Belgian Cancer Registry

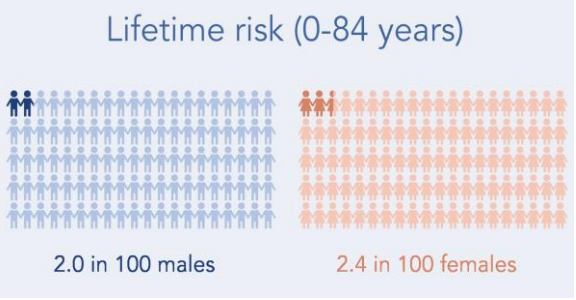
CANCER FACT SHEET 2024

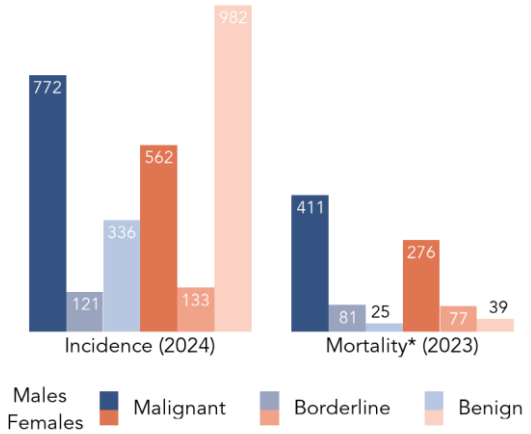
TUMOURS OF THE CENTRAL NERVOUS SYSTEM

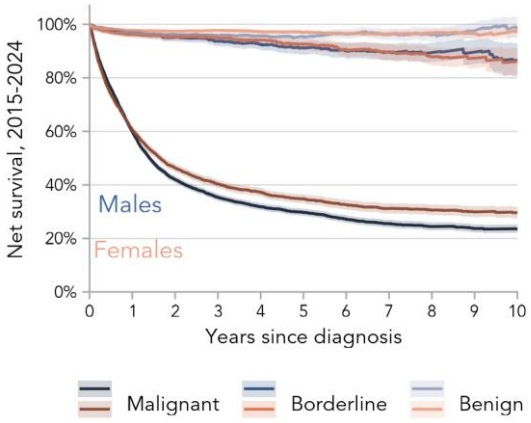
ICD-10 C70-C72, C75.1-C75.3, D42-D43, D44.3-D44.5, D32-D33, D35.2-D35.4

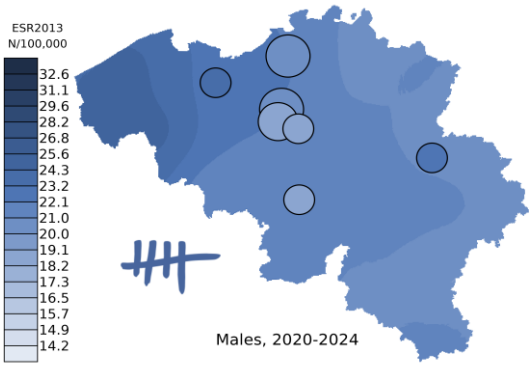
Key facts

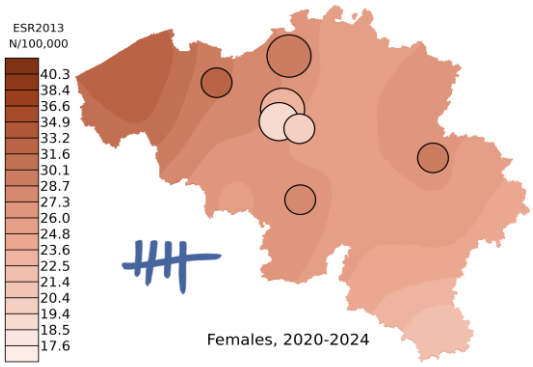
- **2,906** new diagnoses in 2024
- **909** deaths due to tumours of the central nervous system in 2023
- Next to malignant neoplasms, borderline and benign neoplasms of the central nervous system could have a big impact on the lives of patients











