesia	43.5	Lithuania	7.7
Mongolia	39.6	Mongolia	6.6
Jordan	27.4	Bulgaria	6.3

* Cancer population registry, 5-year survival of cases diagnosed in 2017

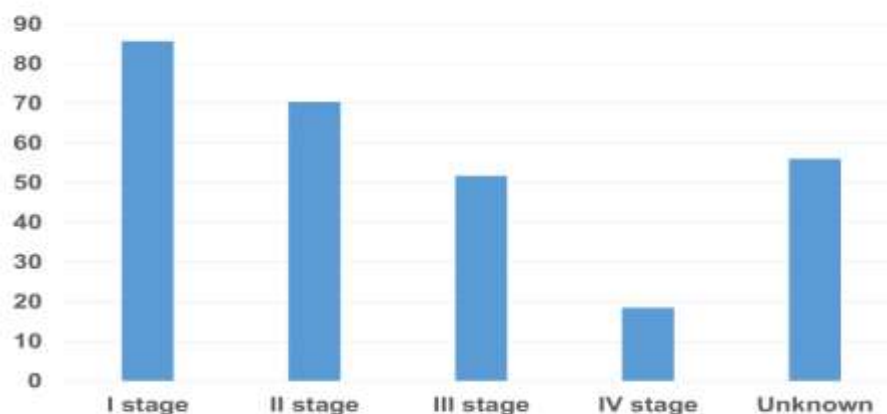
	High survival rate
	Average survival rate
	Low survival rate

Source:
<https://worldpopulationreview.com/country-rankings/cancer-survival-rates-by-country/>;
 NCDC

Table 5. Five-year survival rates of cancer by sites (%)

Site	2016-2020	2017-2021
All sites	55.8	55.0
Including:		
Thyroid gland	97.1	97.6
In situ	96.5	92.3
Breast	76.0	75.3
Corpus uteri	70.6	68.8
Other skin cancer (non-melanoma)	70.5	68.5
Cervix uteri	65.0	59.8
Bladder	57.9	57.8
Melanoma	43.7	57.6
Lymphoid, hemopoietic and related tissues	56.1	54.3
Lip, mouth and throat	43.6	53.8
Prostate	58.3	52.9
Larynx	47.1	52.0
Ovary	48.3	46.7
Colorectum	43.2	43.0
Mesothelial and soft tissues	31.9	40.3
Brain	32.8	32.5
Bones and articular cartilage	53.6	31.3
Other endocrine glands	33.3	31.3
Stomach	22.8	24.7
Ill-defined, secondary and unspecified sites	20.4	18.0
Oesophagus	13.3	14.9
Trachea, bronchus, lung	13.9	13.2
Pancreas	14.0	10.0

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

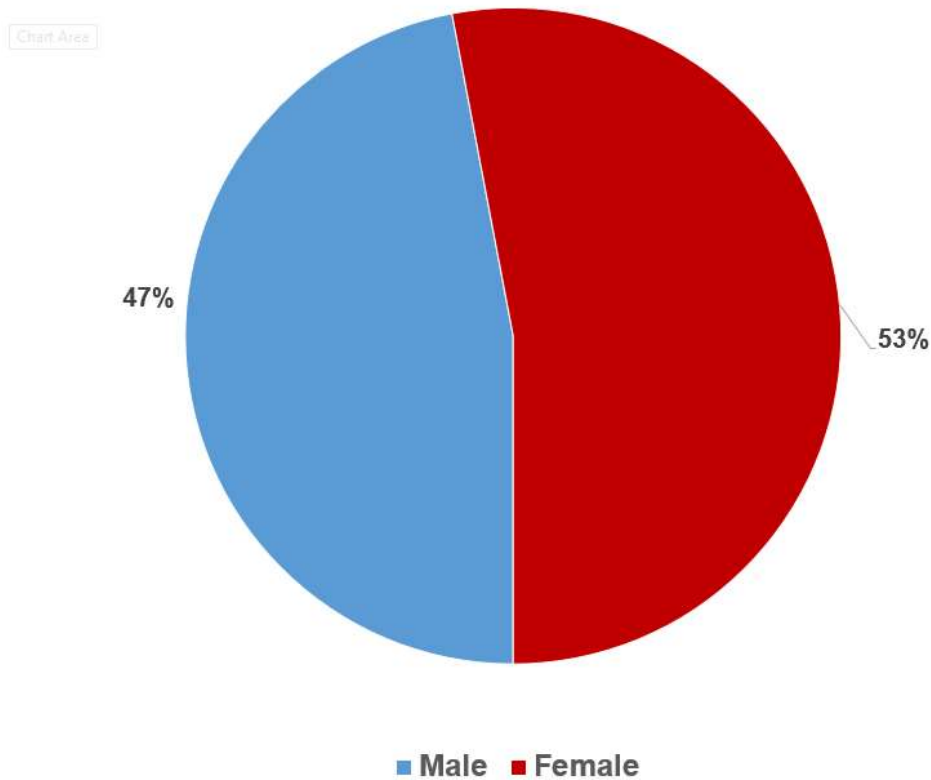
Figure 5. Five-year survival rates of cancer by stages²⁰, both sexes, Georgia, 2017-2021

²⁰ Excluding in situ and malignant tumors of lymphoid, hematopoietic and related tissues

AGE AND SEX STRUCTURE

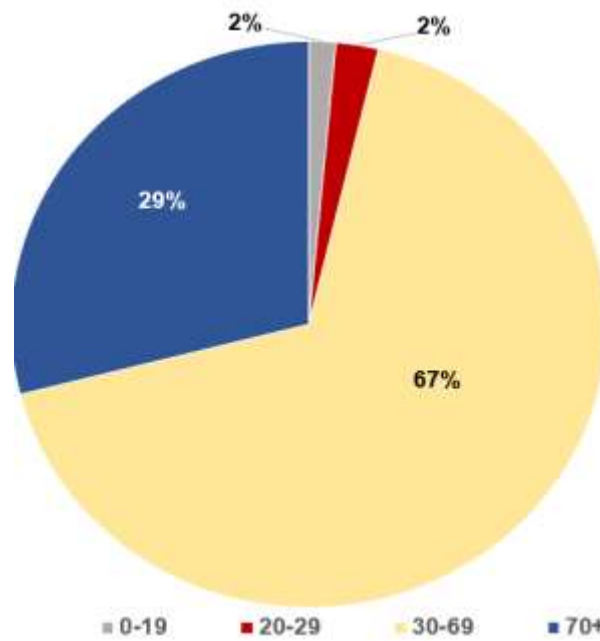
In 2021, in Georgia, a total of 10,432 new cases of cancer of all sites were registered (incidence per 100,000 population – 281.3), including 5,528 cases (53%) in women and 4,904 cases (47%) in men.

Figure 6. Cancer, all sites, distribution by sex, Georgia, 2021



According to age groups, 67% of new cases are registered in the most able-bodied age group (30-70 years), and 29% of cases - in the age group 70 years and older. One per cent of new cases are from the age groups of 0 - 15 years and 15 - 20 years. The share of new cancers registered in women of reproductive age (15-49 years) is 23%.

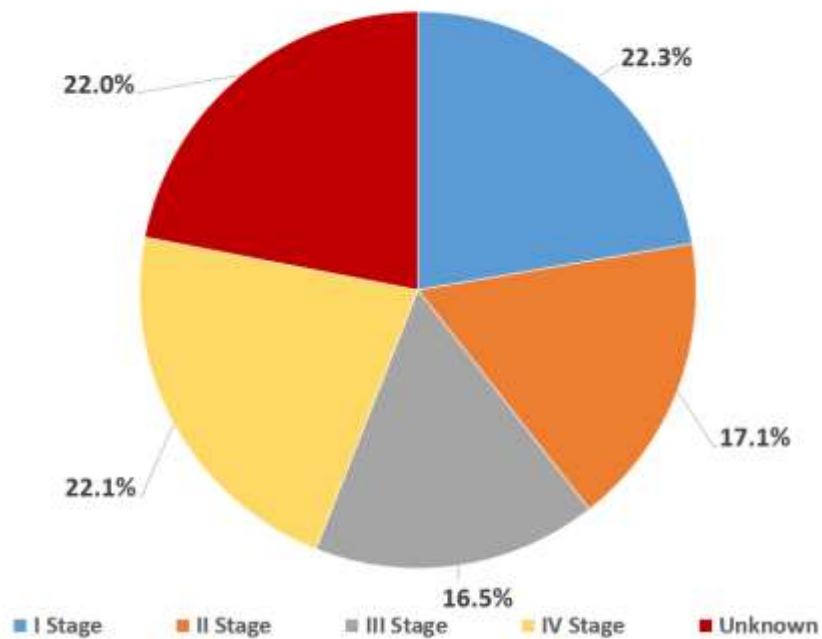
Figure 7. Cancer, all sites of by age groups, Georgia, 2021



STAGES

In 2021, 38.2% of new cases of cancer of all sites²¹ of both sexes were registered at the I and II stages, at the III and IV stages - 38.6%, 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, 2021



²¹ except malignant neoplasms of lymphoid, hematopoietic and related tissues

TOP 5 SITES OF CANCER IN FEMALES**Table 68. New cases of cancer, females, Georgia, 2021**

Site	Number of new cases	%
All sites	5528	100.0
Breast	1640	29.7
Thyroid gland	708	12.8
Colorectal	389	7.0
Corpus uteri	372	6.7
Other skin cancer (non-melanoma)	330	6.0
Cervix uteri	281	5.1
Ovary	274	5.0
Lymphoid, hemopoietic and related tissues	211	3.8
Ill-defined, secondary and unspecified localization	139	2.5
Stomach	125	2.3
Bladder	105	1.9
Brain	104	1.9
Trachea, bronchus, lung	89	1.6
Pancreas	84	1.5
Mesothelial and soft tissues	68	1.2
Lip, oral cavity and pharynx	47	0.9
Melanoma	39	0.7
Bones and articular cartilage	38	0.7
In situ	37	0.7
Tumors of uncertain or unknown behavior	15	0.3
Oesophagus	15	0.3
Other endocrine glands	9	0.2
Larynx	5	0.1
Other specified forms of T/NK-cell lymphoma	3	0.1

Table 7. Top five cancers, females, Georgia, 2021

Site	Number of new cases	Incidence per 100,000 women
Breast	1640	85.2
Thyroid gland	708	36.8
Colorectal	389	20.2
Corpus uteri	372	19.3
Cervix uteri	281	14.6

1. BREAST CANCER IN FEMALES

In 2021, in Georgia, there were 1,640 new cases of breast cancer in women registered. This is 29.7% of all new cases registered in this sex group. The five-year survival rate for breast cancer in women diagnosed in 2017 was 75.5%.

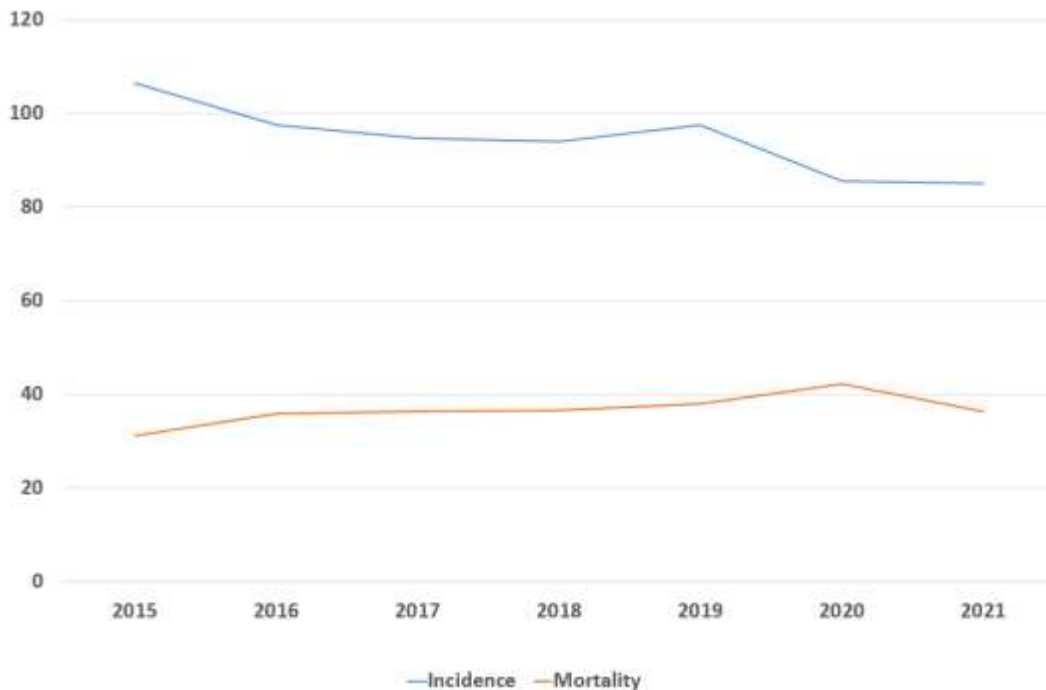
According to the American National Cancer Institute estimates, the lifetime risk of developing breast cancer in American women is 12.9%²².

Table 8. Breast cancer in females, incidence and mortality rates, Georgia

	2015	2016	2017	2018	2019	2020	2021
Number of new cases	2072	1899	1839	1820	1886	1651	1640
% of the total number of new cases	33.3	31.2	31.8	30.1	29.8	30.1	29.7
Incidence per 100,000 women	106.5	97.7	94.8	94.0	97.7	85.6	85.2
Mortality per 100,000 women	31.2	36.0	36.5	36.6	38.2	42.4	36.5

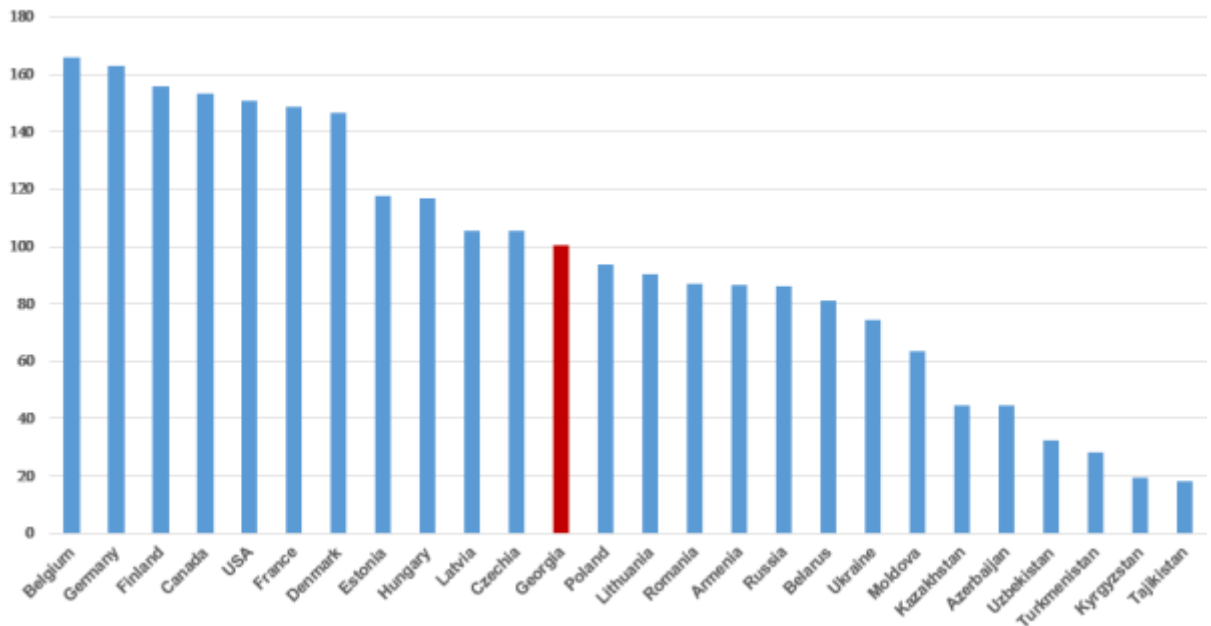
In 2015-2021, the number of registered new cases of breast cancer was declining, there is a 21% decrease over the last 7 years. It is noteworthy that, that during 2015-2020 the breast cancer mortality was increasing, although, in 2021, it decreased.

Figure 9. Breast cancer in females, incidence and mortality rates per 100,000 females, Georgia



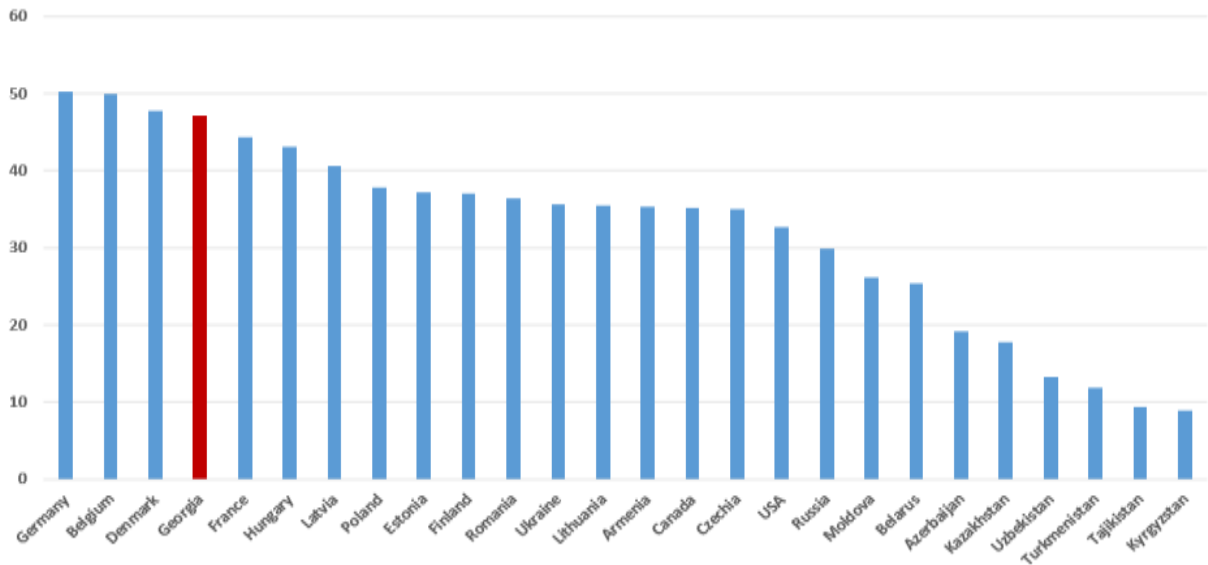
²² <https://seer.cancer.gov/statfacts/html/breast.html>

Figure 10. Breast cancer in females, age-standardized incidence per 100,000 females, 2019



Source: <http://ghdx.healthdata.org/gbd-results-tool>²³

Figure 11. Breast Cancer in females, age-standardized mortality rate per 100,000 females, 2019



Source: <http://ghdx.healthdata.org/gbd-results-tool>

In Georgia, the age-specific incidence of breast cancer increases with the age and reaches its maximum at the age of 65-69 years.

²³ Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2020. Available from <http://ghdx.healthdata.org/gbd-results-tool>.

