



## SHORT REPORT

# CANCER BURDEN IN BELGIUM, 2004-2019

*With focus on:*

*Completeness and validation of data quality*

*Invasive tumours (excl. non-melanoma skin cancer)*

### CONTENTS

<b>1 Quality of incidence data</b> .....	<b>3</b>
<b>1.1 Completeness of the Cancer Registry</b> .....	3
<b>1.1.1 Overlap between clinical and pathological network</b> .....	3
<b>1.2 Validity</b> .....	4
<b>1.2.1 Microscopically verified tumours</b> .....	4
<b>1.2.2 Availability of information on stage</b> .....	5
<b>1.2.3 Stability of incidence data over time</b> .....	5
<b>2 Cancer Burden in Belgium - Invasive tumours (excl. non-melanoma skin cancer)</b> .....	<b>8</b>
<b>2.1 Incidence, mortality, prevalence and relative survival</b> .....	8
<b>2.2 Incidence trends</b> .....	11
<b>2.3 Survival</b> .....	12
<b>2.2 Survival trends</b> .....	13

Recommended reference:

Short report: Cancer burden in Belgium 2004-2019, Belgian Cancer Registry, Brussels, 2022



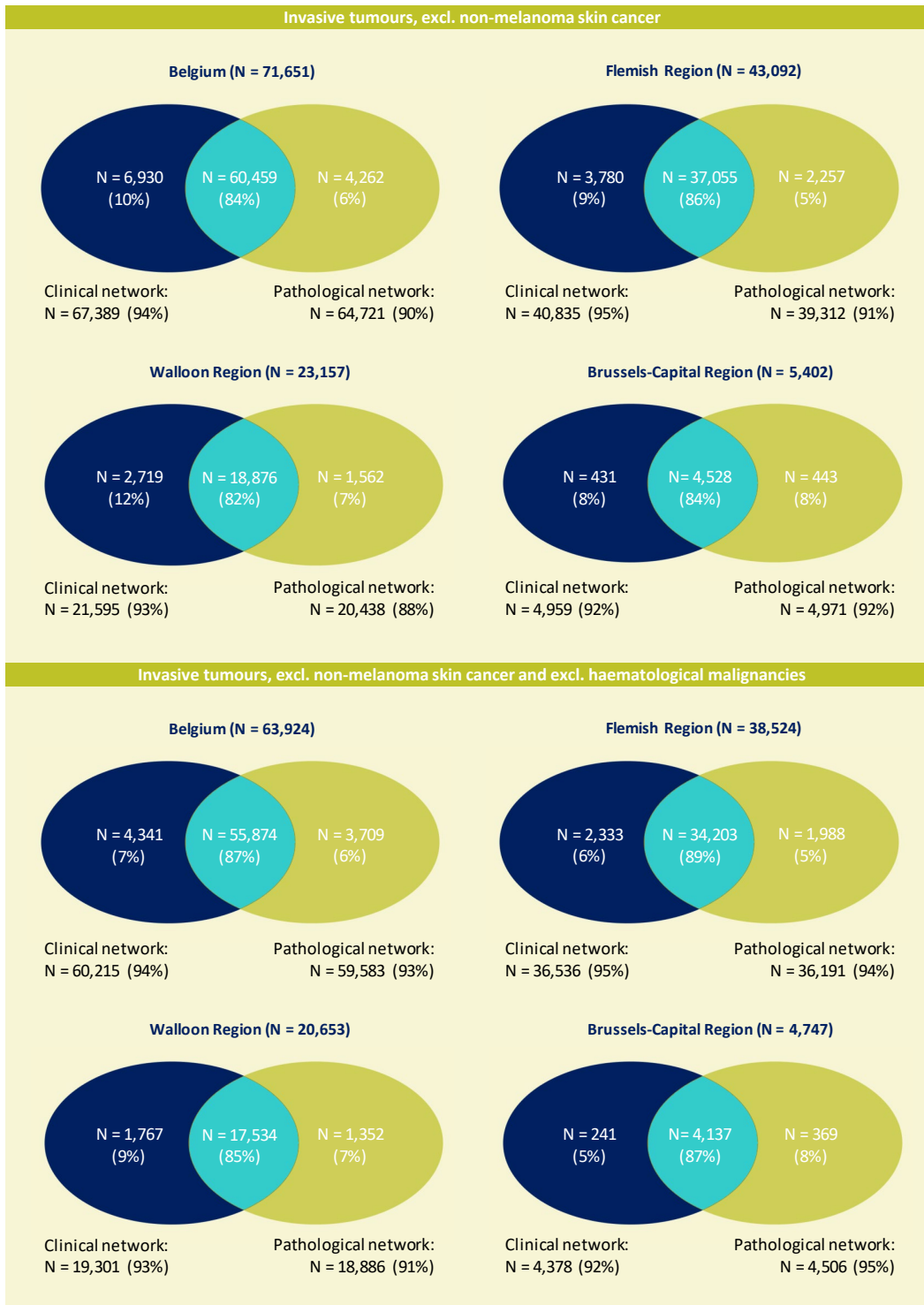
# 1 QUALITY OF INCIDENCE DATA\*

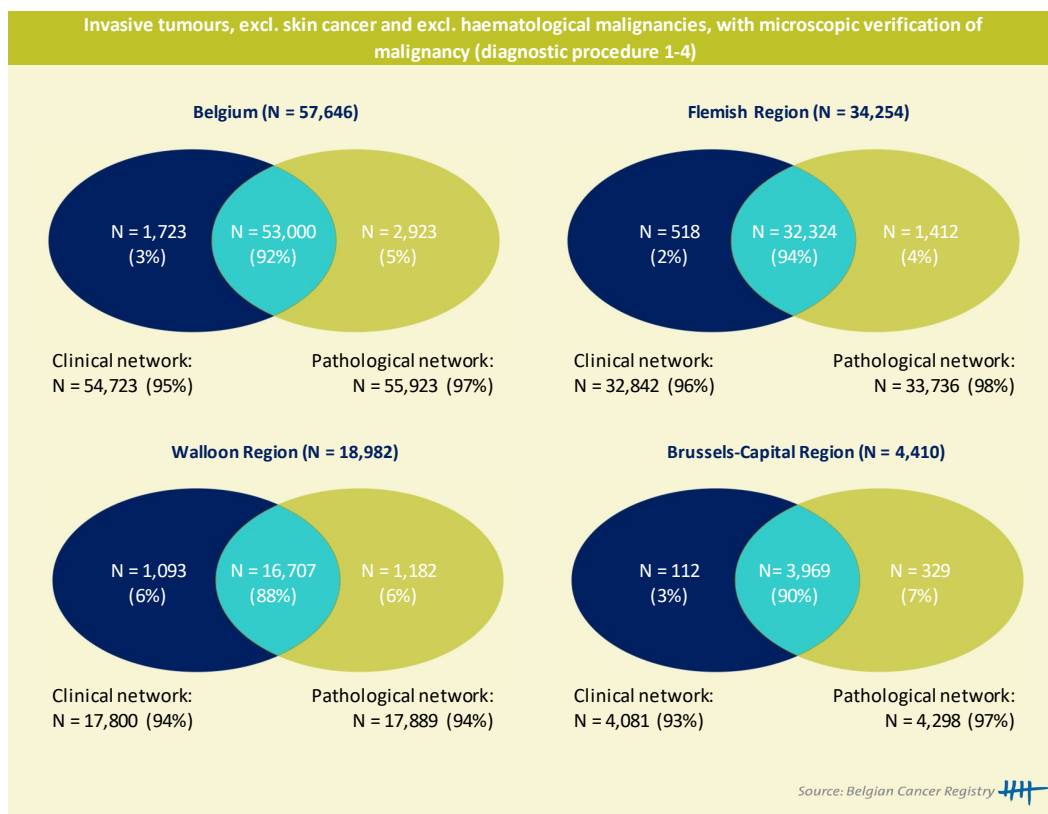
\*For more information on the applied methodology: see Methodology in "Cancer burden in Belgium 2004-2017, Belgian Cancer Registry, Brussels, 2020"