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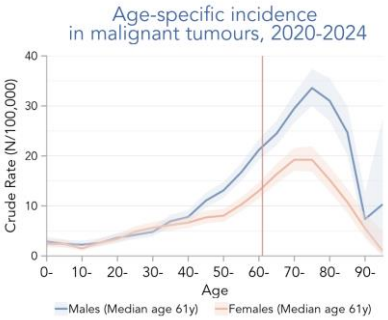
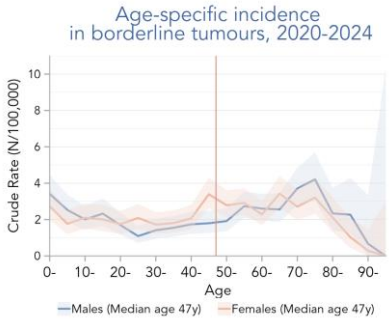
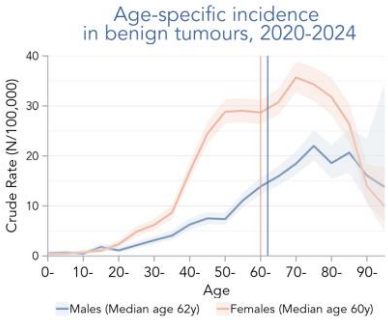
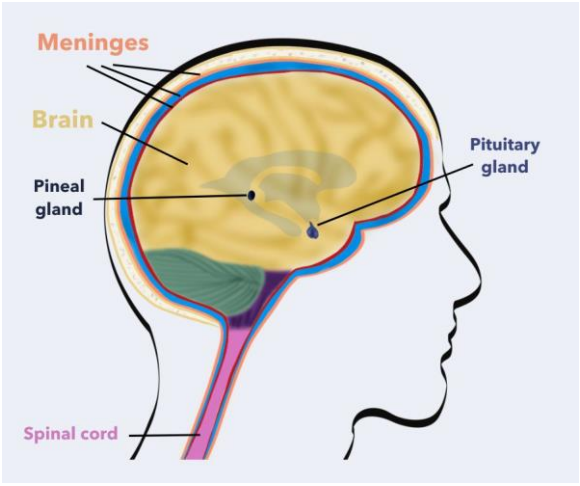
INCIDENCE



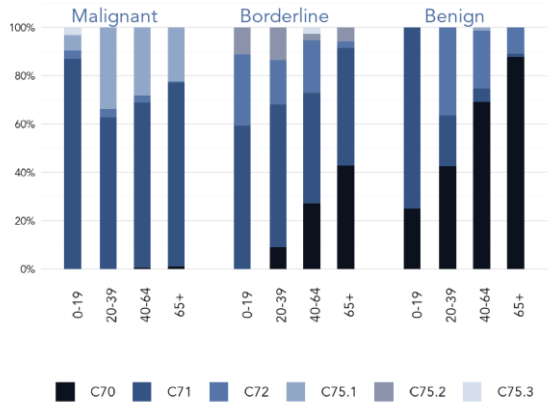




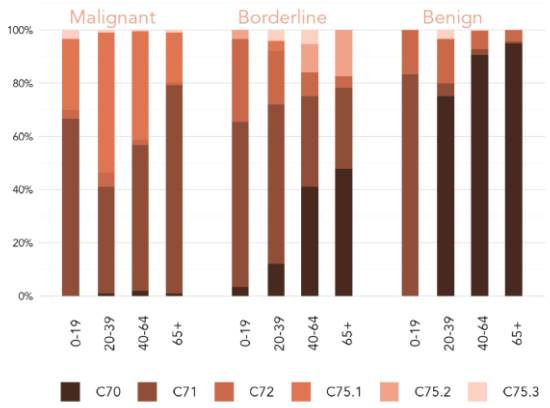


- **Malignant** tumours of the central nervous system are the **2nd most common** cancer for **children and adolescents**, 0-19 years old
- Between 2020 and 2024, **over 70%** of all tumours of the central nervous system are either **meningiomas or gliomas**
- Among **younger** patients (0-39 years), **gliomas** are the most common subtype (40.3%), while in **older** patients (40+ years), **meningiomas** are the most common (45.0%)
- More information about tumours of the central nervous system in adults can be found in the specific publication

Sublocation by tumour behaviour in males



Sublocation by tumour behaviour in females



C70: Meninges; C71: Brain; C72: Spinal cord and other parts of the central nervous system; C75.1: Pituitary gland; C75.2: Craniopharyngeal duct; C75.3: Pineal gland