Figure 12. Breast cancer in females, age-specific incidence rate per 100,000 females, Georgia, 2021

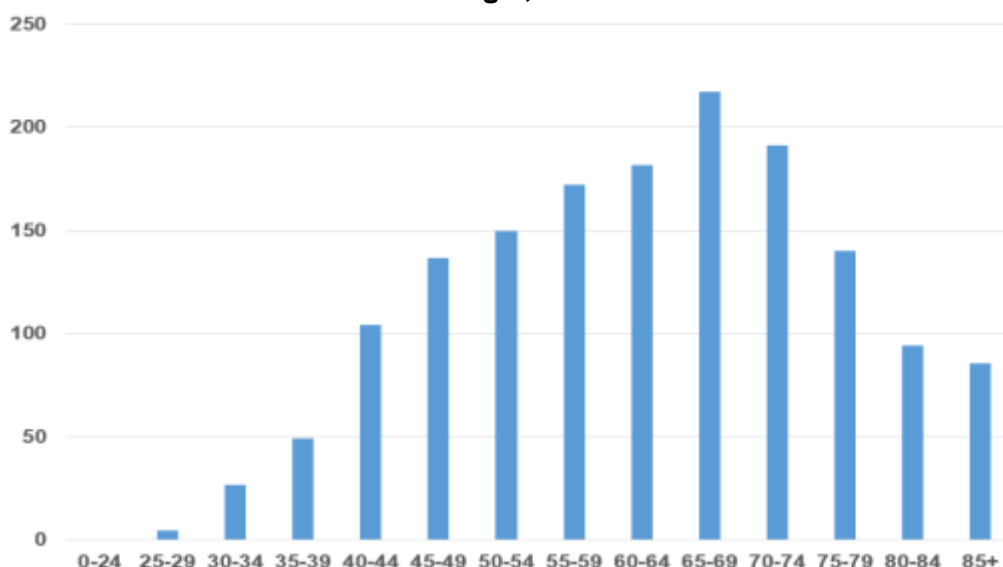
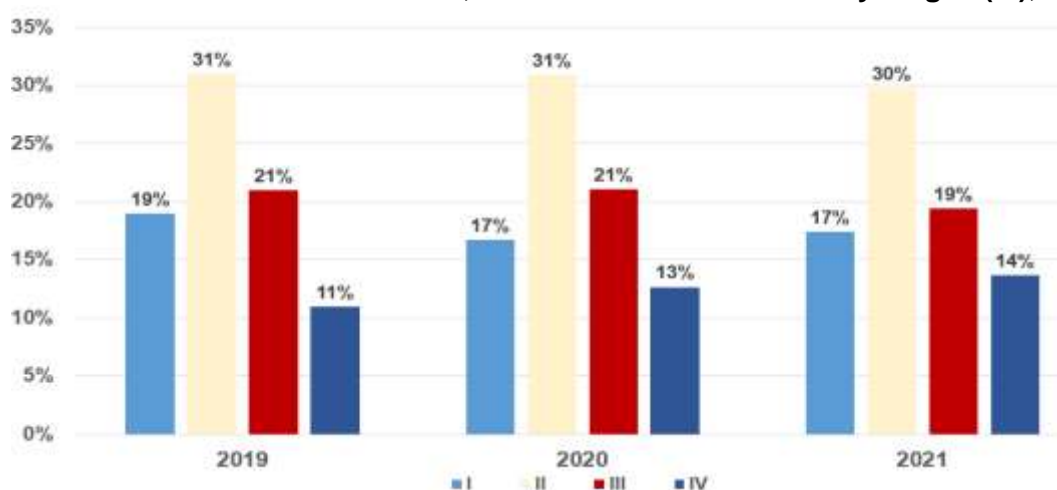


Table 9. Breast cancer in females, new cases, distribution by the age groups, Georgia

Age group	2015	2016	2017	2018	2019	2020	2021
15-19	0.3	0.3	0.1	0.2	0.1	0.0	0.1
20-24	0.6	0.8	0.9	0.3	0.6	0.5	0.3
25-29	1.9	2.3	2.1	1.8	2.2	2.5	2.2
30-34	4.3	4.8	4.6	4.0	5.0	4.2	4.0
35-39	8.1	8.3	8.3	7.9	8.1	8.5	7.7
40-44	10.4	10.0	10.6	11.4	10.0	10.7	9.9
45-49	13.0	13.2	12.9	12.1	9.8	10.3	10.8
50-54	14.5	16.1	14.0	15.1	13.0	14.0	13.9
55-59	14.7	13.2	15.3	16.6	15.5	16.9	15.0
60-64	11.1	13.4	13.3	13.2	13.0	14.8	15.5
65-69	8.6	6.6	7.2	7.3	11.4	9.4	11.0
70-74	8.1	7.3	6.3	6.8	5.9	3.6	4.5
75+	2.6	2.6	3.6	2.5	3.9	3.3	3.5
Total	100	100	100	100	100	100	100

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



2. THYROID GLAND CANCER IN FEMALES

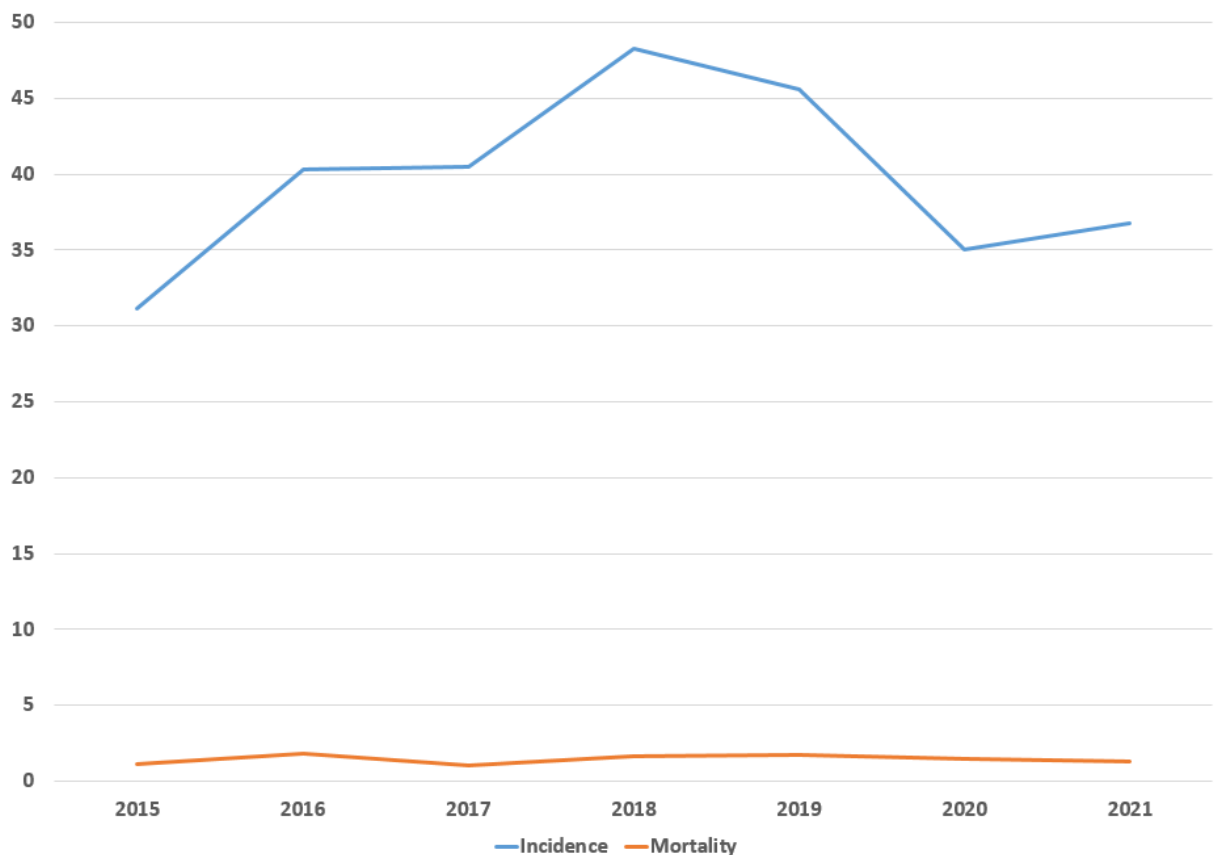
In 2021, in Georgia, 708 new cases of thyroid gland cancer in women were registered. This is 12.8% of all new cases registered in this sex group. The five-year survival rate for thyroid gland cancer in women diagnosed in 2017 was 97.6%.

According to the American National Cancer Institute estimates, the lifetime risk of developing thyroid gland cancer in American women is 1.3%²⁴.

Table 10. Thyroid gland cancer in females, incidence and mortality rates, Georgia

	2015	2016	2017	2018	2019	2020	2021
Number of new cases	605	783	786	934	879	675	708
% of the total number of new cases	9.8	12.9	13.8	15.8	14.8	13.2	12.8
Incidence per 100,000 women	31.1	40.3	40.5	48.3	45.6	35.0	36.8
Mortality per 100,000 women	1.1	1.8	1.0	1.6	1.7	1.5	1.3

Figure 14. Thyroid gland cancer in females, incidence and mortality rates per 100,000 females, Georgia



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

During 2015-2018, the incidence per 100,000 women of thyroid gland cancer was raising, in 2019 the rate decreased by 6%. In 2020 and 2021 this trend continued (decline between these two years - 20%). Mortality rate from thyroid gland cancer remains low.

The age-specific incidence of thyroid gland cancer in females reaches its maximum at the age of 25-29 and 40-54 years of age.

Figure 15. Thyroid gland cancer in females, age-specific incidence rate per 100,000 females, Georgia, 2021

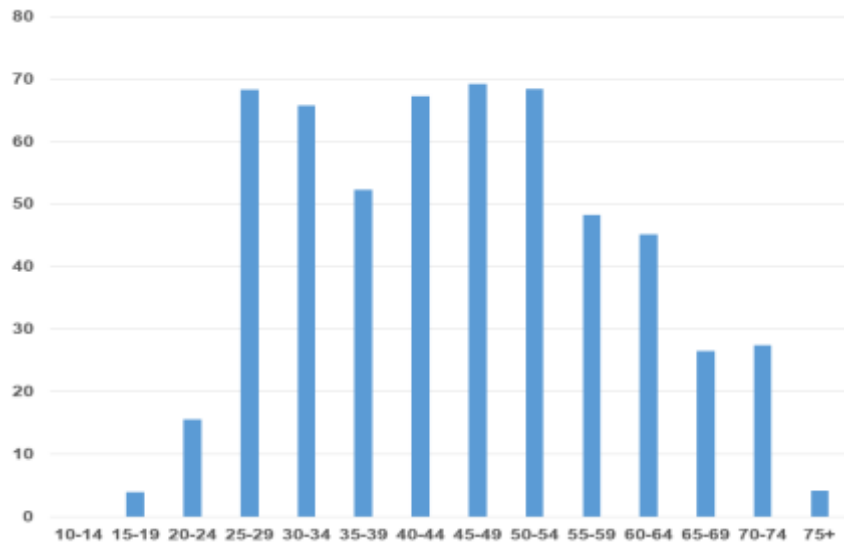
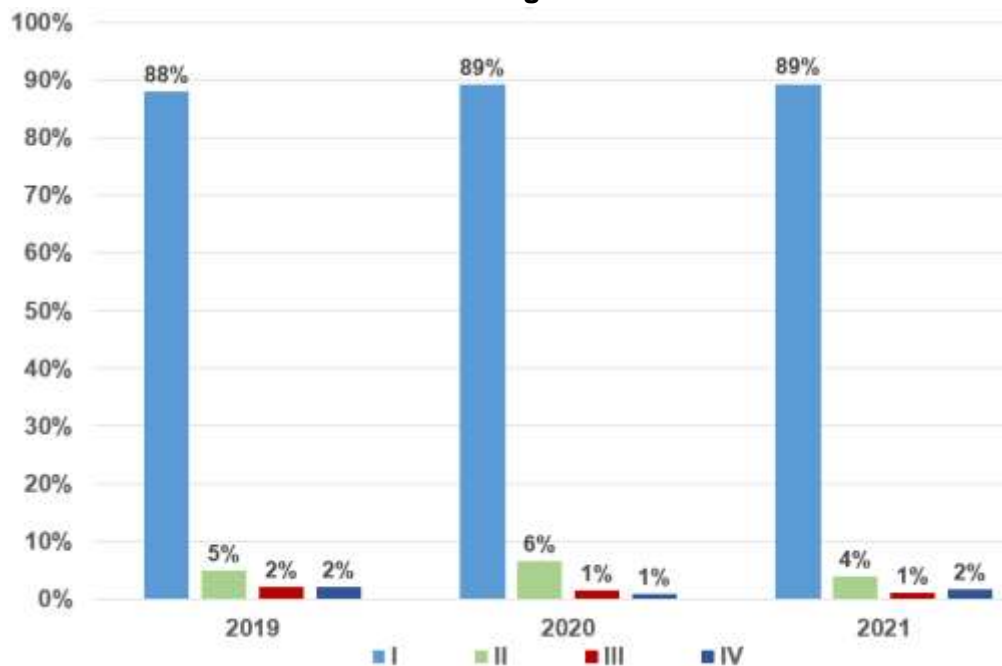


Table 11. Thyroid gland cancer in females, distribution of new cases by age groups, Georgia

Age group	2015	2016	2017	2018	2019	2020	2021
10-14	0.3	0.4	0.4	0.2	0.6	0.1	0
15-19	2.1	1.4	2.3	1.3	1.6	1.6	1.1
20-24	4.4	4.7	5.4	4.7	4.2	5.2	4.7
25-29	10.9	8.5	8.4	8.3	8.0	9.0	10.7
30-34	7.7	13.0	11.1	12.2	12.4	13.4	12.6
35-39	9.7	8.7	13.1	10.4	11.9	12.2	9.7
40-44	9.9	10.2	10.8	9.9	12.6	10.9	11.6
45-49	9.4	10.1	10.4	10.0	10.4	9.9	11.6
50-54	10.4	10.7	8.9	13.1	9.2	9.6	11.4
55-59	13.5	12.8	8.7	9.0	7.8	8.1	9.0
60-64	10.9	9.4	11.6	9.6	10.2	9.1	8.6
65-69	6.1	6.5	4.7	6.7	6.9	6.3	4.4
70-74	2.6	2.0	2.4	3.0	2.9	3.5	3.7
75+	2.0	1.5	1.8	1.5	1.2	1.0	0.8
Total	100	100	100	100	100	100	100

Figure 16. Thyroid gland cancer in females, distribution of new cases by stages (%), Georgia



3. COLORECTAL CANCER IN FEMALES

In 2021, in Georgia, there were 389 new cases of colorectal cancer in women registered. This is 7% of all new cases registered in this sex group. The five-year survival rate for colorectal cancer in women diagnosed in 2017 was 44.1%.

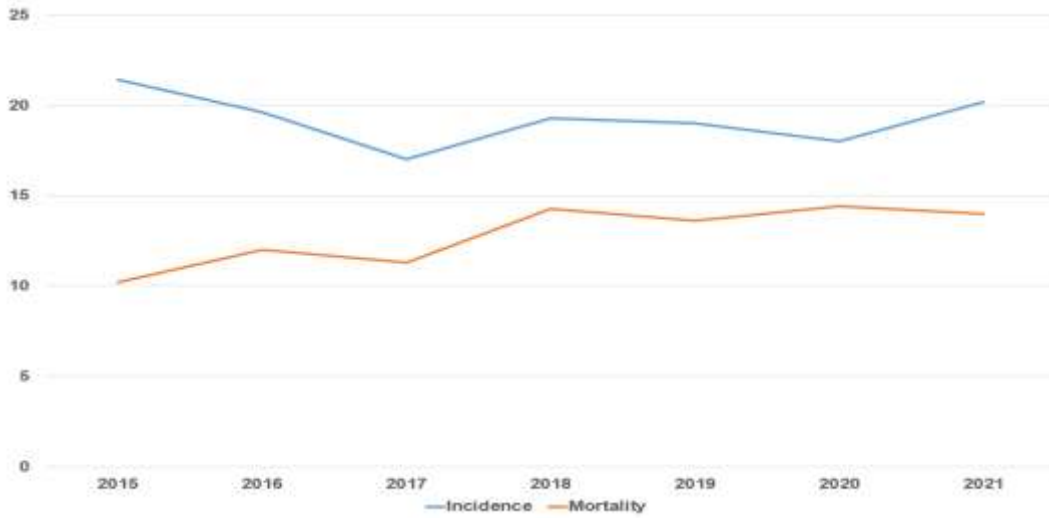
According to the American National Cancer Institute estimates, the lifetime risk of developing colorectal cancer in American women is 4.2%²⁵.

Table 12. Colorectal cancer in females, incidence and mortality rates, Georgia

	2015	2016	2017	2018	2019	2020	2021
Number of new cases	416	380	329	373	367	348	389
% of the total number of new cases	6.8	6.2	5.8	6.2	5.8	6.2	7.0
Incidence per 100,000 females	21.4	19.6	17.0	19.3	19.0	18.0	20.2
Mortality per 100,000 females	10.2	12.0	11.3	14.3	13.6	14.4	14.0

²⁵ <https://seer.cancer.gov/statfacts/html/colorect.html>

Figure 17. Colorectal cancer in females, incidence and mortality rates per 100,000 females, Georgia



In 2021, the incidence of colorectal cancer per 100,000 females was 20.2. In 2015-2020, mortality of colorectal cancer per 100,000 females was increasing, although, in 2021, it insufficiently diseased and reached 14.4 per 100,000 females.

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

Figure 18. Colorectal cancer in females, age-specific incidence rate per 100,000 females, Georgia, 2021

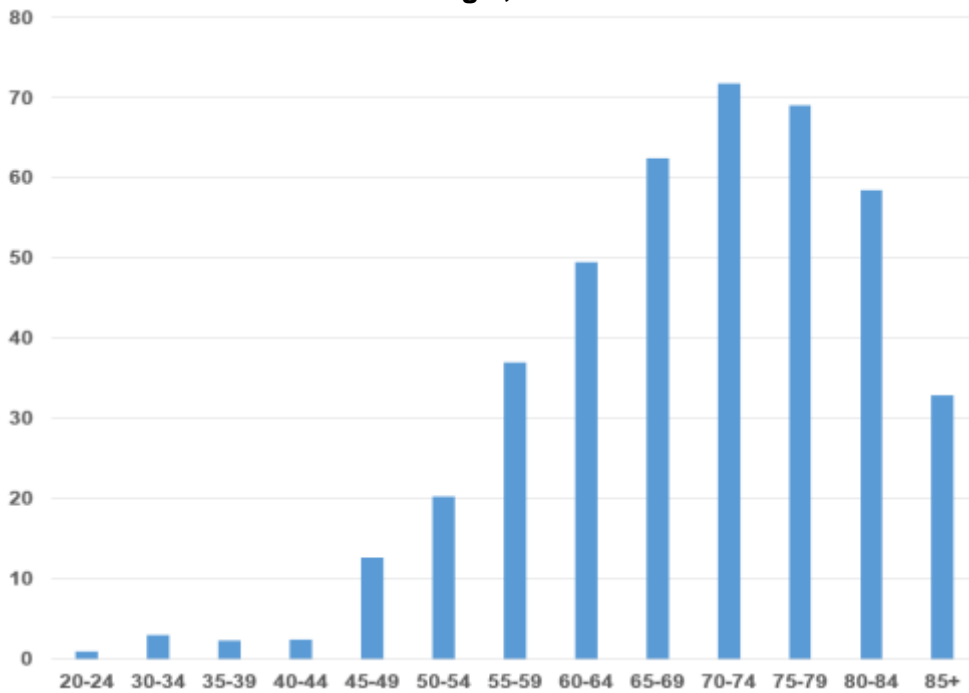
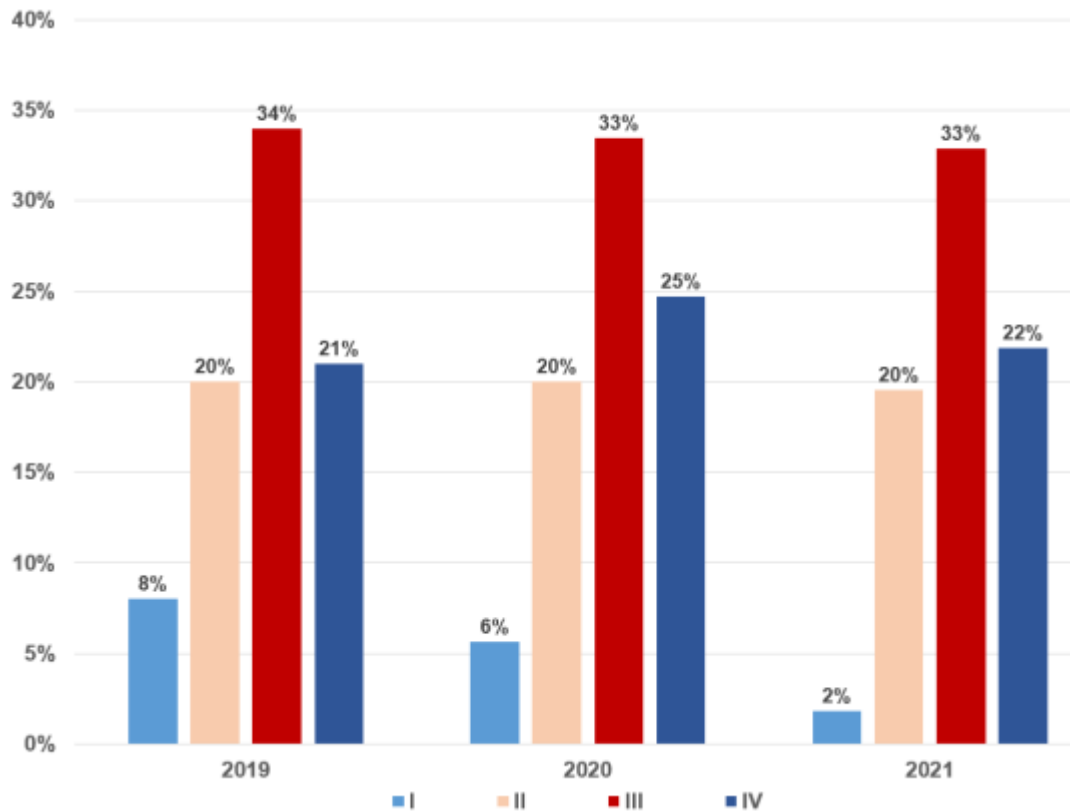


Table 13. Colorectal cancer in females, distribution of new cases by age groups (%), Georgia

Age group	2015	2016	2017	2018	2019	2020	2021
15-19	0.0	0.0	0.6	0.3	0.3	0.0	0.0
20-24	0.2	0.0	0.3	0.0	0.0	0.6	0.0
25-29	0.2	0.5	0.9	0.0	0.3	0.0	0.3
30-34	1.2	0.0	0.6	0.3	0.3	0.3	1.0
35-39	1.2	0.3	0.6	1.1	1.8	1.3	0.8
40-44	0.7	3.2	2.4	1.9	3.0	4.7	0.8
45-49	6.2	3.7	3.0	4.6	4.8	5.3	3.9
50-54	6.7	7.7	6.4	6.3	7.8	5.6	6.2
55-59	12.4	8.8	11.2	11.7	12.5	10.9	12.6
60-64	15.0	17.5	16.1	15.8	12.8	20.0	17.2
65-69	16.9	18.0	16.7	17.2	16.4	17.2	18.8
70-74	13.8	10.9	13.4	12.8	14.6	14.1	17.5
75+	25.5	29.4	27.7	28.1	25.4	20.0	21.1
Total	100	100	100	100	100	100	100