## 1.1 COMPLETENESS OF THE CANCER REGISTRY

### 1.1.1 Overlap between clinical and pathological network

Figure 1 Combination of notifications by source type and region, 2019





## 1.2 VALIDITY

### 1.2.1 MICROSCOPICALLY VERIFIED TUMOURS

**Table 1** Microscopic verification (MV%) by region and tumour type, 2019

ICD-10	Tumour type	Belgium	Flemish Region	Walloon Region	Brussels-Capital Region
C00-C43,C45-C97, MDS and MPN	Invasive tumours (excl. non-melanoma skin cancer)	96.4	95.8	97.2	97.6
C00-C14,C30-C32	Head and neck	98.8	98.7	98.9	98.6
C15-C16.0	Oesophagus	99.5	99.3	99.8	100.0
C16.1-C16.9	Stomach	99.2	98.9	99.3	100.0
C18-C19	Colon	98.8	98.7	99.1	99.1
C20	Rectum	99.2	99.0	99.6	98.7
C22	Liver	68.4	66.7	69.7	71.3
C23-C24	Gallbladder and biliary tract	88.6	86.4	91.7	93.9
C25	Pancreas	87.3	83.8	92.4	91.2
C34	Lung	90.2	86.9	94.7	94.3
C43	Malignant melanoma	100.0	100.0	100.0	100.0
C45	Mesothelioma *	100.0	100.0	100.0	100.0
C50	Breast	99.8	99.7	99.8	100.0
C53	Cervix uteri	99.2	99.4	98.6	100.0
C54	Corpus uteri	99.3	98.9	99.8	100.0
C56	Ovary	96.1	96.8	94.8	96.3
C61	Prostate	98.6	98.6	98.7	98.8
C62	Testis	99.7	99.6	100.0	100.0
C64	Kidney	86.1	83.0	91.3	93.1
C67	Bladder	98.3	98.4	98.2	98.1
C70-C72	Central nervous system	90.1	89.1	90.7	94.9
C73	Thyroid	99.8	99.8	99.7	100.0

MDS: Myelodysplastic syndrome

MPN: Myeloproliferative neoplasms

\* Due to registration guidelines is a diagnosis of mesothelioma only possible after microscopic confirmation

*Source: Belgian Cancer Registry*

## 1.2.2 AVAILABILITY OF INFORMATION ON STAGE

**Table 2** Availability of information on basis of stage (clinical and pathological)<sup>a, b</sup>, Belgium 2019

Tumour localisation	cTNM <sup>c</sup>			pTNM <sup>d</sup>
	N	Total	%	N
C00 Lip	40	54	74.1	48
C01 Base of tongue	198	207	95.7	45
C02 Tongue	285	308	92.5	246
C03-C06 Oral cavity	478	538	88.8	389
C07-C08 Salivary glands	84	114	73.7	79
C09 Tonsil	266	278	95.7	88
C10 Oropharynx	136	146	93.2	19
C11 Nasopharynx	59	64	92.2	3
C12 Pyriform sinus	173	180	96.1	36
C13 Hypopharynx	106	115	92.2	20
C15 Oesophagus	966	1,080	89.4	376
C16 Stomach	988	1,204	82.1	638
C17 Small intestine	193	294	65.6	195
C18-C19 Colon	4,512	5,848	77.2	5,109
C20 Rectum	1,894	2,115	89.6	1,558
C22-C24 Liver, gallbladder and bile ducts	961	1,308	73.5	403
C25 Pancreas	1,768	2,025	87.3	690
C30-C31 Nasal cavity, middle ear and sinuses	110	126	87.3	60
C32 Larynx	492	535	92.0	191
C34 Bronchus and lung	8,442	8,855	95.3	2,307
C40-C41 Bone and articular cartilage	18	43	41.9	22
C43 Malignant melanoma of skin	3,604	3,642	99.0	3,596
C50 Breast	10,713	11,016	97.2	9,591
C51 Vulva	190	255	74.5	197
C52 Vagina	36	45	80.0	11
C53 Cervix uteri	465	599	77.6	309
C54 Corpus uteri	892	1,249	71.4	1,043
C56 Ovary	483	689	70.1	458
C60 Penis	50	84	59.5	78
C61 Prostate	9,325	10,194	91.5	3,938
C62 Testis	386	389	99.2	374
C64 Kidney	1,571	1,936	81.1	1,468
C67 Bladder	1,596	2,433	65.6	2,178
C69 Eye and adnexa	72	97	74.2	19
C73 Thyroid	568	952	59.7	890

<sup>a</sup> Only if TNM is applicable.