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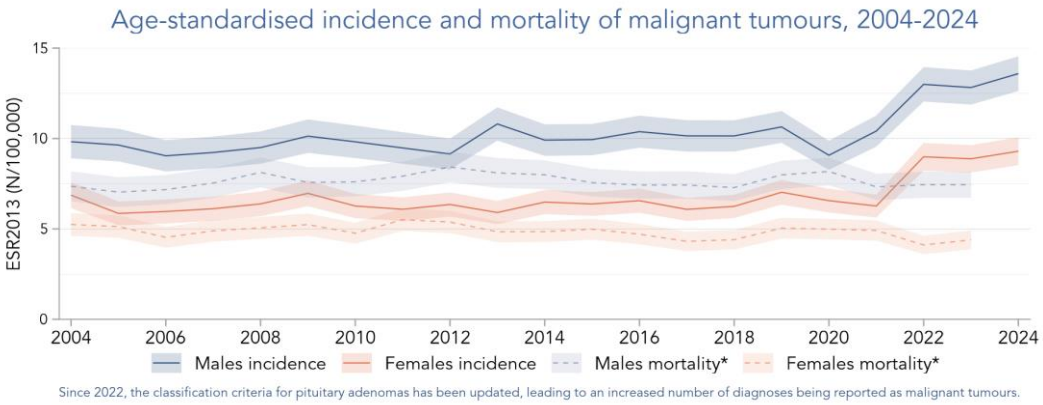
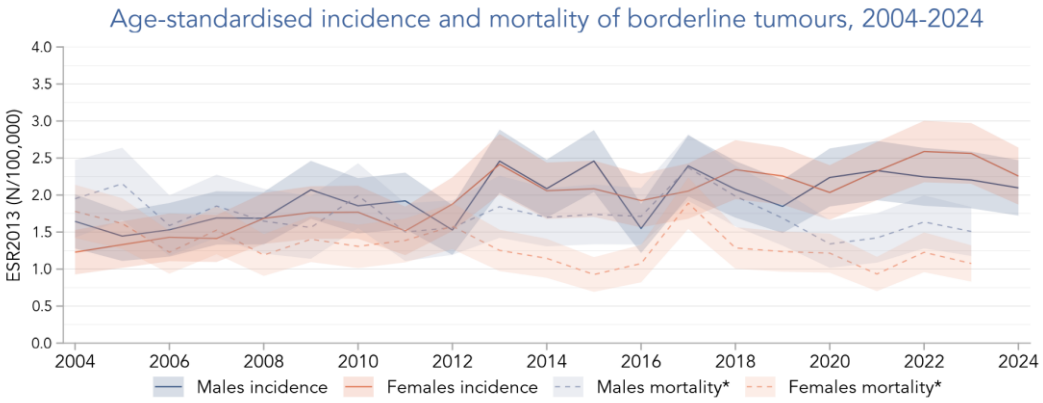
INCIDENCE TRENDS (1)



- Risk of a **malignant** tumour of the central nervous system **diagnosis in males is increasing** with an average annual percentage change of **+1.5%**
- Risk of a **malignant** tumour of the central nervous system **diagnosis in females is increasing** with an average annual percentage change of **+1.7%**
- The average annual percentage change of the risk of a **malignant** tumour of the central nervous system **mortality in males** is **+0.3%**
- The average annual percentage change of the risk of a **malignant** tumour of the central nervous system **mortality in females** is **−0.7%**



- Risk of a **borderline** tumour of the central nervous system **diagnosis in males is increasing** with an average annual percentage change of **+1.8%**
- The average annual percentage change of the risk of a **borderline** tumour of the central nervous system **mortality in males** is **−0.8%**
- Risk of a **borderline** tumour of the central nervous system **diagnosis in females is increasing** with an average annual percentage change of **+3.5%**, and risk of **mortality is decreasing** with **−1.6%**