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



4. CORPUS UTERI CANCER

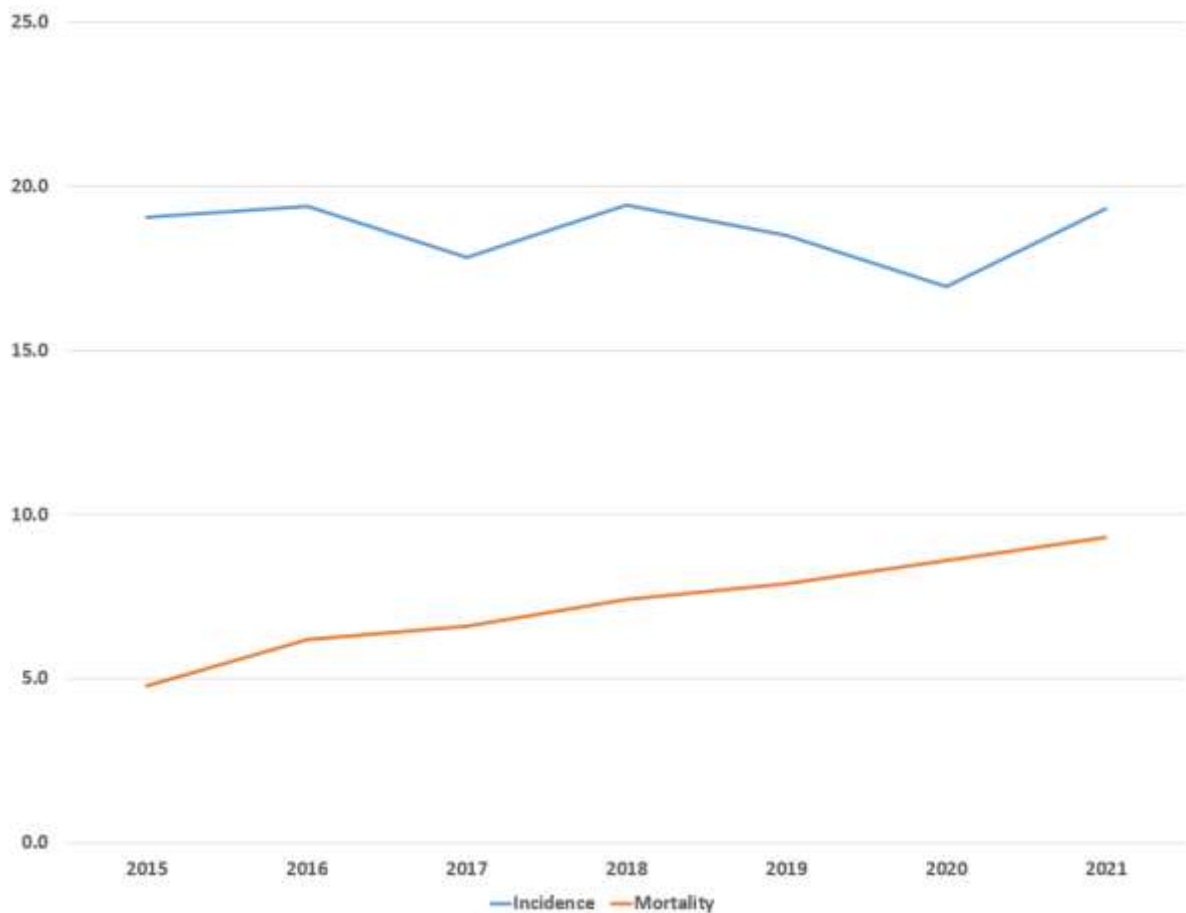
In 2021, in Georgia, there were 372 new cases of corpus uteri cancer registered. This is 6.7% of all new cases registered in women. The five-year survival rate for corpus uteri cancer cases diagnosed in 2017 was 68.8%.

According to the American National Cancer Institute estimates, the lifetime risk of developing corpus uteri cancer in American women is 3.1%²⁶.

Table 14. Corpus uteri cancer incidence and mortality rates, Georgia

	2015	2016	2017	2018	2019	2020	2021
Number of new cases	371	377	346	376	357	327	372
% of the total number of new cases	5.9	6.2	6.0	6.3	5.7	5.9	6.7
Incidence per 100,000 females	19.1	19.4	17.8	19.4	18.5	16.9	19.3
Mortality per 100,000 females	4.8	6.2	6.6	7.4	7.9	8.6	9.3

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



²⁶ <https://seer.cancer.gov/statfacts/html/corp.html>

In 2015-2021, corpus uteri cancer incidence was stable. In 2021, incidence rate was 19.3. During the same period of time, mortality rate due to the corpus uteri cancer was increasing and, in 2021, it reached 9.3.

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

Figure 21. Corpus uteri cancer incidence and mortality rates, Georgia, 2021

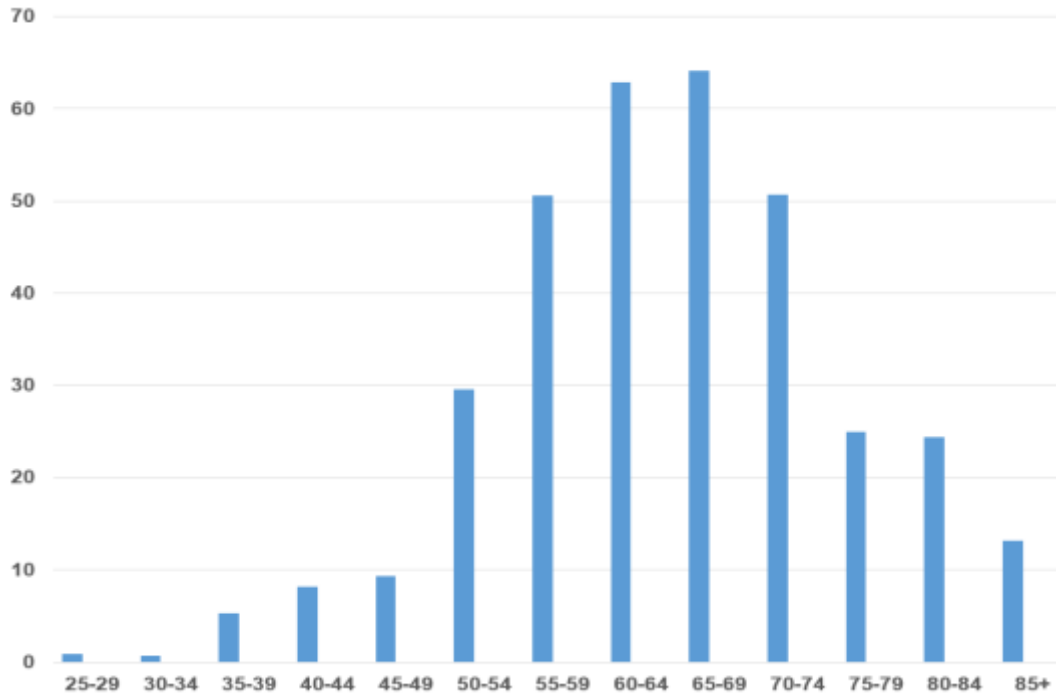
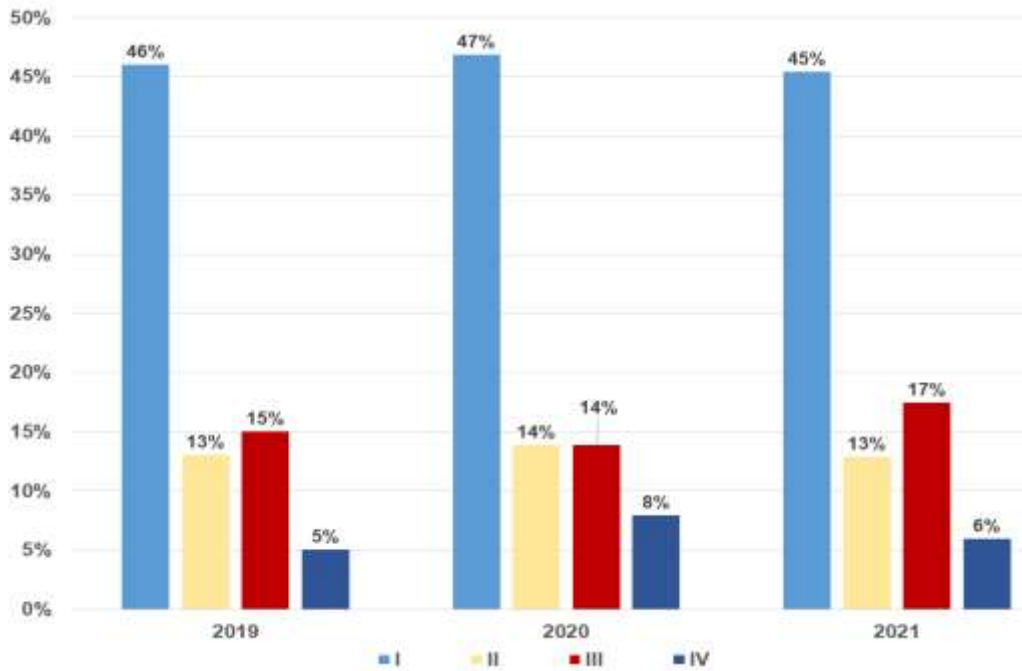


Table 15. Corpus uteri cancer, distribution of new cases by age groups (%), Georgia

Age group	2015	2016	2017	2018	2019	2020	2021
15-19	0.0	0.0	0.0	0.0	0.3	0.0	0.0
20-24	0.0	0.0	0.3	0.0	0.0	0.0	0.0
25-29	0.0	0.0	0.3	0.0	0.0	0.3	0.3
30-34	0.8	0.8	0.6	0.5	0.6	0.3	0.3
35-39	1.6	2.1	1.2	1.6	1.2	2.3	1.9
40-44	1.3	3.7	2.0	2.4	3.8	2.6	2.7
45-49	4.8	5.1	4.9	6.5	4.4	5.0	3.0
50-54	15.6	11.5	11.6	7.5	9.4	9.2	9.4
55-59	20.1	17.4	17.4	15.1	19.3	13.9	18.0
60-64	18.0	21.1	23.0	21.0	18.4	21.8	22.8
65-69	20.1	19.8	19.2	20.4	17.3	21.8	20.2
70-74	9.0	7.8	7.8	12.4	11.4	14.2	12.9
75+	8.7	10.7	11.6	12.6	14.0	8.6	8.6
Total	100	100	100	100	100	100	100

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



5. CERVIX UTERI CANCER

In 2021, in Georgia, there were 281 new cases of cervix uteri cancer registered. This is 6% of all new cases registered in women. The five-year survival rate for cervix uteri cancer diagnosed in 2017 was 59.8%.

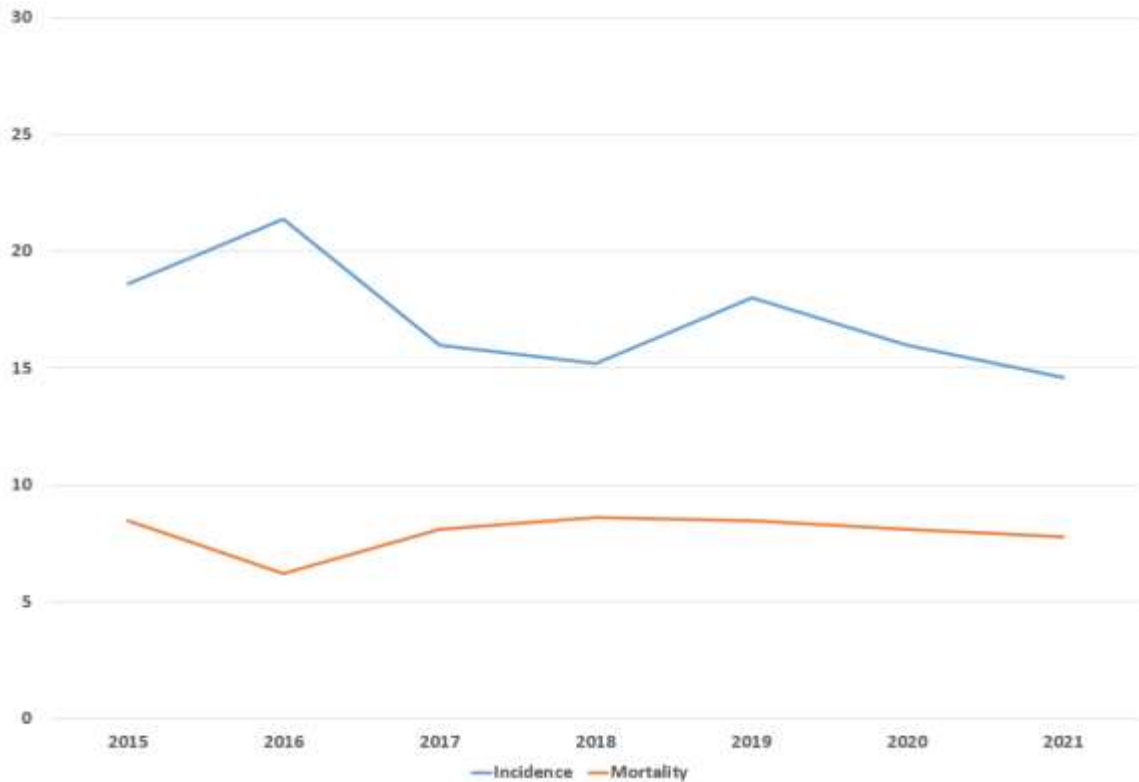
According to the American National Cancer Institute estimates, the lifetime risk of developing colorectal cancer in American women is 0.6%-0.18F²⁷.

Table 16. Cervix uteri cancer incidence and mortality rates, Georgia

	2015	2016	2017	2018	2019	2020	2021
Number of new cases	362	415	311	294	347	309	281
% of the total number of new cases	5.8	6.7	5.4	4.9	5.6	5.9	6.0
Incidence per 100,000 females	18.6	21.4	16.0	15.2	18.0	16.0	14.6
Mortality per 100,000 females	8.5	6.2	8.1	8.6	8.5	8.1	7.8

²⁷ <https://seer.cancer.gov/statfacts/html/cervix.html>

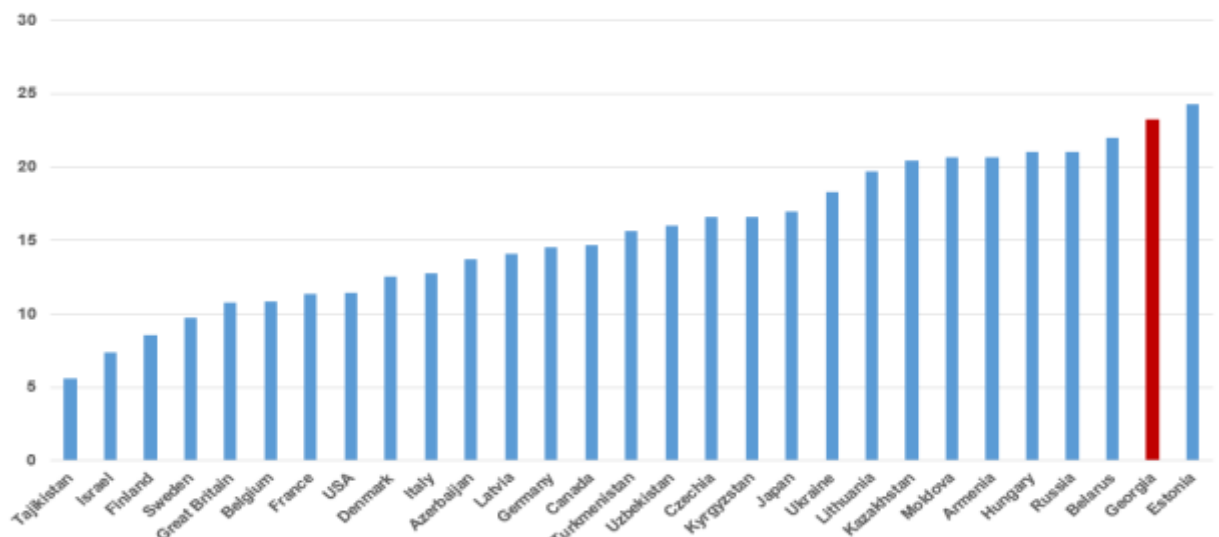
Figure 23. Cervix uteri cancer incidence and mortality rates, Georgia



During 2016-2018, the incidence of cervix uteri cancer was declining. In 2019, the incidence rate increased, although, since 2020 again decreased and reached 14.6 per 10000 females. During same time the cervix uteri cancer mortality was increasing and, in 2020, it reached 14.4 per 100,000 females and since 2020, a decrease started (in 2021 mortality rate equals 7.8).

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

Figure 24. Cervix uteri cancer age-standartized incidence rate by countries, 2019



Source: <http://ghdx.healthdata.org/gbd-results-tool>²⁸

²⁸ Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2020. Available from <http://ghdx.healthdata.org/gbd-results-tool>.

Figure 25. Cervix uteri cancer age-standardized incidence rate per 100,000 females, Georgia, 2021

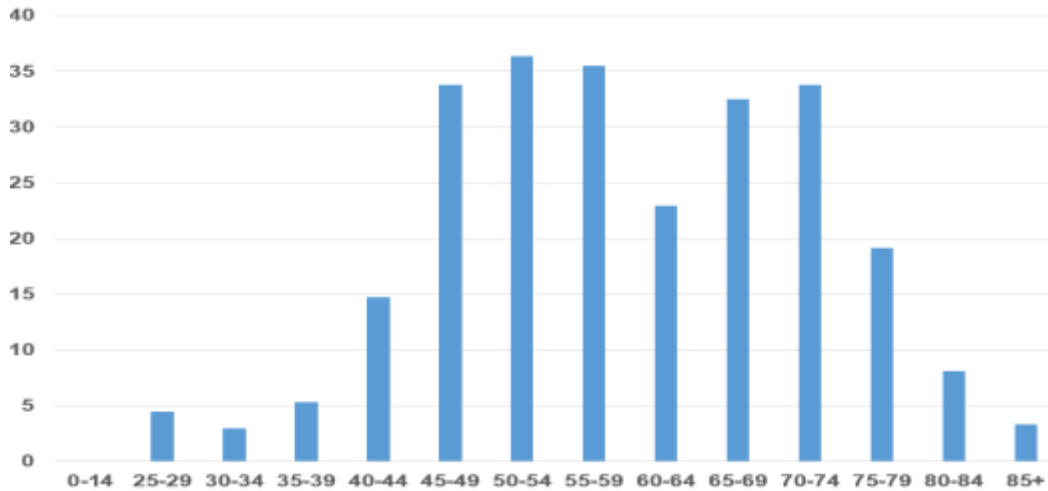
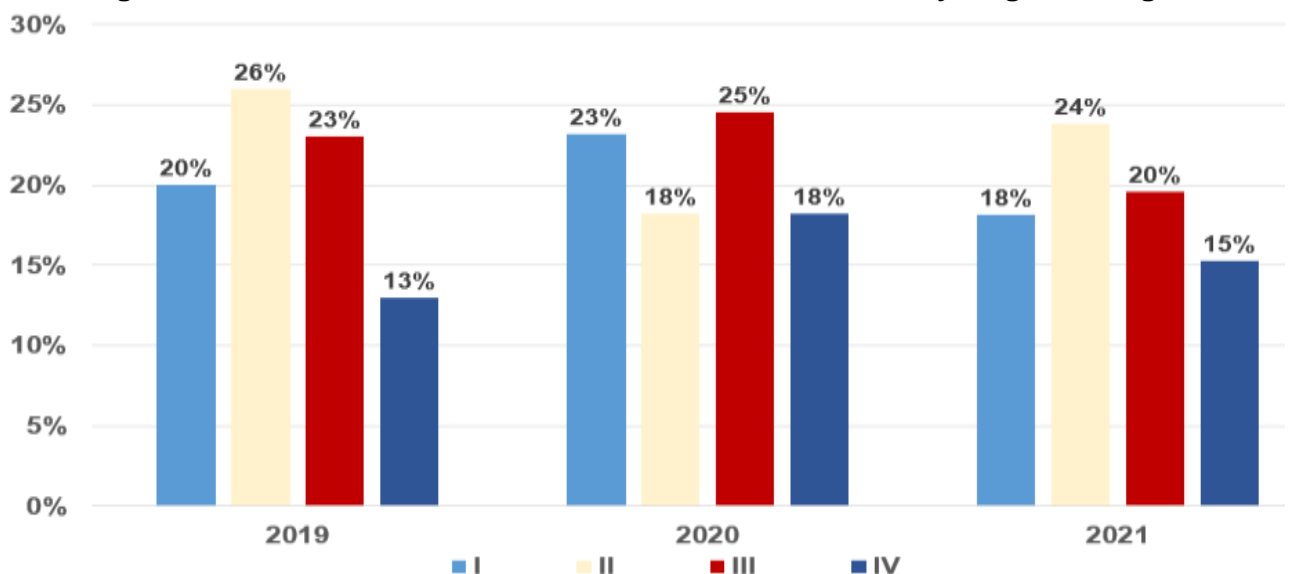


Table 17. Cervix uteri cancer, distribution of new cases by age groups (%), Georgia