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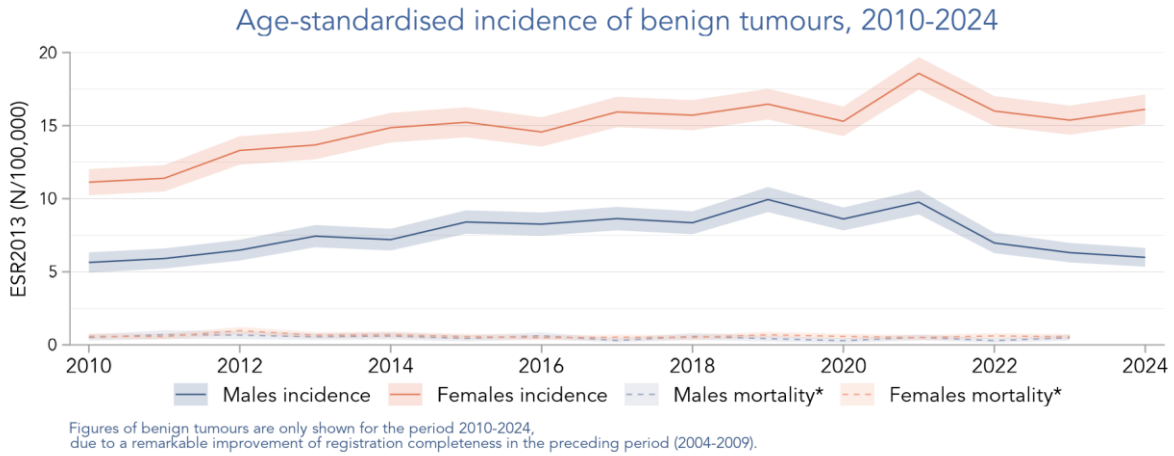
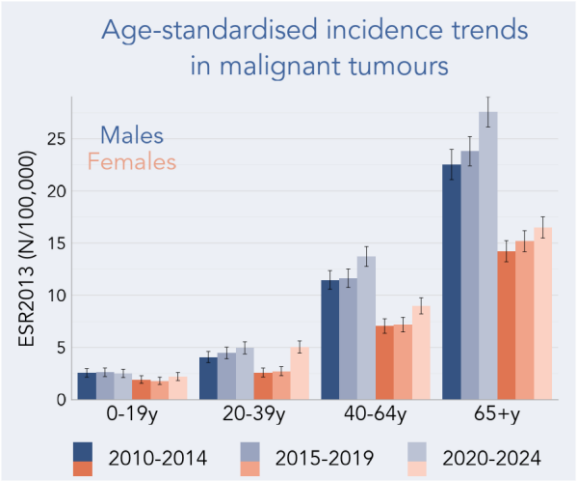
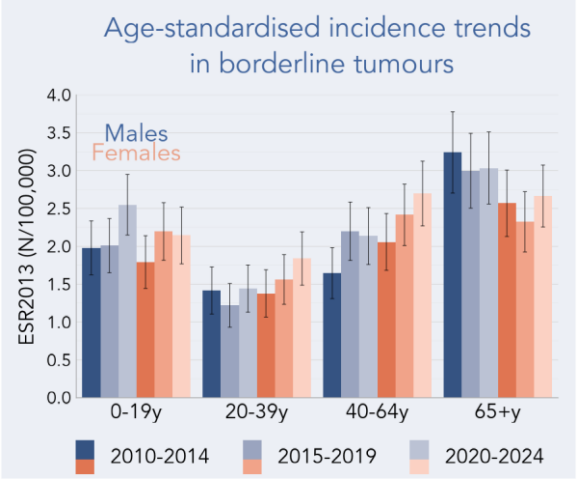
INCIDENCE TRENDS (2)

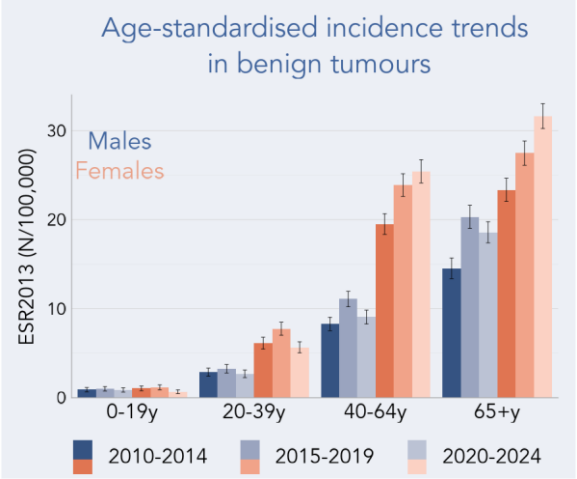


Figures of benign tumours are only shown for the period 2010-2024, due to a remarkable improvement of registration completeness in the preceding period (2004-2009).

- The average annual percentage change of the risk of a **benign** tumour of the central nervous system **diagnosis in males** is **+0.2%**, and risk of **mortality is –4.0%**
- Risk of a **benign** tumour of the central nervous system **diagnosis in females is increasing** with an average annual percentage change of **+2.8%**, and risk of **mortality is decreasing** with **–1.6%**
- Since 2022, the WHO classification criteria for pituitary adenomas has been updated, leading to an increase in tumours being classified and reported as malignant

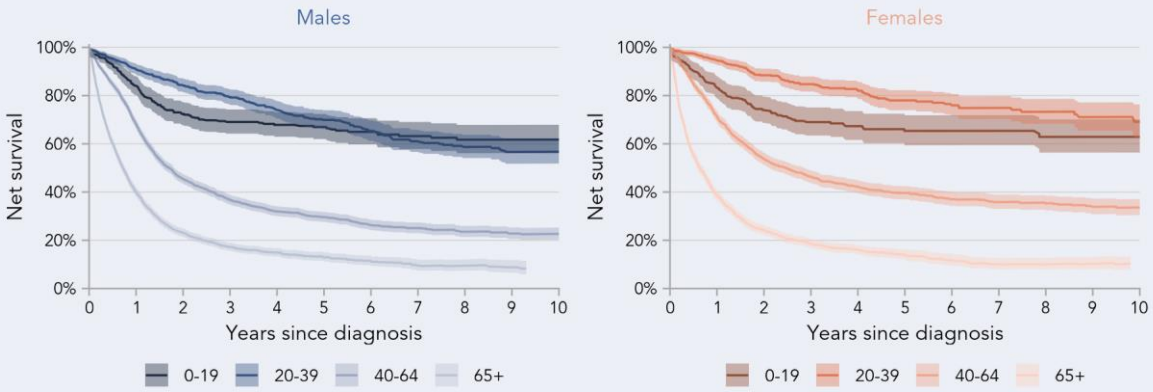




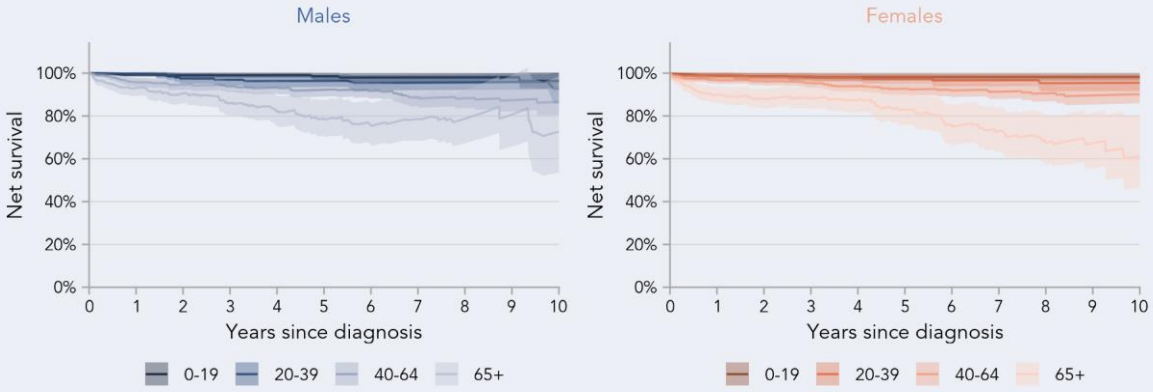


SURVIVAL (1)