Age group	2015	2016	2017	2018	2019	2020	2021
0-14	0.0	0.0	0.0	0.0	0.0	0.3	0.0
25-29	0.6	1.0	1.3	0.3	0.9	1.3	1.7
30-34	3.4	4.2	3.9	3.4	1.6	2.0	1.4
35-39	7.0	6.7	5.8	3.1	5.6	3.6	2.4
40-44	15.1	8.9	10.7	10.7	13.7	10.6	6.3
45-49	16.0	14.8	11.4	11.7	12.7	8.9	13.9
50-54	17.1	18.7	14.0	19.6	12.4	16.2	15.0
55-59	12.3	17.0	15.9	17.9	16.8	17.2	16.4
60-64	11.2	8.6	12.3	12.7	13.0	15.6	10.8
65-69	7.3	9.4	10.7	9.3	9.9	10.6	13.2
70-74	3.9	5.4	7.5	6.2	6.8	7.9	11.1
75+	6.2	5.4	6.5	5.2	6.5	5.3	5.6
Total	100	100	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 18. New cases of cancer by sites, males, Georgia, 2021

Site	Number of new cases	%
All site	4904	100
Prostate	716	14.6
Trachea, bronchi, lungs	637	13.0
Bladder	443	9.0
Skin (except melanoma)	400	8.2
Colorectal	398	8.1
Larynx	247	5.0
Stomach	210	4.3
Lip, mouth and throat	206	4.2
Lymphoid, haematopoietic and related tissue	198	4.0
Ill-defined, secondary and unspecified sites	182	3.7
Thyroid gland	180	3.7
Brain	114	2.3
Pancreas	105	2.1
Mesothelial and soft tissues	67	1.4
Melanoma	49	1.0
Bone and articular cartilage	48	1.0
Oesophagus	37	0.8
In situ	32	0.7
Neoplasms of uncertain or unknown behavior	23	0.5
Benign neoplasms	19	0.4
Breast	11	0.2
Other glands	9	0.2
Monocytic leukemia	2	0.04

Table 19. Top 5 cancers, new cases, males, Georgia, 2021

Site	Number of new cases	Incidence per 100,000 men
Prostate	716	40.2
Trachea, bronchi, lungs	637	35.7
Bladder	443	24.8
Colorectal	398	22.3
Larynx	247	13.9

1. PROSTATE CANCER

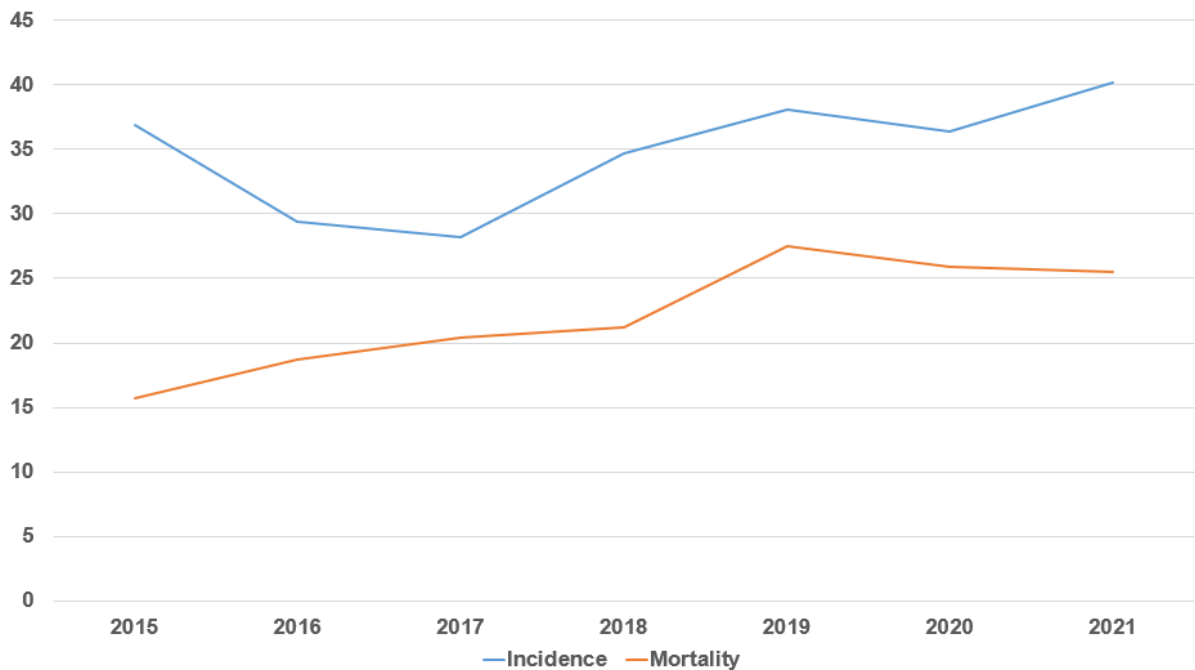
In 2021, in Georgia, 716 new cases of prostate cancer were registered (this is 14.6% of all new cases registered in males). The five-year survival rate for prostate cancer diagnosed in 2017 was 52.9%.

According to the American National Cancer Institute estimates, the lifetime risk of developing this cancer in American men is 12.1%²⁹.

Table 20. Prostate cancer, incidence and mortality rates per 100,000 men, Georgia

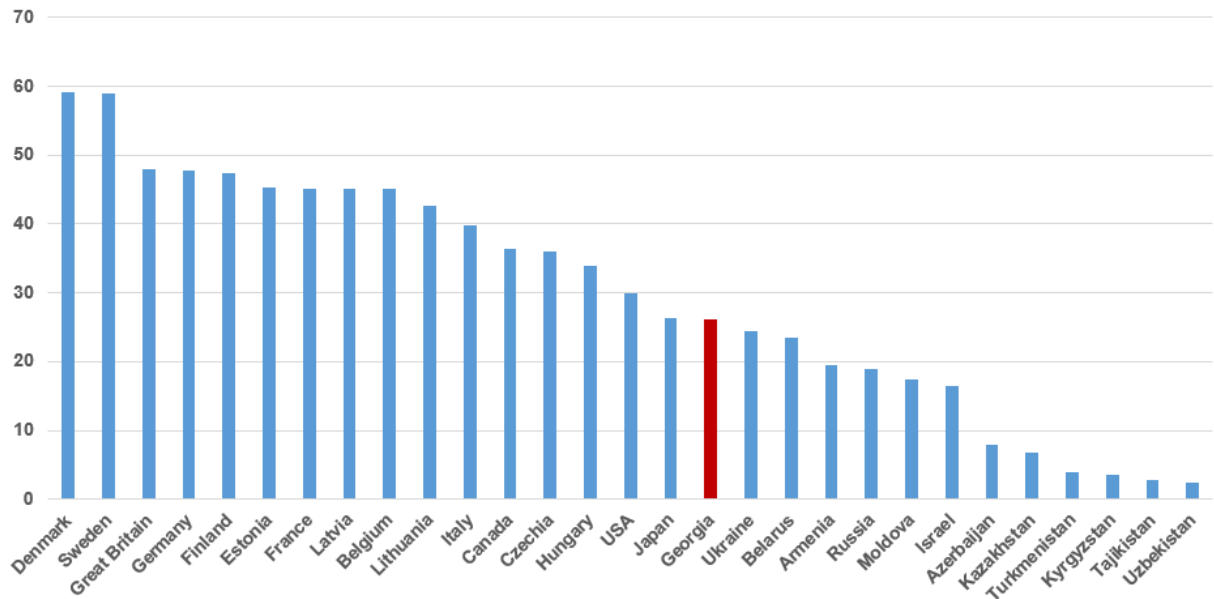
	2015	2016	2017	2018	2019	2020	2021
Number of new cases	657	524	505	622	683	653	716
% of the total number of new cases	13.0	10.9	10.7	12.4	12.0	13.4	14.6
Incidence per 100,000 men	36.9	29.4	28.2	34.7	38.1	36.4	40.2
Mortality per 100,000 men	15.7	18.7	20.4	21.2	27.5	25.9	25.5

Figure 27. Prostate cancer, incidence and mortality rates per 100,000 men, Georgia



²⁹ <https://seer.cancer.gov/statfacts/html/prost.html>

Figure 28. Prostate cancer, age-standardized mortality rate per 100,000 men, 2019

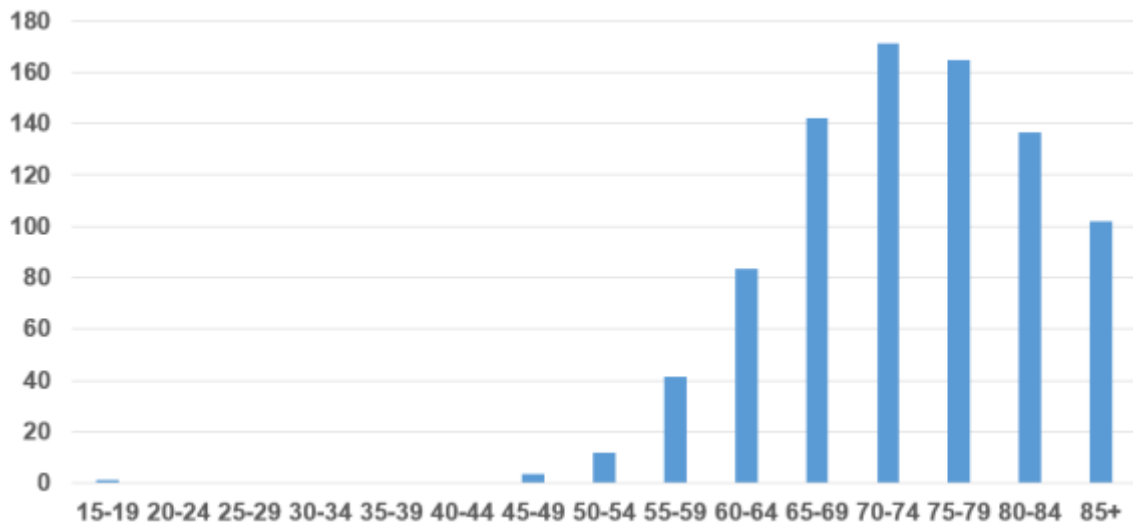


Source: <http://ghdx.healthdata.org/gbd-results-tool>³⁰

During 2017-2021, the incidence of prostate cancer was increasing, and, in 2021, it reached 40,2 per 100,000 males. The same time the mortality due to prostate cancer also increased and, in 2021, it reached 25.5 per 100,000 men.

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

Figure 29. Prostate cancer, age-specific incidence rate per 100,000 men, Georgia, 2021

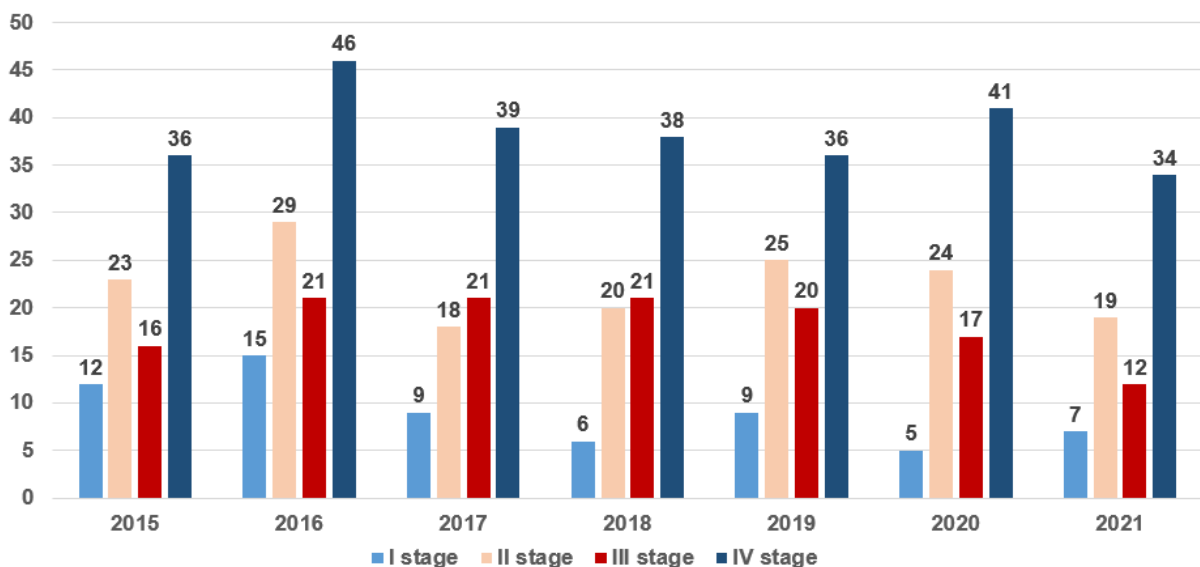


³⁰ Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2020. Available from <http://ghdx.healthdata.org/gbd-results-tool>.

Table 21. Prostate cancer, distribution of new cases by age groups (%), Georgia

Age group	2015	2016	2017	2018	2019	2020	2021
5-9	0.0	0.2	0.0	0.0	0.0	0.0	0.0
15-19	0.0	0.0	0.2	0.0	0.0	0.0	0.1
30-34	0.0	0.0	0.0	0.0	0.4	0.0	0.0
40-44	0.3	0.2	0.2	0.2	0.2	0.0	0.0
45-49	0.2	0.8	0.2	0.7	0.5	0.9	0.6
50-54	2.5	1.8	3.1	2.0	2.0	1.4	2.0
55-59	8.5	7.5	9.6	4.8	8.6	6.3	7.7
60-64	13.3	16.8	15.9	16.8	15.7	13.7	15.8
65-69	21.5	25.7	23.5	24.8	23.2	20.7	23.2
70-74	22.4	19.0	15.9	19.3	22.3	27.1	22.6
75+	31.3	28.1	31.2	31.4	27.2	30.0	28.1
Total	100	100	100	100	100	100	100

Figure 30. Prostate cancer distribution of new cases by stages (%), Georgia,



2. TRACHEA, BRONCHUS, LUNG CANCER IN MALES

In 2021, in Georgia, 637 new cases of trachea, bronchus and lung cancer were registered in men. This is 13% 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%³¹.

The five-year survival rate for trachea, bronchus, and lung cancer in men diagnosed in 2017 was 13.2%.

³¹ <https://seer.cancer.gov/statfacts/html/prost.html>

Table 22. Trachea, bronchus and lung cancer in males, incidence and mortality rates, Georgia

	2015	2016	2017	2018	2019	2020	2021
Number of new cases	742	726	702	664	712	566	637
% of the total number of new cases	15.1	15.6	15.7	14.1	13.6	11.9	13.0
Incidence per 100,000 males	41.7	40.7	39.2	37.1	39.8	31.6	35.7
Mortality per 100,000 males	48.0	53.7	51.6	54.4	53.3	53.5	51.3

Figure 31. Trachea, bronchus and lung cancer in males, incidence and mortality rates, Georgia

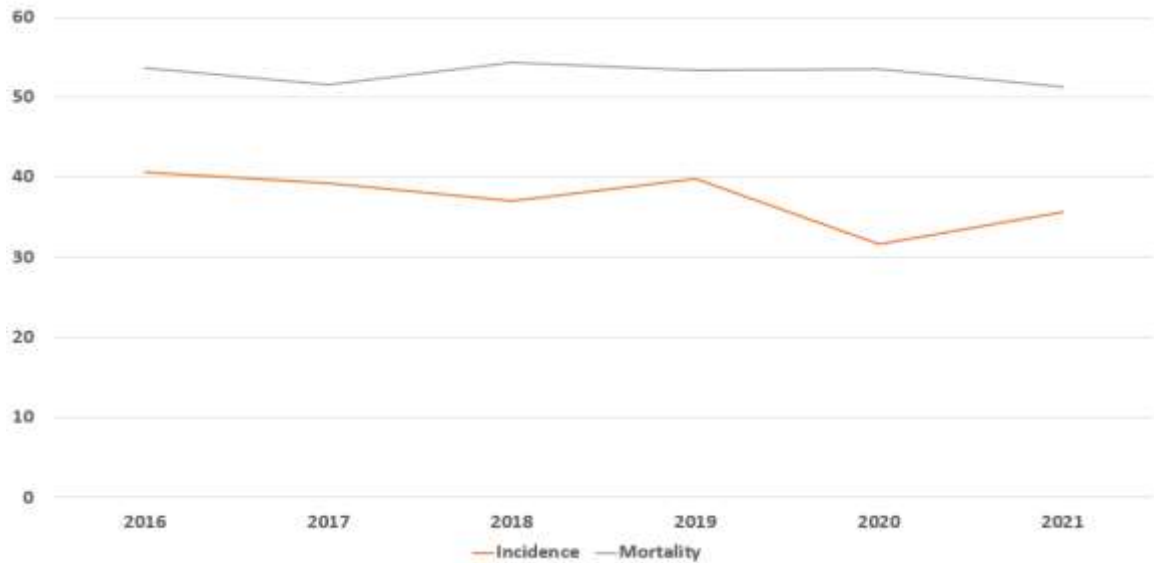
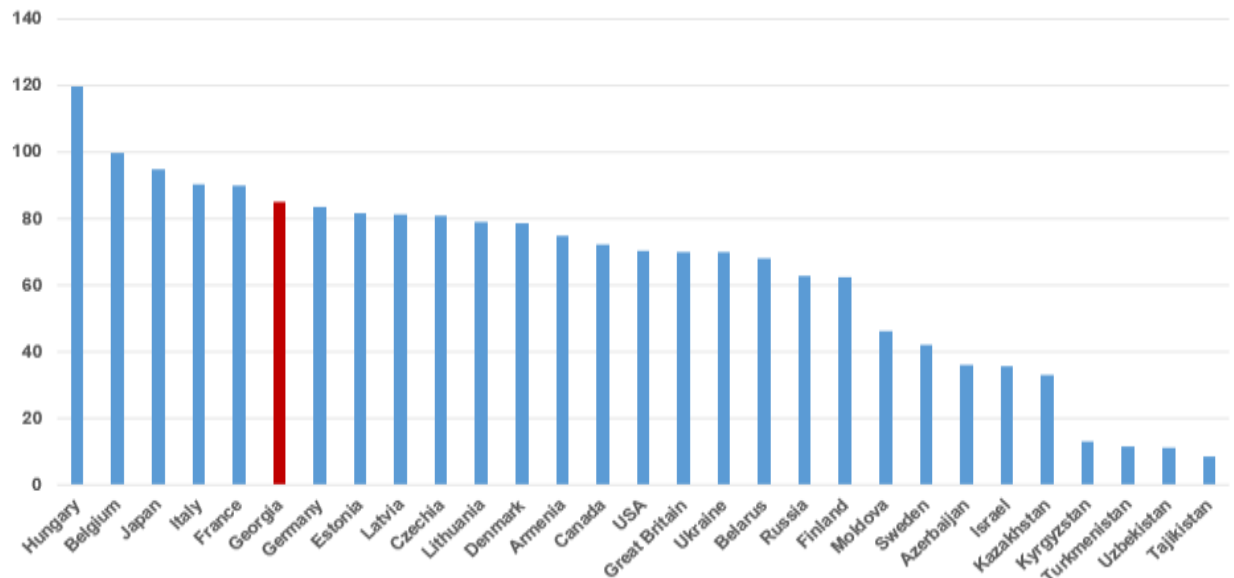


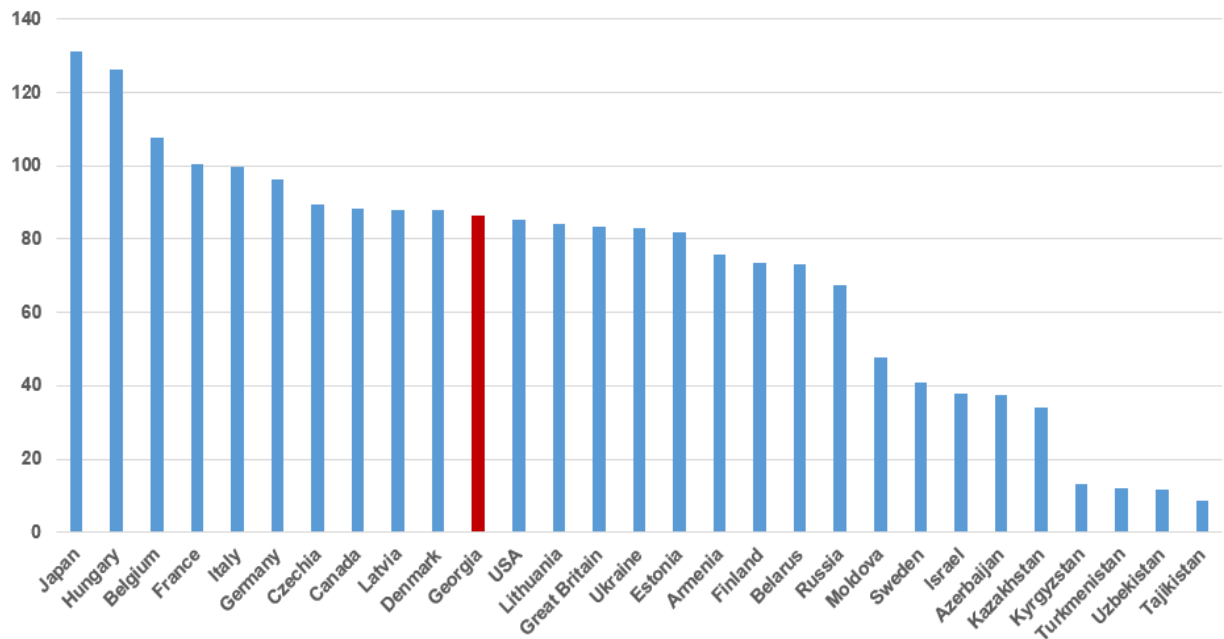
Figure 32. Trachea, bronchus and lung cancer in males, incidence rate per 100,000 males, 2019



Source: <http://ghdx.healthdata.org/gbd-results-tool>³²

³² Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2020. Available from <http://ghdx.healthdata.org/gbd-results-tool>.