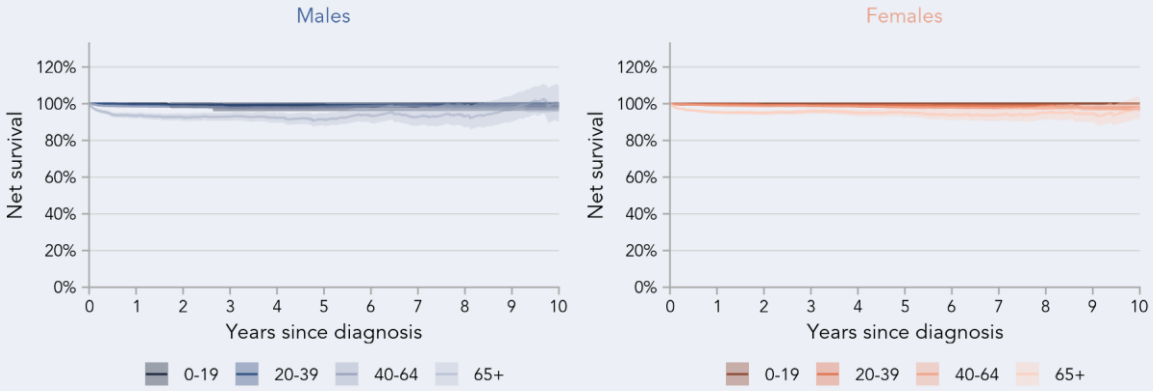
Net survival by age group in malignant tumours, 2015-2024



Net survival by age group in borderline tumours, 2015-2024



Net survival by age group in benign tumours, 2015-2024



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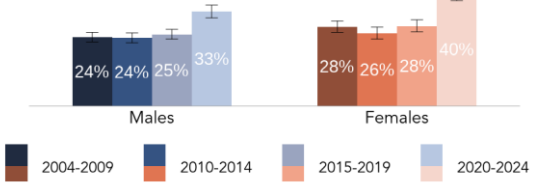
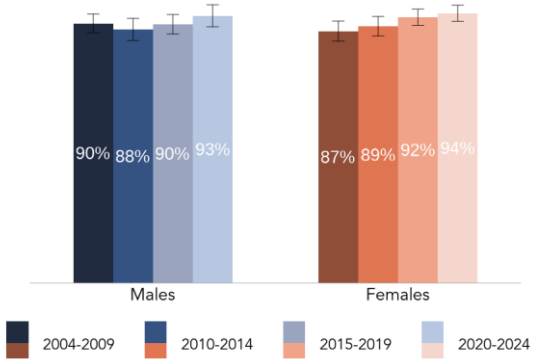
SURVIVAL (2)

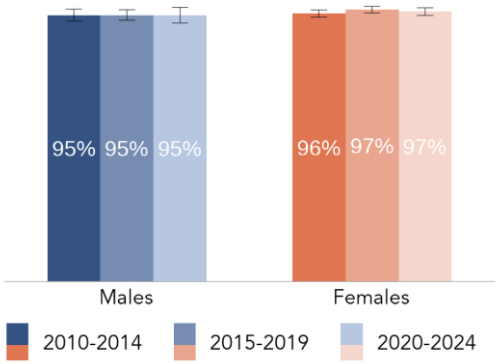
5-year net survival over time in malignant tumours



5-year net survival over time in borderline tumours



5-year net survival over time in benign tumours



- **5-year net survival has been stable** for males and females in the last 21 years
- Diagnosis of a **borderline** or **benign** tumour of the central nervous system is associated with a **better prognosis**, compared to a malignant tumour
- More than **26,000 people** are living with the consequences of a tumour of the central nervous system

Additional detailed information (including prevalence) can be found in the **Appendix of the Cancer Fact Sheet** *and on the* **website of the Belgian Cancer Registry**

5-year net survival by age group and behaviour, 2020-2024, % (95% CI)

	Males			Females		
	Malignant	Borderline	Benign	Malignant	Borderline	Benign
Total	**33.4%**	**92.7%**	**95.2%**	**40.1%**	**93.6%**	**96.6%**
	(31.2%; 35.8%)	**(89.0%; 96.7%)**	**(92.5%; 98.1%)**	**(37.4%; 42.9%)**	**(90.9%; 96.5%)**	**(95.2%; 97.9%)**
0-19	62.6%	98.9%	96.1%	68.1%	98.3%	100.1%
	(54.5%; 72.0%)	(97.2%; 100.6%)	(90.7%; 101.7%)	(60.0%; 77.2%)	(96.0%; 100.8%)	(100.1%; 100.1%)
20-39	70.2%	96.7%	99.2%	83.6%	97.1%	99.4%
	(63.9%; 77.1%)	(92.7%; 100.9%)	(97.5%; 101.0%)	(77.9%; 89.6%)	(93.6%; 100.8%)	(98.5%; 100.4%)
40-64	34.5%	93.3%	99.4%	46.9%	96.4%	98.1%
	(31.1%; 38.3%)	(88.8%; 98.1%)	(98.0%; 100.9%)	(42.8%; 51.4%)	(93.5%; 99.3%)	(97.2%; 99.1%)
65+	19.1%	81.8%	90.3%	14.5%	82.1%	93.8%
	(15.8%; 23.0%)	(68.3%; 98.0%)	(84.6%; 96.4%)	(11.0%; 19.2%)	(72.2%; 93.3%)	(90.6%; 97.1%)