Figure 33. Trachea, bronchus and lung cancer in males, mortality rate per 100,000 males, 2019



Source: <http://ghdx.healthdata.org/gbd-results-tool>³³

During 2015-2021, the incidence of trachea, bronchus and lung cancer in men varied between 31.6 and 40.7, and, in 2021, it reached 35.7 per 100,000 males. During the same period the mortality due to trachea, bronchus and lung cancer increase, although, in 2021, it decreased and reached 51.3 per 100,000 males.

The age-specific incidence of trachea, bronchus and lung cancer reaches its maximum at the age of 65-69 years.

³³ Global Burden of Disease Collaborative Network. *Global Burden of Disease Study 2019 (GBD 2019) Results*. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2020. Available from <http://ghdx.healthdata.org/gbd-results-tool>.

Figure 34. Trachea, bronchus and lung cancer in males, age-specific incidence rate per 100,000 males, Georgia, 2021

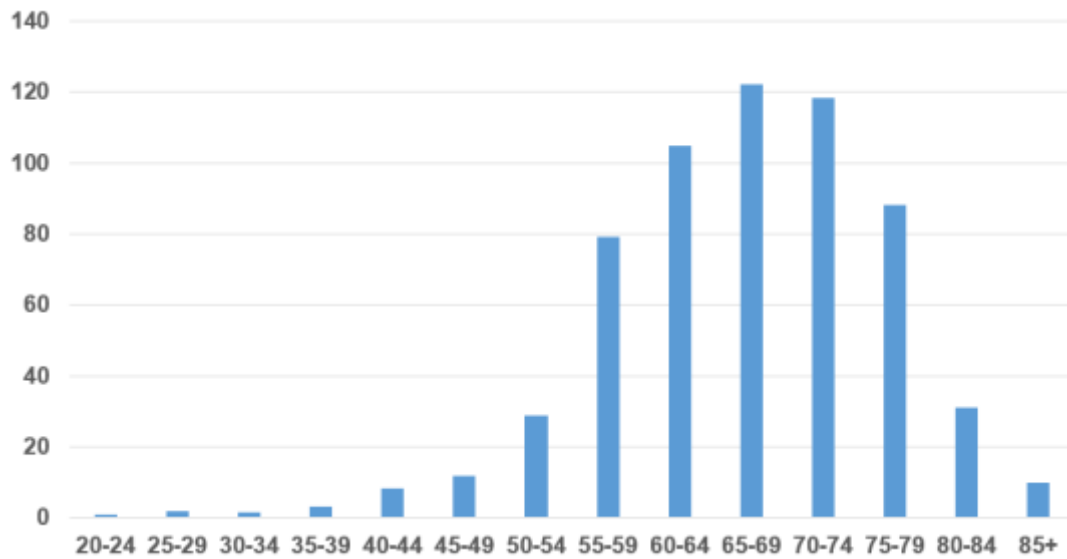
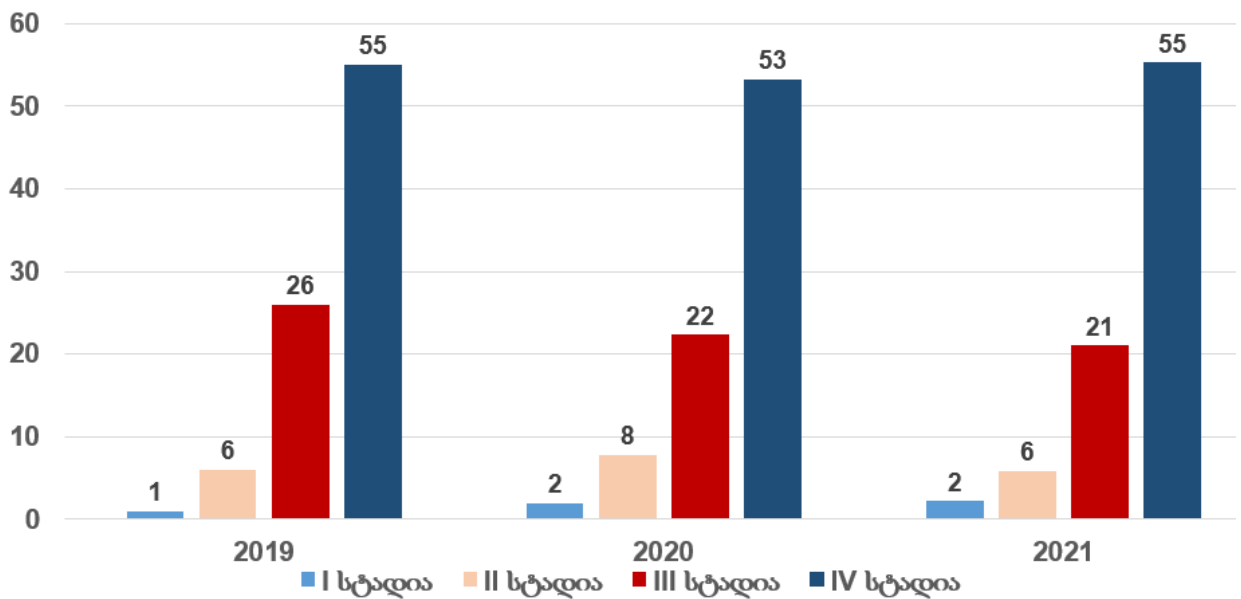


Table 23. Trachea, bronchus and lung cancer in males, distribution of new cases by age groups (%), Georgia

Age group	2015	2016	2017	2018	2019	2020	2021
20-24	0.1	0.0	0.0	0.2	0.2	22.5	0.2
25-29	0.3	0.1	0.4	0.0	0.0	0.0	0.3
30-34	0.4	0.1	0.0	0.2	0.2	0.0	0.3
35-39	0.4	1.1	0.4	0.6	0.2	25.4	0.6
40-44	1.6	2.1	1.4	0.9	1.4	23.4	1.6
45-49	6.5	5.3	4.1	4.2	3.2	22.6	2.2
50-54	11.4	10.5	10.9	9.1	8.8	21.6	5.3
55-59	18.1	17.2	18.0	18.0	17.3	23.2	16.5
60-64	21.1	19.9	19.7	22.7	19.6	20.6	22.3
60-69	14.1	18.4	19.5	18.7	22.5	16.1	22.4
70-74	12.2	10.1	9.6	11.8	13.3	11.1	17.6
75+	13.9	15.2	15.9	13.6	13.3	6.1	10.7
Total	100	100	100	100	100	100	100

Figure 35. Trachea, bronchus and lung cancer in males, distribution of new cases by Stages (%), Georgia

3. BLADDER CANCER IN MALES

In 2021, in Georgia, 443 new cases of bladder cancer were registered in men. This is 9% of all new cases registered in males. The five-year survival rate for prostate cancer diagnosed in 2017 was 57.8%.

According to the American National Cancer Institute estimates, the lifetime risk of developing this cancer in American men is 2.4%³⁴.

Table 24. Bladder cancer in males, incidence and mortality rates per 100,000 males, Georgia

	2015	2016	2017	2018	2019	2020	2021
Number of new cases	441	413	459	402	427	399	443
% of the total number of new cases	8.9	8.9	10.2	8.9	8.8	21.8	9.0
Incidence per 100,000 men	24.8	23.1	25.7	22.4	23.8	22.3	24.8
Mortality per 100,000 men	8.0	10.1	11.5	12.8	12.1	11.3	12.6

³⁴ <https://seer.cancer.gov/statfacts/html/urinb.html>

Figure 36. Bladder cancer in males, incidence and mortality rates per 100,000 males, Georgia

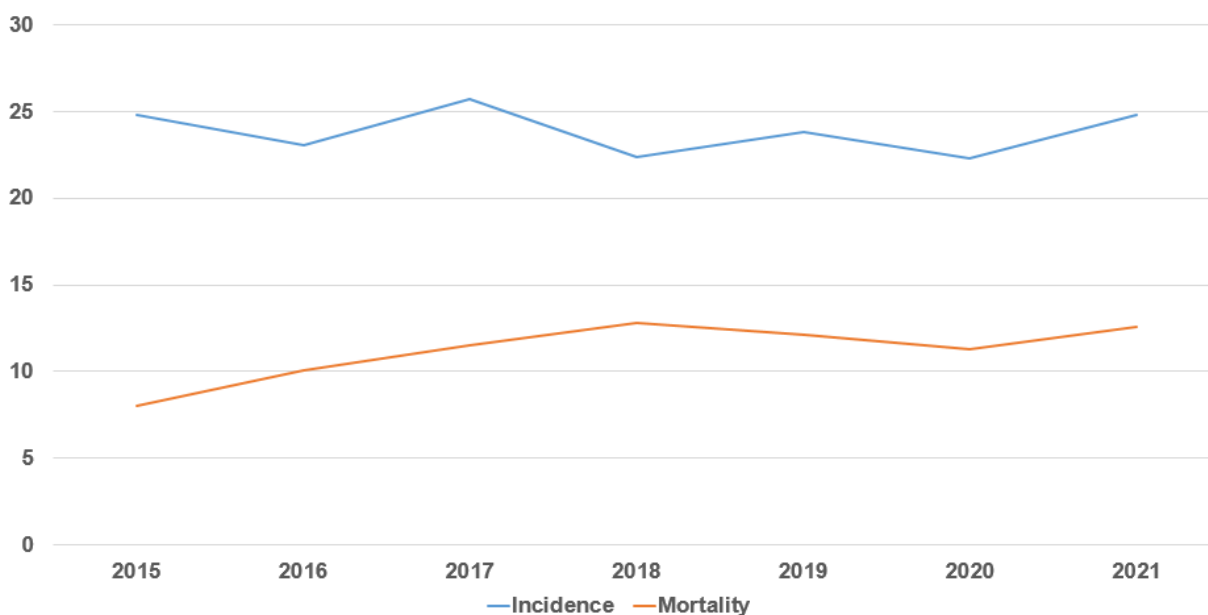
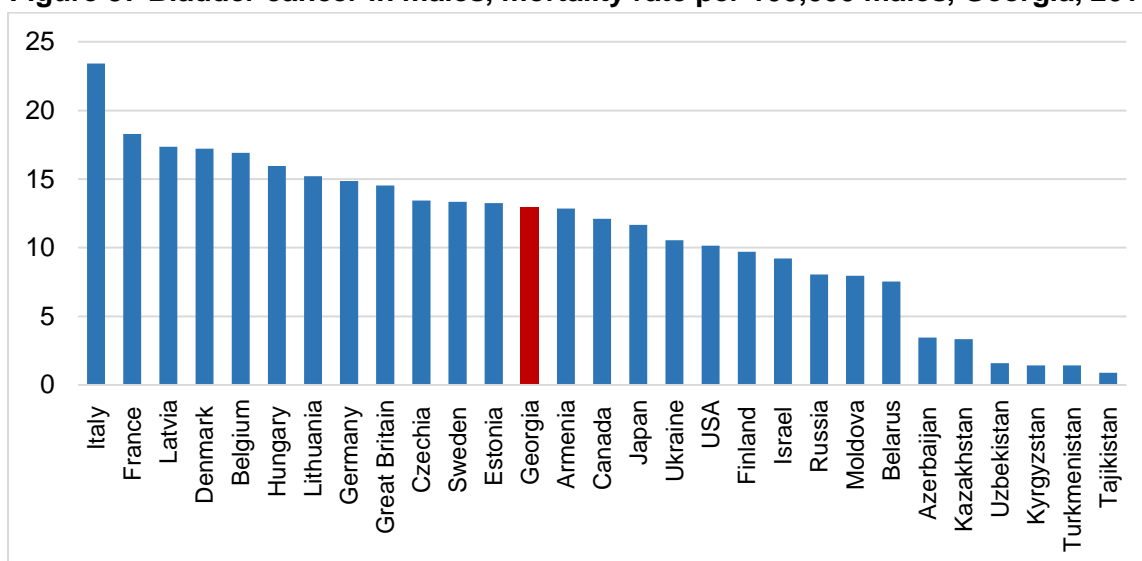


Figure 37 Bladder cancer in males, mortality rate per 100,000 males, Georgia, 2019



Source <http://ghdx.healthdata.org/gbd-results-tool>³⁵

During 2015-2020, the incidence of bladder cancer in males varied, and, in 2021, it reached 24.8 per 100,000 men. The same time the mortality due to bladder cancer was steady increasing and, in 2021, it declined and it was 12.6 per 100,000 men.

The age-specific incidence of bladder cancer reaches its maximum at the age of 75-79 years.

³⁵ Global Burden of Disease Collaborative Network. *Global Burden of Disease Study 2019 (GBD 2019) Results*. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2020. Available from <http://ghdx.healthdata.org/gbd-results-tool>.

Figure 38. Bladder cancer in males, age-specific incidence rate per 100,000 men, Georgia, 2021

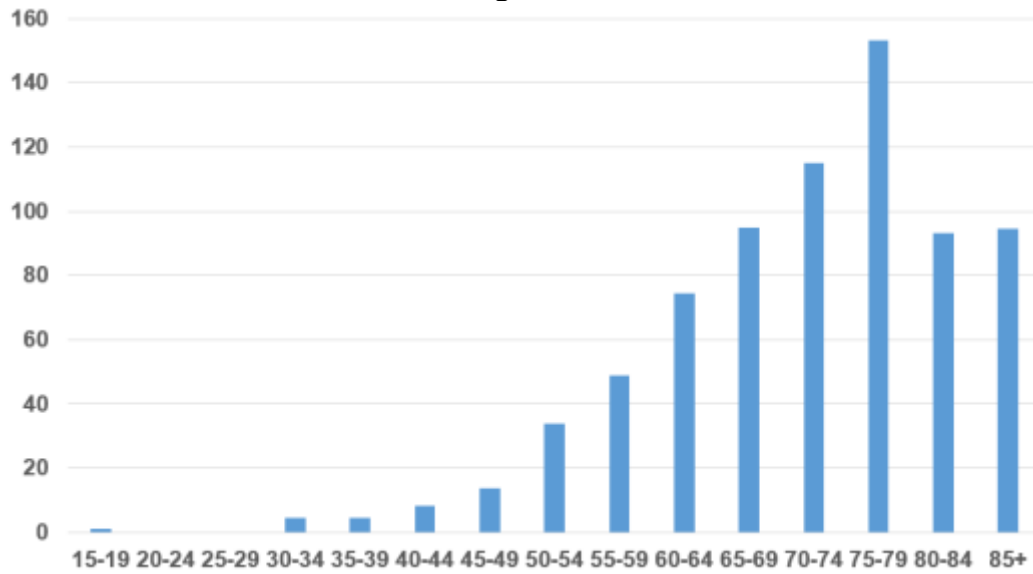
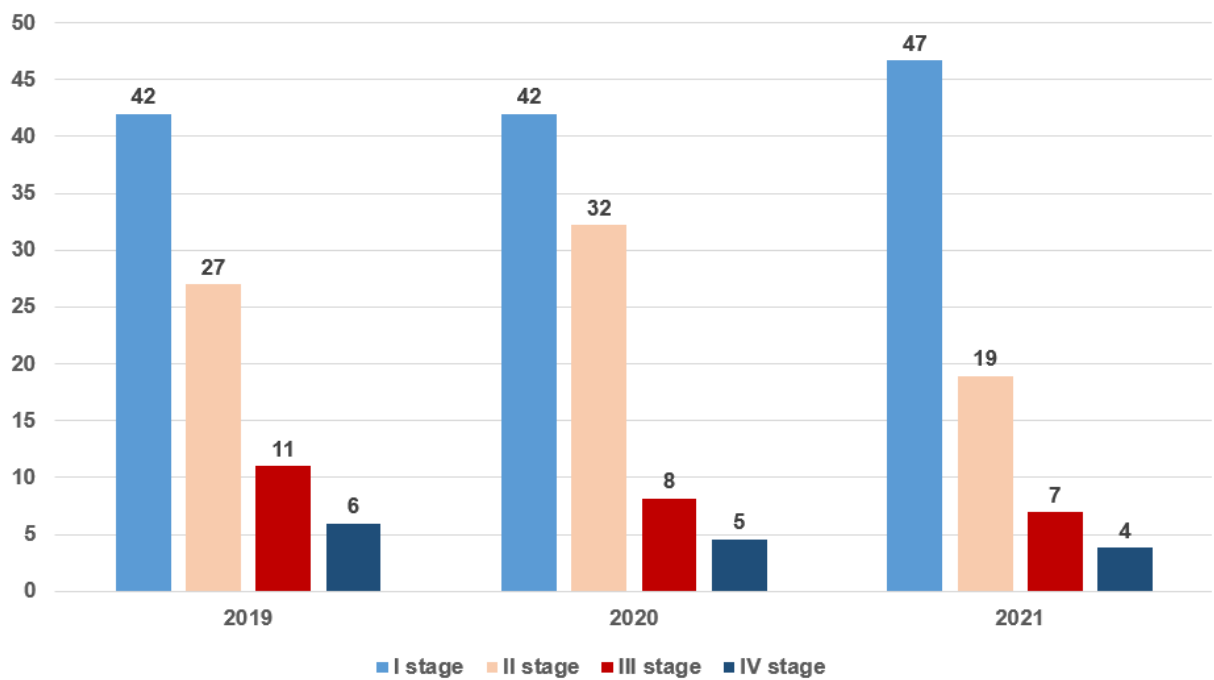


Table 25. Bladder cancer distribution of new cases by age groups (%), Georgia

Age group	2015	2016	2017	2018	2019	2020	2021
0-4	0.2	0.0	0.0	0.0	0.0	0.0	0.0
10-14	0.0	0.2	0.0	0.0	0.0	0.0	0.0
15-19	0.0	0.2	0.0	0.0	0.0	0.0	0.2
20-24	0.2	1.0	0.0	0.2	0.2	0.3	0
20-29	0.9	0.7	1.5	0.2	1.0	0.8	0
30-34	0.0	0.2	0.2	0.7	1.2	0.8	1.4
35-39	1.8	1.7	0.7	1.0	2.0	1.0	1.4
40-44	1.8	2.9	1.8	2.0	0.5	2.3	2.3
45-49	5.3	4.1	3.5	4.4	5.7	4.1	3.6
50-54	8.9	6.8	9.0	9.4	8.1	7.4	8.4
55-59	11.2	9.7	12.6	15.6	11.6	14.3	12.6
60-64	16.7	13.8	17.4	15.8	17.8	13.3	18.1
60-69	17.9	21.0	16.1	14.1	20.2	16.6	17.8
70-74	13.3	13.0	12.1	12.8	11.6	17.4	15.6
75+	21.6	24.6	25.1	23.7	20.0	21.7	18.7
Total	100	100	100	100	100	100	100

Figure 39. Bladder cancer distribution of new cases by stages (%), males, Georgia,

4. COLORECTAL CANCER IN MALES

In 2021, in Georgia, 398 new cases of colorectal cancer were registered in men, this is 8.1% of all new cases registered in this males. The 5-year survival rate for colorectal cancer diagnosed in men in 2017 is 42.2%.

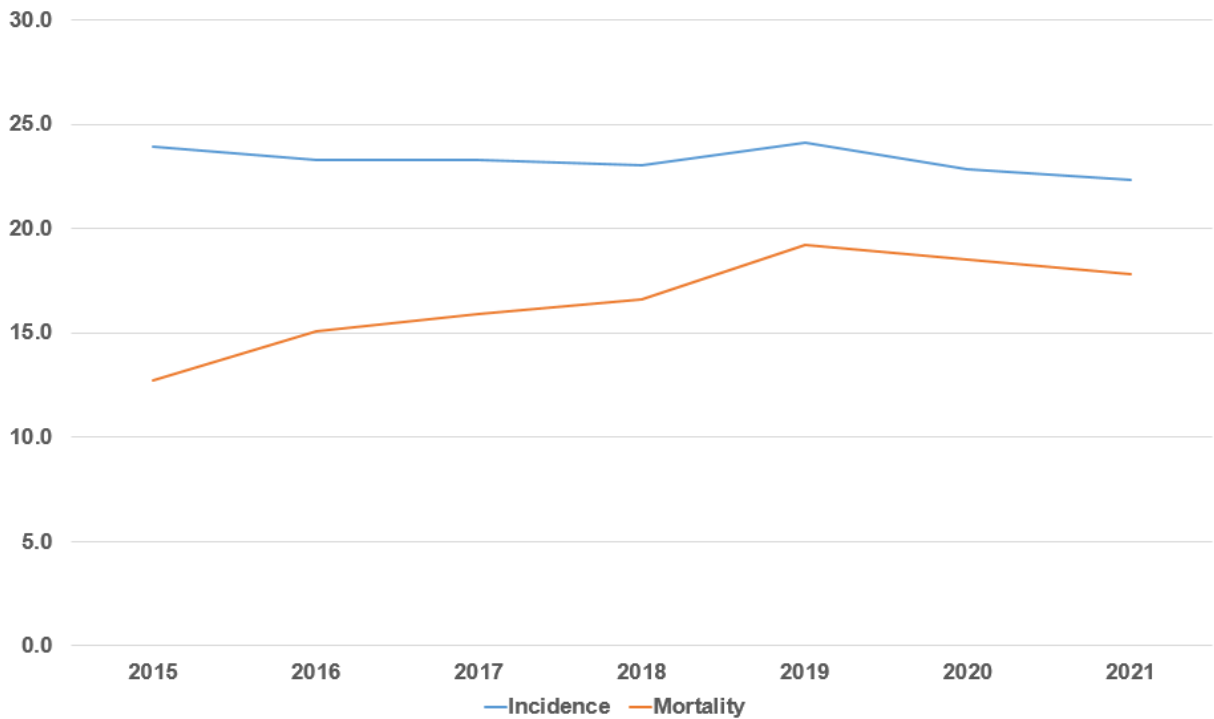
According to the National Cancer Institute of America, the lifetime risk of developing this type of cancer in American men is 4.2%³⁶.