Net survival can exceed 100%; more information in 'Concepts & Abbreviations' (last page)

- **Absolute numbers (N):** The number of newly registered cancer diagnoses observed for a given period of time. All figures and numbers in this cancer fact sheet are based on diagnoses of Belgian residents.
- **Cancer maps:** Cities with at least 150,000 inhabitants are directly represented on the map as circles with a diameter relative to the population size, and a colour shading indicating the actual calculated ESR2013 in that city. The 19 municipalities of the Brussels Capital Region (more than 1,000,000 inhabitants) are divided in three separate circles, based on socio-economic parameters. The socio-economic status is lowest in the westernmost circle and highest in the easternmost circle. Methodological information is available in 'Cancer burden in Belgium 2004-2017, Belgian Cancer Registry, Brussels, 2020'.
- **Crude Rate (CR):** The crude rate is obtained by dividing the absolute number of diagnoses (N) by the corresponding population size at risk (N/100,000).
- **ESR2013:** Incidence rates standardised to the 2013 revised European Standard Population (ESP): Standardisation is necessary to accommodate for differences in population size and age distribution (over time or among regions). An important factor in interpreting trends in cancer incidence is population ageing, as cancer is an age-dependent disease. For a higher proportion of elderly people in the population, a higher total number of cancer diagnoses can be expected for the same cancer risk. When only absolute numbers (N) or Crude Rate (CR) results are used, a misleading picture of the actual changes in the risk of a cancer diagnosis could be obtained. Therefore, direct standardisation is necessary to evaluate the evolution of the risk of cancer diagnosis over time or among regions.
- **Net survival:** Often also called the relative survival, is an estimate of the survival probability when other causes of death beside the cancer type(s) under study are excluded. As examples of other causes of death, patients with the cancer type(s) under study could also die because of an accident or unrelated cardiac conditions, etc. Net survival may exceed 100%, this occurs when the observed survival probability for patients with the cancer type(s) under study is higher than the one for the matched general population (no excess mortality due to cancer).
- The net survival estimation was based on the regional lifetables 2024, obtained from Statbel.
- **95% CI:** 95% Confidence Intervals are indicated with a shaded band or whiskers in the figures. The 95% CI is a range of values that has 95% chance to contain the true mean value.
- Throughout this cancer fact sheet, results are presented based on sex and age group of patients and behaviour of the tumour (benign, borderline and malignant). This ICD-O-3 behavioural classification may not completely reflect the classical clinical classification of CNS tumours which is based on WHO grade of CNS tumours (I-IV). Nevertheless, this fact sheet describes data based on the behaviour of tumours to keep consistency with international reports. Moreover, this WHO grade was not systematically recorded in the past and is not applicable to all CNS tumours (e.g. haematolymphoid tumours involving the CNS).
- Sublocations of the tumours in central nervous system:
    - **C70:** Meninges
    - **C71:** Brain
    - **C72:** Spinal cord and other parts of the central nervous system
    - **C75.1:** Pituitary gland
    - **C75.2:** Craniopharyngeal duct
    - **C75.3:** Pineal gland

**Mortality statistics in Belgium are collected and managed by the three Regions (Flemish Region: Departement Zorg; Brussels-Capital Region: Observatorium voor Gezondheid en Welzijn van Brussel-Hoofdstad/ l'Observatoire de la Santé et du Social de Bruxelles-Capitale; Walloon Region: Agence Wallonne de la Santé, de la Protection sociale, du Handicap et des Familles (AVIQ)). The Directorate General Statistics Belgium is responsible for collecting and merging the data coming from the regional agencies. Mortality data used in this cancer fact sheet are collected from the Directorate General Statistics Belgium and encompasses the period 2004-2023.*

Recommended reference: Cancer Fact Sheets 2024, Belgian Cancer Registry (BCR), 2026