Table 26. Colorectal cancer in males, incidence and mortality per 100,000 men, Georgia

	2015	2016	2017	2018	2019	2020	2021
Number of new cases	426	415	417	412	432	410	398
% of the total number of new cases	8.6	8.9	9.3	8.9	8.2	9.0	8.1
Incidence per 100,000 men	23.9	23.3	23.3	23.0	24.1	22.9	22.3
Mortality per 100,000 men	12.7	15.1	15.9	16.6	19.2	18.5	17.8

³⁶ <https://seer.cancer.gov/statfacts/html/colorect.html>

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



In 2015–2021, the incidence rate of colorectal cancer in males was stable. Since 2020, the rate has decreased, and in 2021 reached 22.3 per 100,000 men. In the period of 2015-2019, an increase of the death rate caused by this cancer was recorded, although, since 2020, the death rate has decreased and in 2021 it equaled to 17.8 per 100,000 men.

The age-specific incidence of colorectal cancer reaches its maximum at the age group of 75–79 years.

Figure 41. Colorectal cancer in males, age-specific incidence per 100,000 men, Georgia, 2021

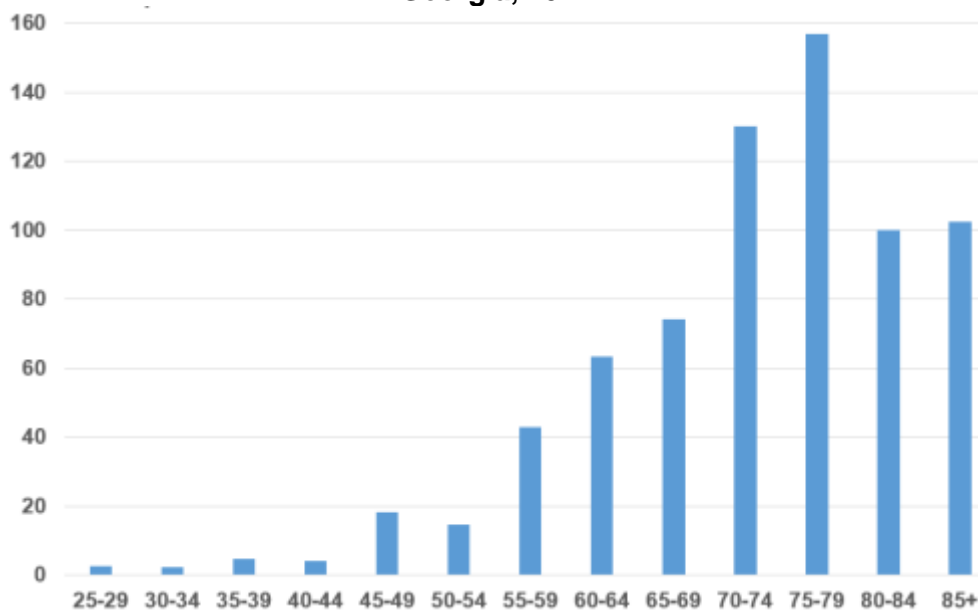
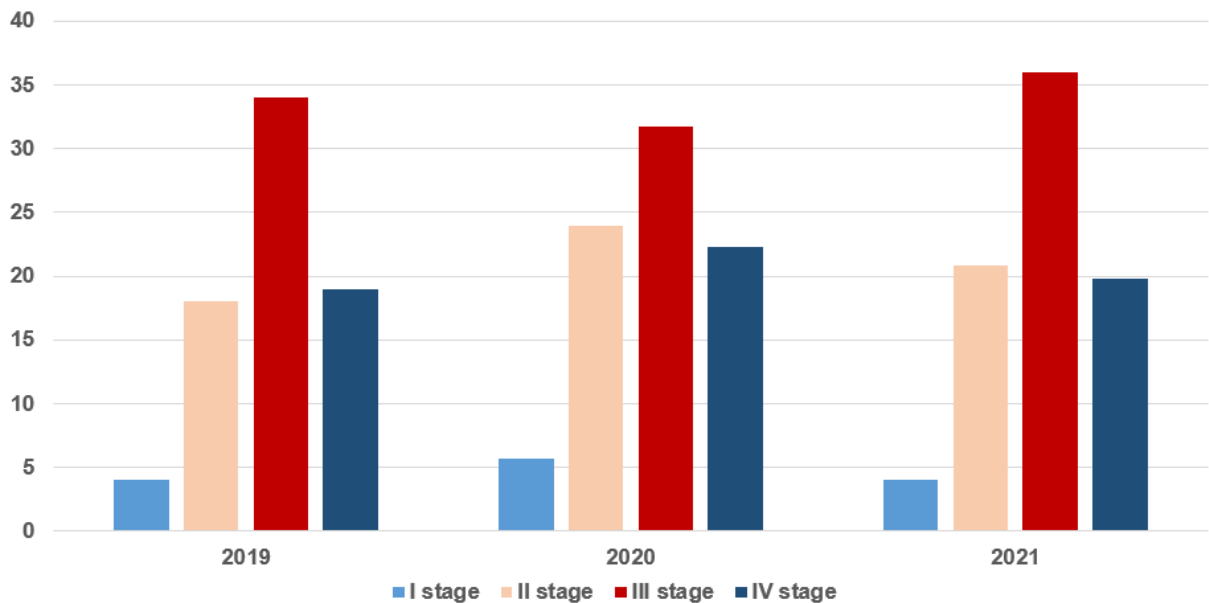


Table 27. Colorectal cancer in males, distribution of new cases of by age groups, Georgia

Age group	2015	2016	2017	2018	2019	2020	2021
10-14	0.0	0.0	0.2	0.0	0.0	0.0	0.0
20-24	0.0	0.0	0.2	0.2	0.5	0.0	0.7
25-29	0.7	0.2	0.2	0.2	0.5	0.5	0.7
30-34	0.9	1.2	1.4	0.5	1.0	0.8	1.4
35-39	0.9	1.4	1.2	2.2	1.2	2.3	1.1
40-44	2.1	2.4	1.7	3.4	3.4	2.6	4.7
45-49	5.2	3.8	3.4	3.4	3.2	3.9	3.6
50-54	8.5	7.9	7.0	4.9	5.8	9.1	11.1
55-59	12.9	12.6	15.7	11.4	9.7	8.8	15.3
60-64	16.0	16.9	14.5	17.7	21.4	14.3	14.0
65-69	16.5	16.4	22.2	18.9	19.2	19.5	17.6
70-74	13.4	12.4	12.1	11.9	16.5	18.7	19.6
75+	22.8	24.8	20.0	25.2	17.7	19.5	6.5
Total	100	100	100	100	100	100	100

Figure 42. Distribution of new cases of colorectal cancer in males by stages (%), Georgia

5. LARYNX CANCER IN MALES

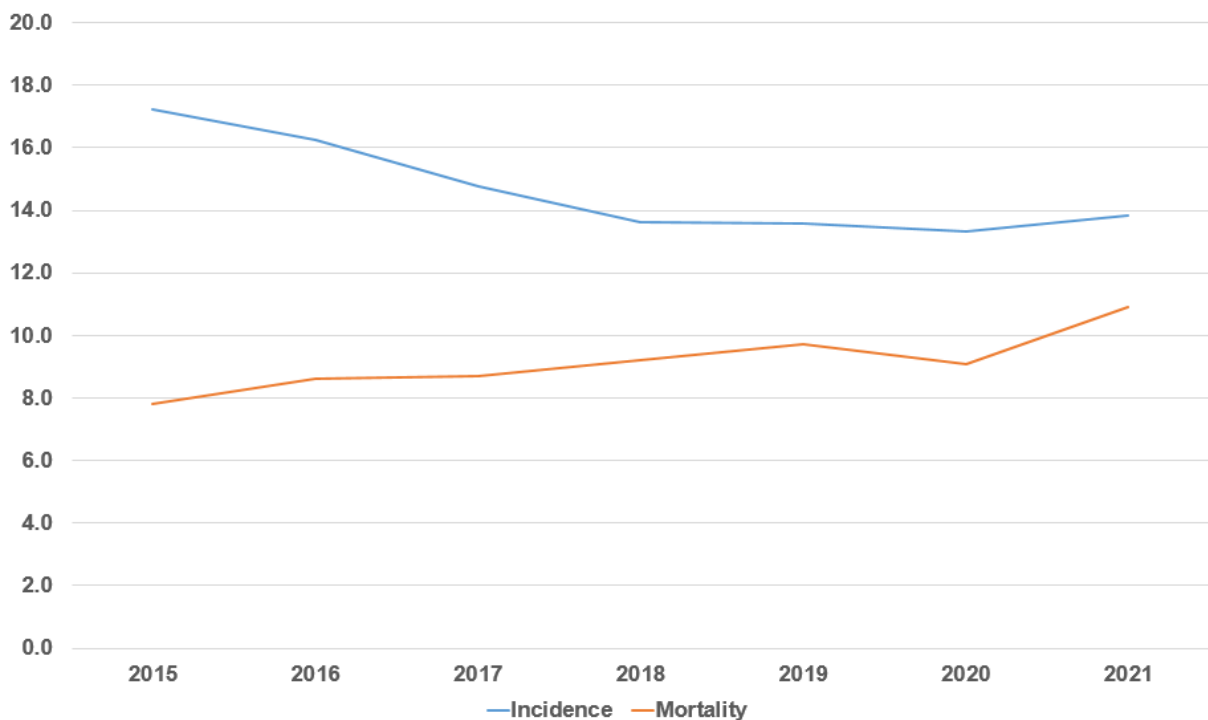
In 2021, in Georgia, 247 new cases of larynx cancer were registered in males, this is 5% of new cases registered in males. The 5-year survival rate for larynx cancer diagnosed in 2017 is 51.1%.

The National Cancer Institute estimates that the lifetime risk of developing this type of cancer in American men is 0.3%³⁷.

**Table 28. Larynx cancer in males, morbidity and mortality
Georgia**

	2015	2016	2017	2018	2019	2020	2021
Number of new cases	307	290	264	244	243	239	247
% of the total number of new cases	6.2	6.2	5.9	5.2	4.8	5.2	5.0
Incidence per 100,000 men	17.2	16.2	14.8	13.6	13.6	13.3	13.9
Mortality per 100,000 men	7.8	8.6	8.7	9.2	9.7	9.1	10.9

**Figure 43. Larynx cancer in males, morbidity and mortality
Georgia**



During 2015-2020, the incidence of larynx cancer in men has got a decreasing trend. In 2021, the incidence of larynx cancer per 100,000 men slightly increased and amounted to 13.9. Over the same period, larynx cancer-related deaths have been increasing, with a death rate of 10.9 per 100,000 men in 2021.

The age-specific incidence of larynx cancer reaches its maximum in the age group of 70-74 years.

³⁷ <https://seer.cancer.gov/statfacts/html/larynx.html>

Figure 44. Larynx cancer age-specific incidence per 100,000 men, Georgia, 2021

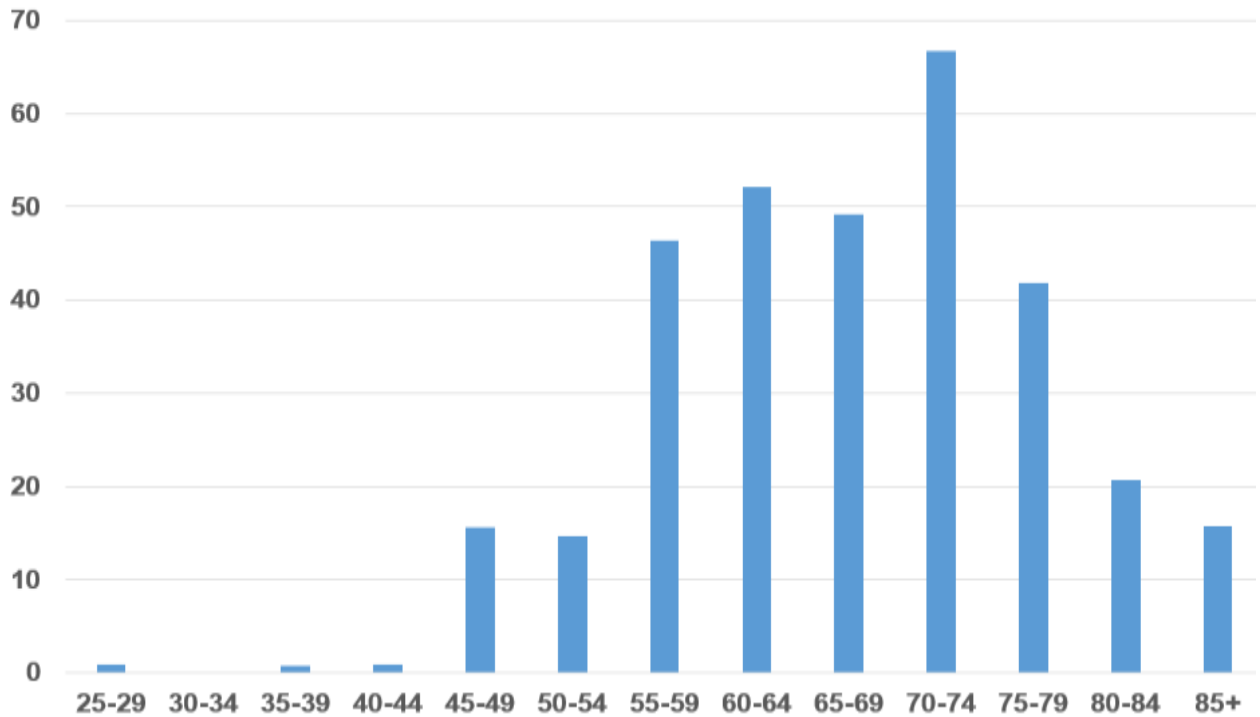
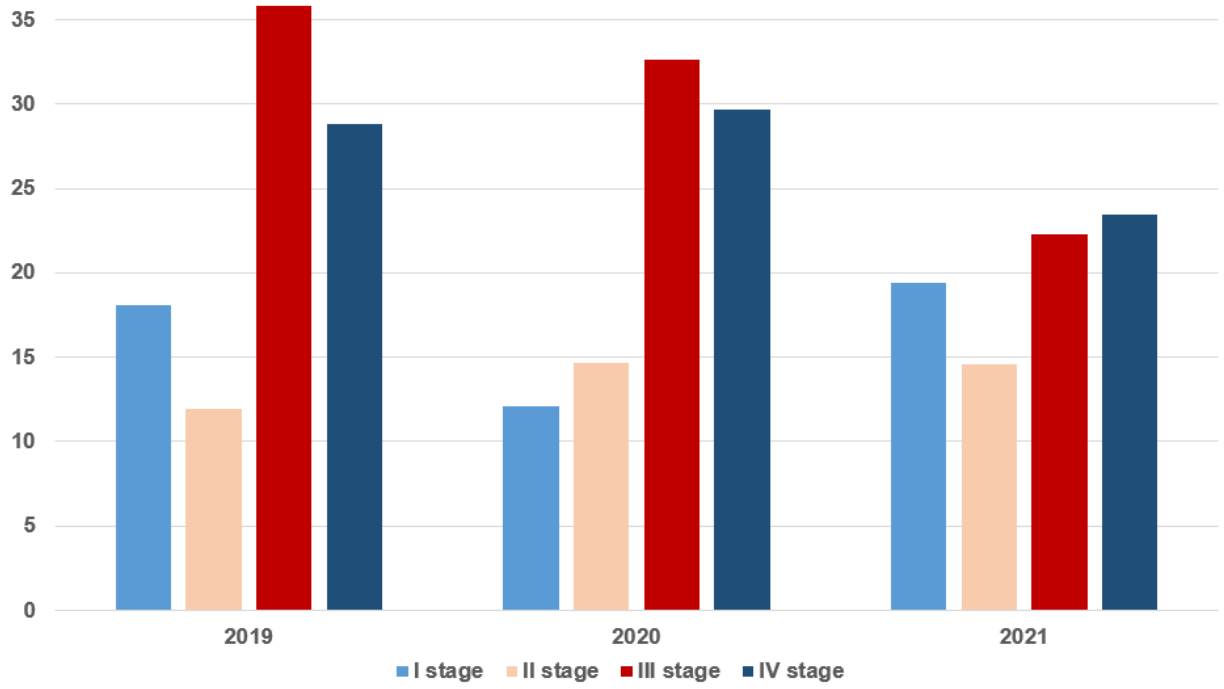


Table 29. Larynx cancer in males, distribution of new cases by age groups (%), Georgia

Age group	2015	2016	2017	2018	2019	2020	2021
20-24	0.7	0.0	0.4	0.0	0.0	0.0	0.0
25-29	0.0	0.0	0.0	0.0	0.0	0.0	0.4
30-34	0.7	0.0	0.0	0.0	0.0	0.4	0.0
35-39	0.0	0.7	0.8	0.0	0.5	0.4	0.4
40-44	2.0	2.1	3.0	2.0	0.9	0.8	0.4
45-49	5.9	6.2	5.3	6.1	4.7	6.7	7.3
50-54	15.7	12.5	9.9	13.0	8.4	10.9	6.5
55-59	21.6	15.2	16.3	20.2	16.7	20.1	21.5
60-64	19.9	24.2	22.1	21.9	24.7	18.8	22.7
60-69	15.7	18.3	18.6	17.0	22.3	21.3	16.6
70-74	6.5	9.7	11.4	10.5	11.6	11.3	16.2
75+	11.4	11.1	12.2	9.3	10.2	9.2	8.1
Total	100	100	100	100	100	100	100

Figure 45. Larynx cancer in males, 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 at an early age. In 2021, in Georgia, a share of new cases registered in early age (under-20) is 1.5% of new cases of cancer registered in all age groups.

In children Treatment of new cases of cancer is often more successful and better adheres to certain methods. This can be explained by the different types of malignant neoplasms in children, the absence of comorbidity, which aggravates the condition of adult cancer patients, and often reduce the effectiveness of treatment³⁸ and more.

The five-year survival rate of new cases registered in 2017 at early ages (under-20) is 77.9% for both sexes.

MALIGNANT NEOPLASMS IN CHILDREN AGED UNDER-15

During 2015-2020, the incidence of cancer in children was stable. In 2021, an increase was registered and the number of new cases reached 107 (incidence rate per 100,000 children -14.0).

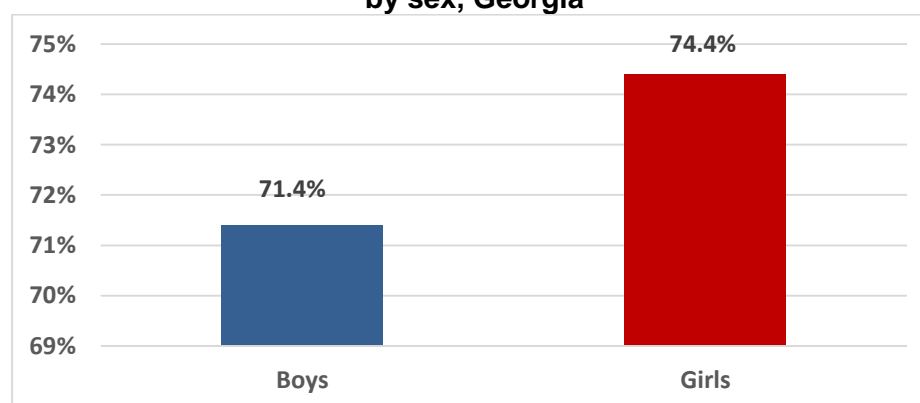
Table 30. Cancer in children aged under-15, incidence and mortality rates, both sexes, Georgia

	2015	2016	2017	2018	2019	2020	2021
Number of new cases in children	93	97	81	77	97	92	107
% of the total number of new cases	0.8	0.9	0.8	0.7	0.8	1.0	1.0
Incidence per 100,000 children under-15	12.9	13.9	11.8	10.1	11.4	11.9	14.0
Mortality per 100,000 children under-15	2.7	3.3	3.7	2.8	2.6	2.7	2.0

In 2021, 59 new cases of cancer were registered among females under-15 years of age, the incidence rate per 100,000 girls - 16.1. In 2021, 48 new cases of cancer were registered among males under-15 years of age, an incidence rate of -12.0 per 100,000 boys.

The 5-year survival rate of new cases registered in 2017 in boys under-15 years of age is slightly lower (71.4%), than in girls (74.4%).

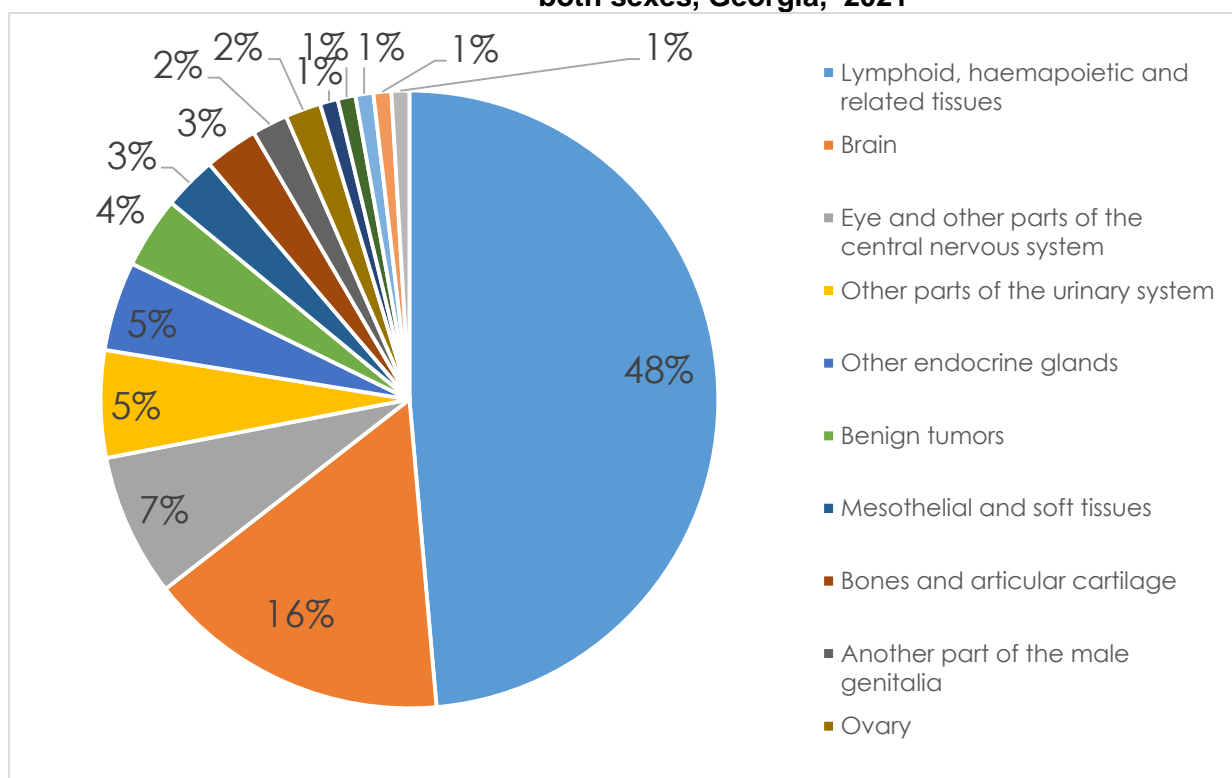
Figure 46. Five-year (2017-2021) survival rate of cancers (%) in the age group under-15 by sex, Georgia



³⁸ <https://www.cancer.org/cancer/cancer-in-young-adults/finding-cancer-in-young-adults.html>

In children, for both sexes hematopoietic cancer (leukemia) accounts for the largest share.

Figure 47. New cases of cancer of all sites, distribution in children aged under-15 (%), both sexes, Georgia, 2021



In Georgia, during last 6 years lymphoid leukemia and thyroid cancer are the leading sites of cancer in girls aged under-15 years, followed by cancers of eye and other parts of the central nervous system. Urinary tract cancers are at the third place. These 3 sites make up more than 30% of cases. In boys, brain cancer and leukemia account for 81% of all cases.

MALIGNANT NEOPLASMS IN ADOLESCENTS AGED 15–19

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. During last 6 years, the incidence rate of new cases of cancer of all sites in the age group of 15-19 years of age is 22.4 per 100,000 population of relevant age.

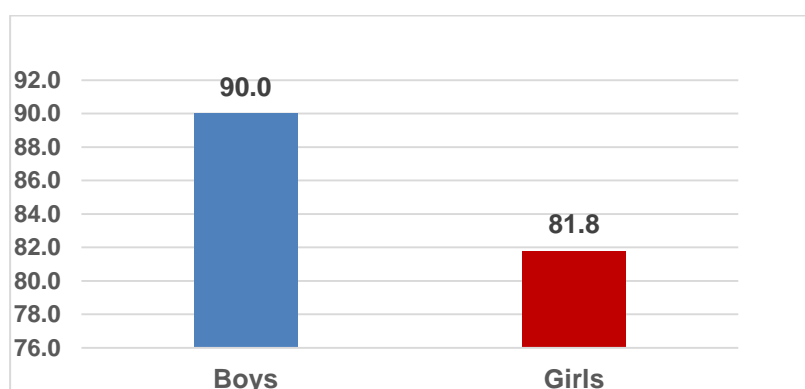
Table 31. Malignant neoplasms in adolescents aged 15-19, incidence and mortality rates, Georgia

	2015	2016	2017	2018	2019	2020	2021
Number of new cases in 15-19 years adolescents	56	43	57	41	49	37	46
% of the total number of new cases	0.5	0.4	0.6	0.4	0.5	0.4	0.4
Incidence per 100,000 population of relevant age	25.0	19.2	25.4	18.3	21.9	18.0	22.4
Mortality per 100,000 population of relevant age	4.9	2.7	4.2	5.8	5.4	1.9	4.4

In 2021, 27 new cases of cancer were registered in boys aged 15–19, an incidence rate of 24.9 per 100,000 boys, and 19 new cases of cancer were registered in girls aged 15–19, an incidence rate of 19.7 per 100,000 girls.

The 5-year survival rate of new cases registered in 2017 is 81.8% for girls aged 15-19, and 90% for boys of the same age.

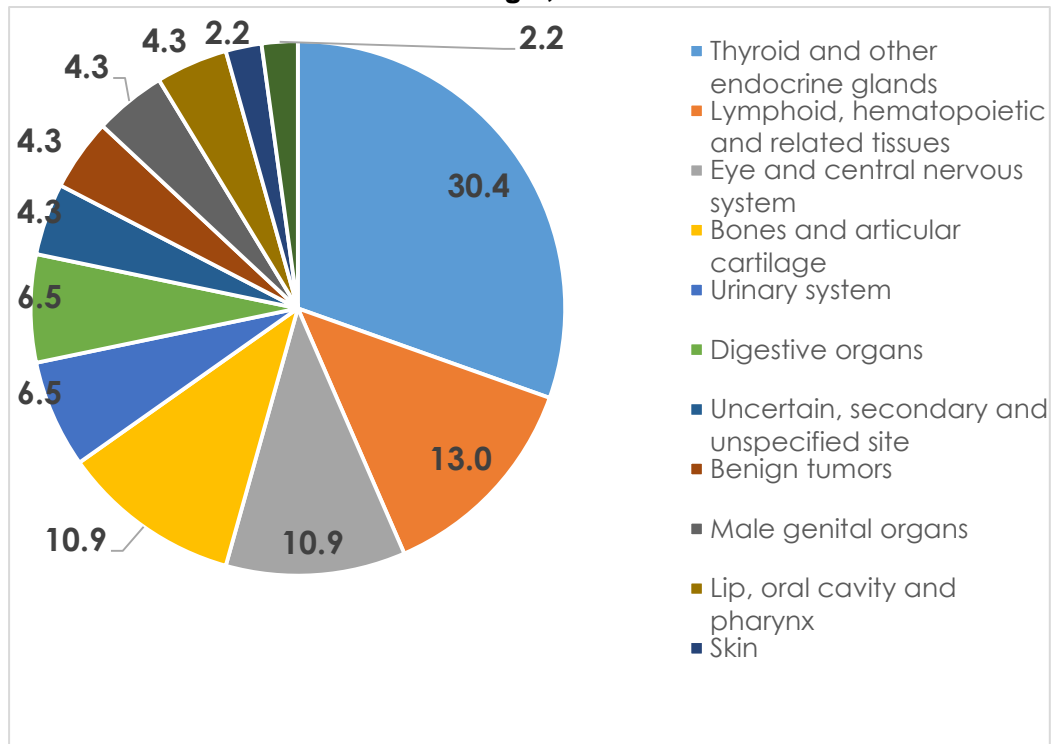
Figure 48. Five-year survival rate of cancers (%) in the age group 15-19 years by sex, Georgia, (2017-2021)



In adolescents, for both sexes lymphoid, hematopoietic and related tissues cancer and thyroid gland cancer accounts for the largest share among all sites, mainly due to new cases of leukemia registered in males and new cases of thyroid gland cancer registered in females.

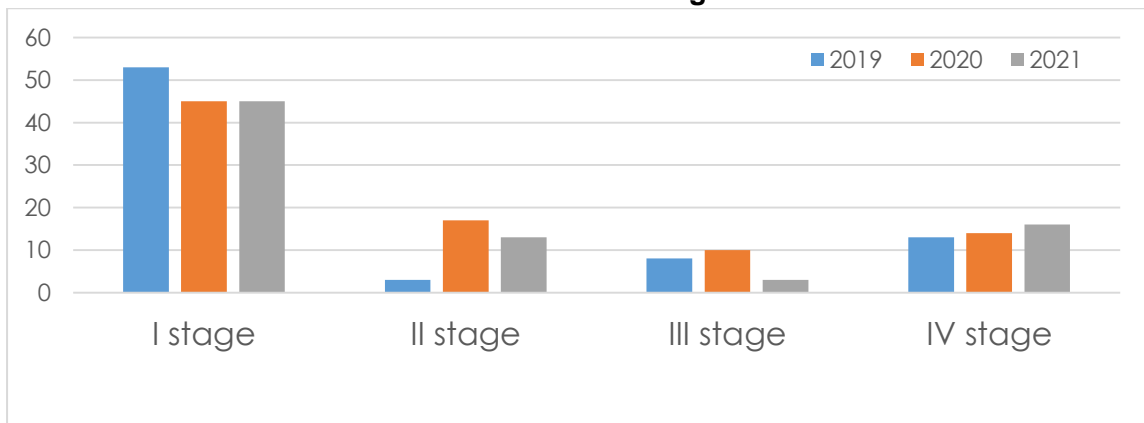
In both sex groups of adolescents, lymphoid, hemopoietic and related tissues and thyroid cancer occupy the largest share, in boys cancers of the eye and central nervous system and bones and articular cartilage share the first place.

Figure 49. New cases of cancer in adolescents (15-19), all sites, both sexes, Georgia, 2021



According to 2021 data, thyroid cancer is the leading malignant neoplasm in young women aged 15–19 years and accounts for 42% of new cases registered in this age-sex group. In boys, 22% of cases are thyroid cancer. In the 15-19 age group, more than 45% of new cases of cancer of all sites are registered at stage I.

Figure 50. Cancer, new cases in adolescents aged 15-19, by stages³⁹ (%), both sexes, Georgia



GEOGRAPHIC DISTRIBUTION

Cancer population registry collects personalized data, including the patient's demographic characteristics, place of residence, various specific characteristics of the disease, and the place of receiving medical services, which made possible assessment of the geographical distribution of cancer morbidity and to identify possible clusters of high concentration of the disease.

³⁹ Except malignant neoplasms of lymphoid, hematopoietic and related tissues

Table 32. Distribution of new cases of cancer according to regions of Georgia (patient's place of residence)

	2015	2016	2017	2018	2019	2020	2021
Abkhazia	143	138	100	167	322	236	314
Adjara	973	908	949	985	1029	973	1089
Guria	376	331	308	302	368	346	299
Tbilisi	4169	3997	3885	4017	3772	3266	3273
Imereti	1490	1450	1378	1371	1435	1261	1362
Kakheti	822	749	714	794	821	754	672
Mtskheta-Mtianeti	219	240	230	245	285	242	221
Racha-Lechkhumi & Kvemo Svaneti	109	109	99	110	104	102	96
Samegrelo & Zemo Svaneti	982	929	800	762	833	710	761
Samtskhe-Javakheti	310	328	305	352	318	306	298
Kvemo Kartli	879	889	896	915	983	838	875
Shida Kartli	651	637	594	625	769	636	670
Unknown	17	19	24	54	341	403	502
Georgia	11140	10724	10282	10699	11380	10073	10432

A cancer cluster is a higher than expected number of cancer cases of the same site or similar etiology, which occurs in specific groups of people (common age group, exposure to similar occupational factors, etc.) in a defined period of time and in a given settlement. To identify cancer clusters, age-standardized rates were used instead of crude incidence rates, this allows modeling excluding variation of incidence caused by differences in age structure between geographic sites (for example, an excess of elderly population, which increases cancer crude incidence). In this case, the variation of the age-standardized morbidity rate between regions only indicates the different intensity of risk factors. The age distribution of the population of Georgia was selected as a reference age structure of the population.

Table 33. Cancer, crude and age-standardized incidence rates per 100,000 population, Georgia, 2021

	Crude incidence rate	Age-standardized incidence rate ⁴⁰
Adjara	306.6	369.4
Guria	281.5	238.2
Tbilisi	272.2	322.8
Imereti	287.3	240.4
Kakheti	218.7	201.6
Mtskheta-Mtianeti	238.0	222.5
Racha-Lechkhumi & Kvemo Svaneti	342.1	243.4
Samegrelo & Zemo Svaneti	249.7	214.1
Samtskhe-Javakheti	199.0	191.7
Kvemo Kartli	200.7	229.6
Shida Kartli	265.6	251.1
Georgia	281.3	281.3

⁴⁰ The structure of the mid-year population of Georgia in 2021 is used

Table 34. Cancer, 5-year crude and age-standardized incidence rates per 100000 population, by municipalities, Georgia, 2021

	Crude incidence rate	Age-standardized incidence rate
Abasha	188.0	165.7
Adigeni	212.6	211.8
Amrolauri	384.4	317.7
Aspindza	241.0	251.7
Akhalkalaki	130.9	140.1
Akhaltzikhe	236.5	236.5
Akhmeta	260.6	251.4
Batumi	431.8	510.4
Baghdati	287.3	261.8
Bolnisi	242.6	248.1
Borjomi	238.0	218.3
Gardabani	195.4	209.9
Gori	276.9	279.9
Gurjaani	257.7	229.4
Dedoplistskaro	212.1	188.0
Dmanisi	193.3	194.9
Dusheti	226.0	198.7
Vani	199.9	170.2
Zestafoni	232.5	217.9
Zugdidi	255.0	239.2
Tbilisi	308.7	334.8
Tetritskaro	227.2	211.2
Telavi	227.9	220.0
Terjola	239.0	212.1
Tianeti	338.0	294.4
Kaspi	246.7	230.4
Lagodekhi	196.7	195.0
Lanchkhuti	200.1	180.1
Lentekhi	273.6	238.0
Marneuli	178.3	207.3
Martvili	233.1	209.1
Mestia	300.6	304.1
Mtskheta	226.4	230.7
Ninotsminda	138.8	153.5
Ozurgeti	289.5	261.2
Oni	375.2	301.6
Rustavi	257.4	315.4
Sagarejo	181.6	187.5
Samtredia	247.1	224.1
Sachkhere	280.6	256.6
Senaki	292.5	264.8
Signagi	260.5	226.4
Tkibuli	263.9	211.3
Poti	282.2	278.9
Kareli	268.7	259.1
Keda	280.4	284.6
Kobuleti	232.6	252.6
Kutaisi	304.8	318.0
Kazbegi	368.9	340.0

Kvareli	171.0	159.6
Shuakhevi	285.8	293.9
Chokhatauri	305.2	254.3
Chkhorotsku	197.2	178.3
Tsageri	221.4	166.1
Tsalenjikha	210.3	187.9
Tsalka	111.4	119.7
Tskaltubo	237.3	217.4
Chiatura	270.8	239.7
Kharagauli	231.1	195.0
Khashuri	214.8	207.2
Khelvachauri	226.6	259.6
Khobi	157.1	141.7
Khoni	254.6	227.9
Khulo	261.5	278.6

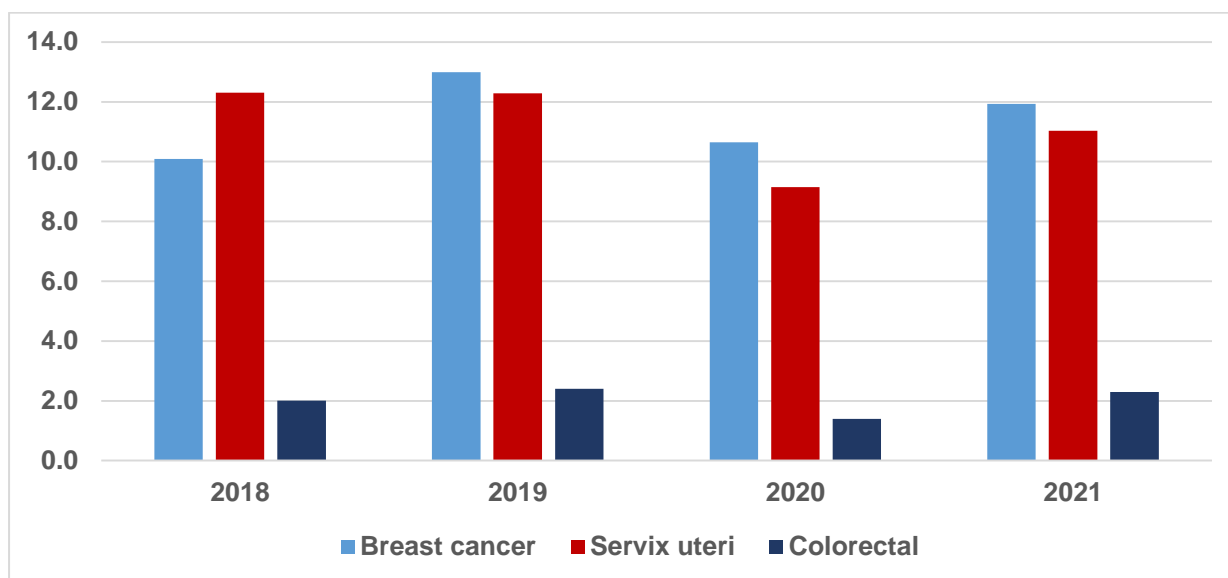
	Above average value
	Average value
	Below average value

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 risk management for 50-70-year-old men;
- Colorectal cancer screening for 50-70-year-old population.

Figure 51. Cancer screening rates, target population (%), Georgia⁴¹



TREATMENT

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

Table 35. Treatment methods, all sites of cancer, both sexes, all age groups, Georgia, 2021

Treatment methods	Number of patients treated	Percent of the total number of patients
Surgery	4624	44.3
Chemotherapy	2892	27.7
Radiotherapy	1910	18.3
Symptomatic treatment	436	4.2
Iodine therapy ⁴²	459	4.4
Palliative treatment	423	4.1
Hormone therapy	354	3.4
Immune therapy	80	0.8

⁴¹ Within the State program

⁴² For patients with thyroid gland cancer only

Table 36. Surgical operations by site of cancer, both sexes, Georgia, 2021

Site	Number of patients	Number of patients who underwent surgery	%
All sites	10432	4624	44.3
<i>Including:</i>			
Breast cancer	1651	722	15.8
Thyroid gland	888	568	8.5
Colorectal	787	418	7.5
Skin (except melanoma)	818	538	7.8
Trachea, bronchi, lungs	726	87	7.0
Prostate	716	167	6.9
Bladder	548	432	5.3
Lymphoid, haematopoietic and related tissue	415	49	4.0
Corpus uteri	372	225	3.6
Stomach	335	118	3.2
Digestive system, other organs	324	87	3.1
Ill-defined, secondary and unspecified	321	35	3.1
Urinary system, other organs	310	224	3.0
Cervix uteri	281	94	2.7
Ovary	274	132	2.6
Lip, mouth and throat	253	55	2.4
Larynx	252	63	2.4
Brain	218	191	2.1
Pancreas	189	46	1.8
Mesothelial and soft tissues	135	77	1.3
Male genital organs	99	64	0.9
Female genital organs	92	37	0.9
Bone and articular cartilage	86	25	0.8
Benign neoplasms	78	69	0.7
In situ	69	42	0.7
Oesophagus	52	11	0.5
Eye, brain and other parts of central nervous system	48	25	0.5
Other respiratory and intrathoracic organs	39	9	0.4
Neoplasms of uncertain or unknown behavior	38	8	0.4
Other endocrine glands	18	7	0.2

TREATMENT: TOP 5 SITES OF CANCER IN FEMALES

In 2021, surgical intervention has the largest share among treatment methods of cancer with the highest morbidity registered in women.

In 2021, 1195 operations were performed, 717 women with new cases of breast cancer were operated. This accounts for 43.7% of the new cases. 52.5% of surgeries, were performed at the I and II stages of the disease; 28.5% of patients with III and IV stages were operated.

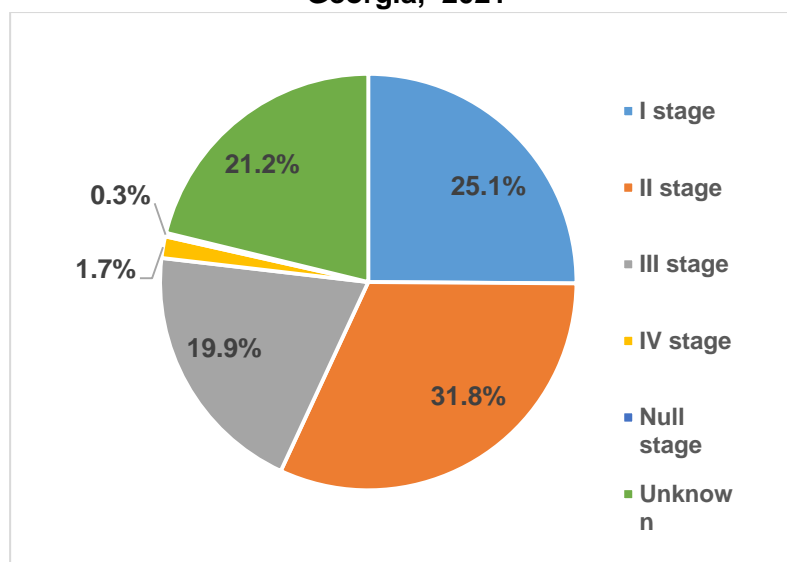
Table 37. Treatment methods of new cases of breast cancer in women, Georgia, 2021

Total number of new cases of breast cancer in females - 1640		
Treatment methods	Number of patients treated	% of the total number of patients
Surgery	717	44.3
Radiotherapy	408	24.9
Chemotherapy	626	38.2
Hormone therapy	219	13.4
Symptomatic treatment	40	2.4

Table 38. Breast cancer in women, share (%) of surgeries by stages, Georgia, 2021

	Number of patients treated	% of the total number of patients
I stage	286	62.9
II stage	491	46.4
III stage	319	44.8
IV stage	225	5.3
Null stage	4	50.0
Unknown	315	48.3

Figure 52. Breast cancer in women, share (%) of surgeries by stages, Georgia, 2021



In 2021, 97.3% of patients with new cases of thyroid gland cancer received surgical treatment and 65.5% - iodine therapy.

Table 39. Treatment methods of new cases of thyroid gland cancer in women, Georgia, 2021

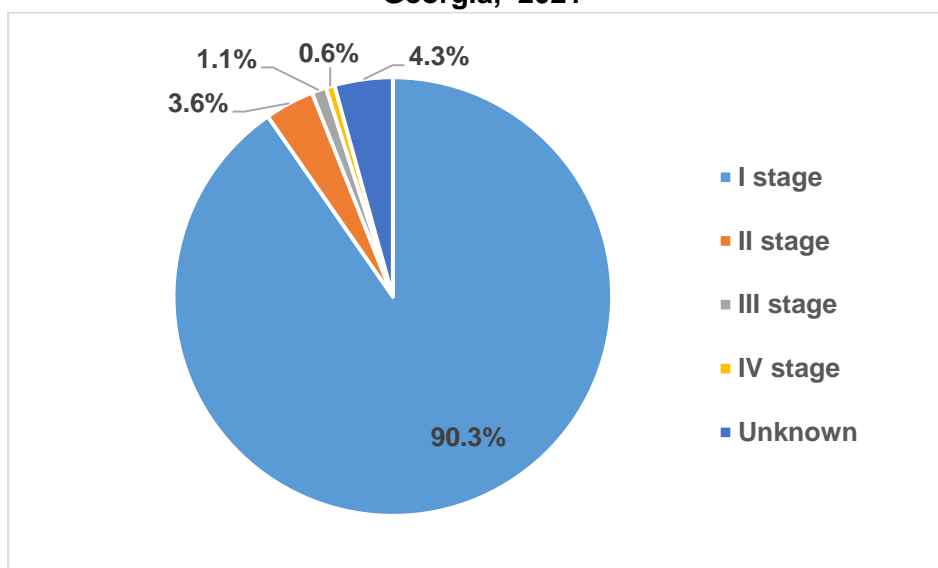
Total number of new cases of thyroid gland cancer in females - 708		
Treatment methods	Number of patients treated	% Of the total number of patients
Iodine therapy	423	59.7
Radiotherapy	6	0.8
Surgery	666	94.1

Table 40. Thyroid gland cancer in women, share (%) of surgeries by stages, Georgia, 2021

	Number of patients treated	% of the total number of patients
I stage	633	66.5
II stage	27	63.0
III stage	7	71.4
IV stage	12	25.0
Unknown	29	69.0

In 2021, 633 women with new cases of thyroid gland cancer were operated, including 66.4% at the I and II stages.

Figure 53. Thyroid gland cancer in women, share (%) of surgeries by stages, Georgia, 2021



In 2021, 81.2% of women with new cases of colorectal cancer received chemotherapy /Hormone therapy.

Table 41. Treatment of new cases of colorectal cancer in women, Georgia, 2021

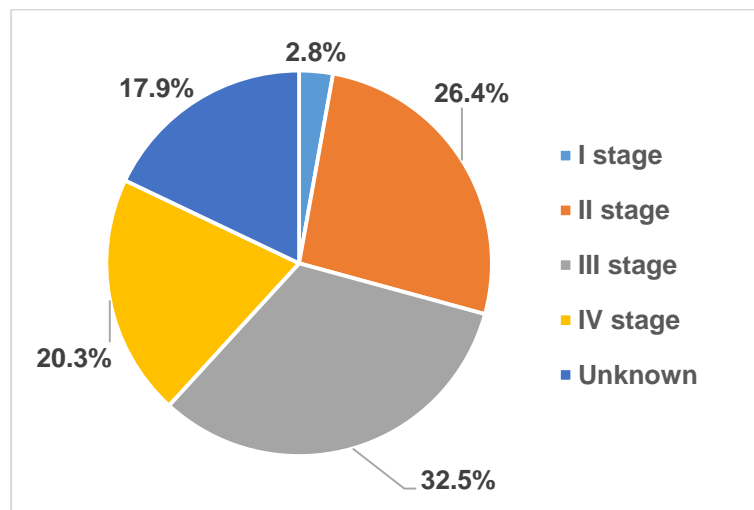
Total number of new cases of colorectal cancer in females - 389		
Treatment methods	Number of patients treated	% of the total number of patients
Chemotherapy /Hormone therapy	316	81.2
Radiotherapy	148	38.0
Surgery	212	54.5

Table 42. Colorectal cancer in women, share (%) of surgeries by stages, Georgia, 2021

	Number of patients treated	% of the total number of patients
I stage	7	14.3
II stage	76	44.7
III stage	128	68.8
IV stage	85	52.9
Unknown	93	64.5

In 2021, 212 women with new cases of colorectal cancer were operated, including 42.2% at the I and II stages.

Figure 54. Colorectal cancer in women, shares of surgical treatment (%) by stages, Georgia, 2021



In 2021, 74% of women with new cases of corpus uteri cancer received surgery.

Table 43. Treatment of new cases of corpus uteri cancer, Georgia, 2021

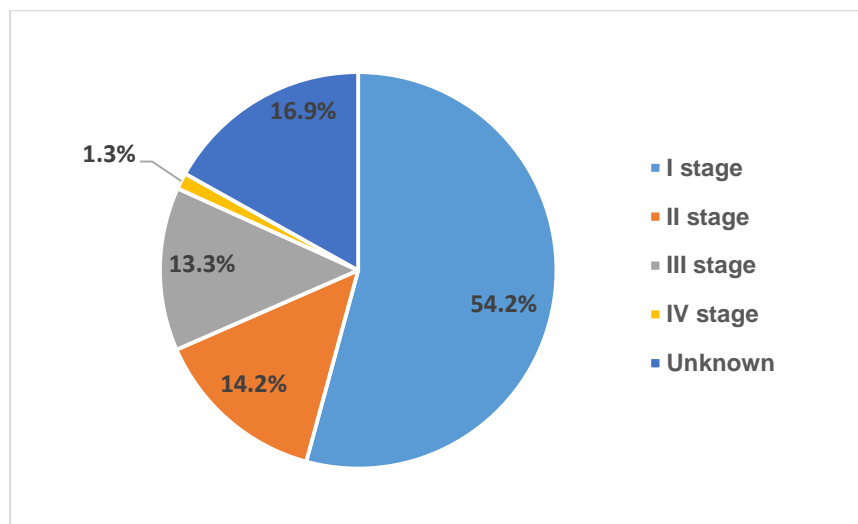
Total number of new cases of corpus uteri cancer - 372		
Treatment methods	Number of patients treated	% of the total number of patients
Chemotherapy / Hormone therapy	62	16.7
Radiotherapy	114	30.6
Surgery	275	73.9

Table 44. Corpus uteri cancer, share (%) of surgeries by stages, Georgia, 2021

	Number of patients treated	% of the total number of patients
I stage	169	72.2
II stage	48	66.7
III stage	65	46.2
IV stage	22	13.6
Unknown	68	55.9

In 2021, 275 women with new cases of corpus uteri cancer were operated, including 54% at the I and II stages.

Figure 55. Corpus uteri cancer in women, shares of surgical treatment (%) by stages, Georgia, 2021



In 2021, 45.6% of women with new cases of cervix uteri cancer received chemotherapy / hormone therapy and 33.5% - surgery.

Table 45. Treatment of new cases of cervix uteri cancer, Georgia, 2021

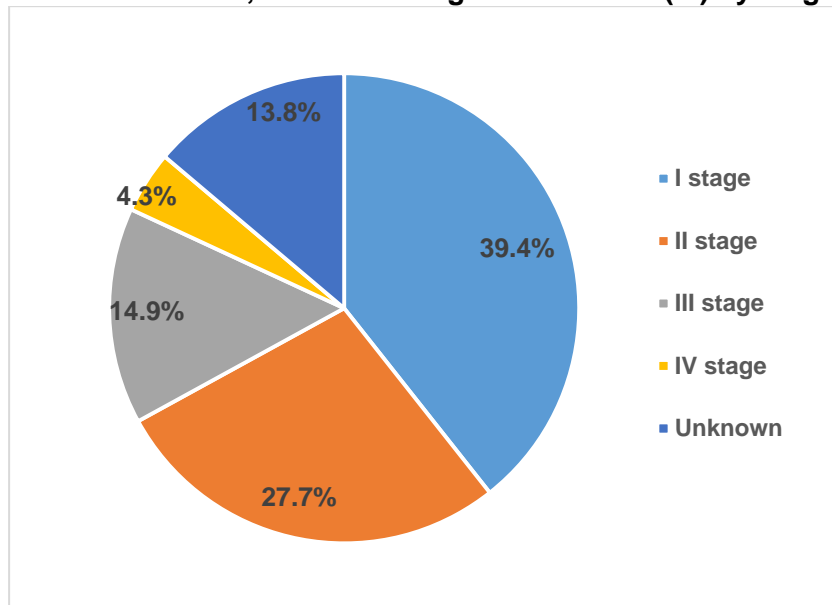
Total number of new cases of cervix uteri cancer - 281		
Treatment methods	Number of patients treated	% of the total number of patients
Chemotherapy / Hormone therapy	128	45.6
Radiotherapy	133	47.3
Surgery	94	33.5

Table 46. Cervix uteri cancer, share (%) of surgeries by stages, Georgia, 2021

	Number of patients treated	% of the total number of patients
I stage	51	72.5
II stage	67	38.8
III stage	55	25.5
IV stage	43	9.3
Unknown	65	20.0

In 2021, 94 women with new cases of cervix uteri cancer were operated, including 53.4% at the I and II stages.

Figure 56. Cervix uteri cancer, shares of surgical treatment (%) by stages, Georgia, 2021



TREATMENT: TOP 5 SITES IN MALES

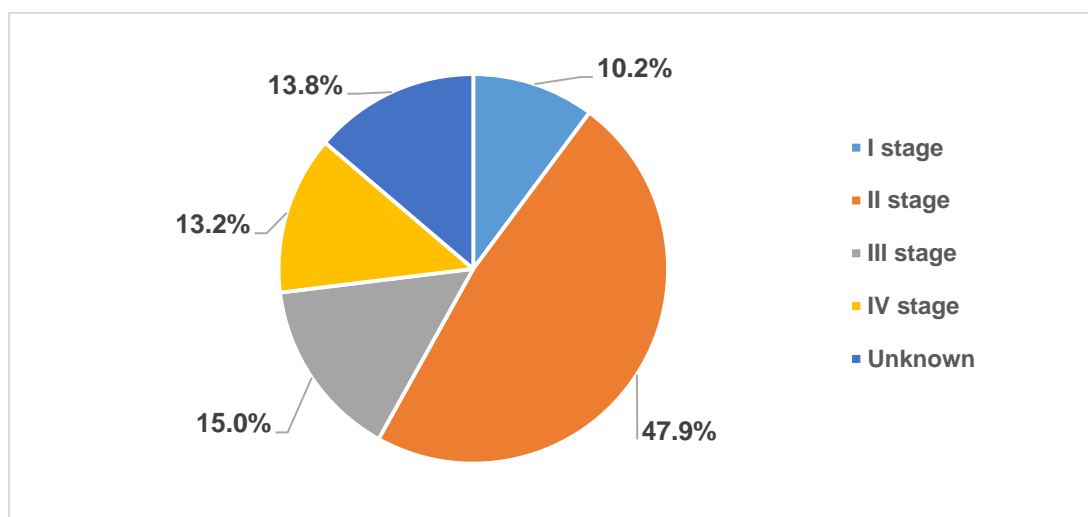
In 2021, chemotherapy / hormone therapy was performed in 42% of new cases of prostate cancer and in 23% - surgical treatment.

Table 47. Treatment of new cases of prostate cancer, Georgia, 2021

Total number of new cases of prostate cancer - 716		
Treatment methods	Number of patients treated	% of the total number of patients
Chemotherapy / Hormone therapy	301	42.0
Radiotherapy	82	11.5
Surgery	167	23.3

Table 48. Prostate cancer, share (%) of surgeries by stages, Georgia, 2021

	Number of patients treated	% of the total number of patients
I stage	48	35.4
II stage	140	57.1
III stage	90	27.8
IV stage	244	9.0
Unknown	194	11.9

Figure 57. Prostate cancer shares of surgical treatment (%) by stages, Georgia, 2021

In 2021, surgical treatment was performed in 11% of new cases of trachea, bronchus and lung cancer in men.

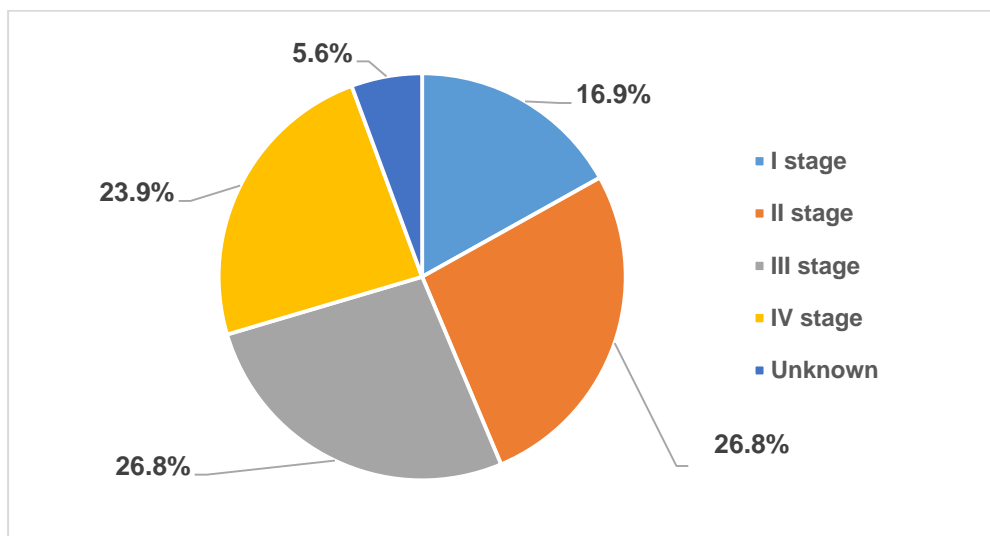
Table 49. Treatment of new cases of trachea, bronchus and lung cancer in males, Georgia, 2021

Treatment of trachea, bronchus and lung cancer in males, Georgia - 637		
Treatment methods	Number of patients treated	% of the total number of patients
Chemotherapy / Hormone therapy	318	49.9
Radiotherapy	195	30.6
Surgery	71	11.1

Table 50. Trachea, bronchus and lung cancer, share (%) of surgeries by stages, Georgia, 2021

	Number of patients treated	% of the total number of patients
I stage	12	16.9
II stage	19	26.8
III stage	19	26.8
IV stage	17	23.9
Unknown	4	5.6

Figure 58. Trachea, bronchus and lung cancer in males, share of surgical treatment (%) by stages, Georgia, 2021



In 2021, among men with new cases of bladder cancer, 80% received surgical treatment.

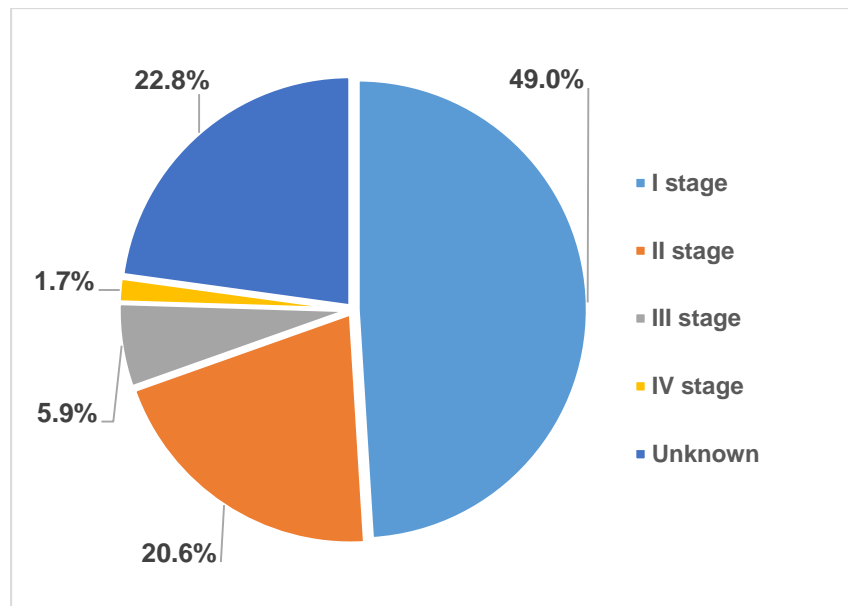
Table 51. Treatment of new cases of bladder cancer in men, Georgia, 2021

Total number of new cases of bladder cancer in males - 443		
Treatment methods	Number of patients treated	% of the total number of patients
Chemotherapy / Hormone therapy	96	21.7
Radiotherapy	6	1.4
Surgery	355	80.1

Table 52. Bladder cancer in males, share (%) of surgeries by stages, Georgia, 2021

	Number of patients treated	% of the total number of patients
I stage	174	49.0
II stage	73	20.6
III stage	21	5.9
IV stage	6	1.7
Unknown	81	22.8

Figure 59. Bladder cancer in males, share of surgical treatment (%) by stages, Georgia 2021



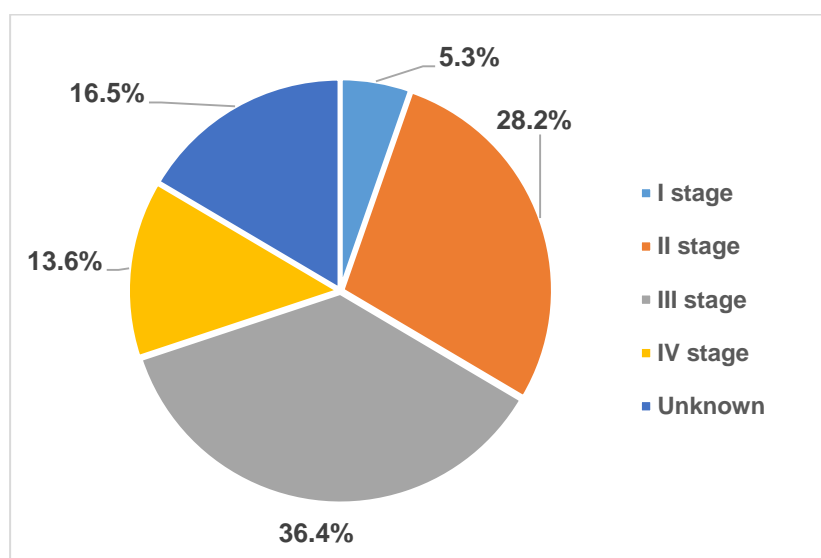
In 2021, among men with new cases of colorectal cancer, 52% received surgical treatment.

Table 53. Treatment of new cases of colorectal cancer in men, Georgia, 2021

Total number of new cases of colorectal cancer in males - 398		
Treatment methods	Number of patients treated	% of the total number of patients
Chemotherapy / Hormone therapy	155	38.9
Radiotherapy	82	20.6
Surgery	206	51.8

Table 54. Colorectal cancer in males, share (%) of surgeries by stages, Georgia, 2021

	Number of patients treated	% of the total number of patients
I stage	11	5.3
II stage	58	28.2
III stage	75	36.4
IV stage	28	13.6
Unknown	34	16.5

Figure 60. Colorectal cancer in males, share of surgical treatment (%) by stages, Georgia, 2021

In 2021, among men with new cases of larynx cancer, 24.7% received surgical treatment.

Table 55. Treatment of new cases of larynx cancer in men, Georgia, 2021

Total number of new cases of larynx cancer in males - 247		
Treatment methods	Number of patients treated	% of the total number of patients
Chemotherapy / Hormone therapy	24	9.7
Radiotherapy	162	65.6
Surgery	61	24.7

Table 56. Larynx cancer in males, share (%) of surgeries by stages, Georgia, 2021

	Number of patients treated	% of the total number of patients
I stage	7	11.5
II stage	6	9.8
III stage	21	34.4
IV stage	22	36.1
Unknown	5	8.2

Figure 61. Larynx cancer in males, share (%) of surgeries by stages, Georgia, 2021