Source: Belgian Cancer Registry 

<sup>b</sup> The proportion of known stage is defined as the number of diagnoses with stage 0-IV divided by the total number of diagnoses (Stage 0, I, II, III, IV and X).

<sup>c</sup> The proportion of diagnoses with known clinical stage is a measure for data completeness.

<sup>d</sup> The proportion of diagnoses with known pathological stage is not shown.

## 1.2.3 STABILITY OF INCIDENCE DATA OVER TIME

**Table 3** All invasive tumours (ICD10: C00-C97, MDS and MPN)\*: Stability of incidence data (N) over time, 2004-2019

Belgium	Incidence year															
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
2004	60,047															
2005	59,976	59,478														
2006	60,740	60,618	60,046													
2008	61,480	61,482	61,246	63,170	63,738											
2009	61,507	61,482	61,266	63,189	64,096	64,526										
2010	61,496	61,416	61,252	63,236	64,087	64,720	66,331									
2011	61,424	61,363	61,202	63,183	64,041	64,770	66,667	69,062								
2012	61,293	61,265	61,090	63,090	63,966	64,768	66,664	69,719	70,992							
2013	61,299	61,317	61,183	63,214	64,127	64,904	66,692	69,761	71,068	71,536						
2014	61,306	61,305	61,223	63,262	64,207	64,950	66,756	69,804	71,120	71,697	74,423					
2015	61,272	61,278	61,192	63,219	64,154	64,893	66,711	69,749	71,072	71,624	74,429	73,879				
2016	61,229	61,234	61,161	63,126	64,089	64,826	66,630	69,681	71,002	71,569	74,369	73,905	75,696			
2017	61,209	61,193	61,166	63,105	64,062	64,805	66,606	69,656	70,981	71,567	74,374	73,960	75,850	76,633		
2018	61,218	61,198	61,189	63,133	64,121	64,850	66,652	69,683	71,007	71,606	74,403	74,000	75,909	76,823	78,914	
2019	61,217	61,199	61,206	63,138	64,136	64,864	66,673	69,702	71,017	71,655	74,412	74,033	75,933	76,879	79,025	80,524

\* Excl. basocellular carcinomas of skin

Source: Belgian Cancer Registry 





### 3 CANCER BURDEN IN BELGIUM - INVASIVE TUMOURS (EXCL. NON-MELANOMA SKIN CANCER) \*

\*For more information on the applied methodology: see Methodology in "Cancer burden in Belgium 2004-2017, Belgian Cancer Registry, Brussels, 2020"

Mortality data used in this publication are collected from the Directorate General Statistics Belgium (<http://www.statbel.fgov.be/>), and encompasses the time period 2004-2018.

#### 3.1 INCIDENCE, MORTALITY, PREVALENCE AND RELATIVE SURVIVAL

**Table 1** Invasive tumours (excl. non-melanoma skin cancer): Overview of incidence, mortality, prevalence and survival by sex and region

Invasive tumours (excl. non-melanoma skin cancer)	Males			Females		
	N	CR	WSR	N	CR	WSR
<b>Incidence, 2019</b>						
Belgium	38,572	685.3	341.2	33,079	570.0	292.1
Flemish Region	23,518	721.4	334.6	19,574	588.0	291.0
Brussels-Capital Region	2,678	452.0	318.0	2,724	442.1	277.7
Walloon Region	12,376	696.9	360.2	10,781	580.2	299.6
<b>Mortality, 2018</b>						
Belgium	14,398	257.2	109.9	11,641	201.5	73.5
Flemish Region	8,647	266.8	102.5	6,668	201.3	69.5
Brussels-Capital Region	1,011	172.3	109.9	988	161.4	76.6
Walloon Region	4,740	267.8	123.5	3,985	214.9	80.0
<b>Prevalence (5 years), 2015-2019</b>						
Belgium	116,291	2,054.6	1,022.3	114,947	1,970.8	1,039.9
Flemish Region	72,445	2,208.4	1,025.3	68,000	2,030.7	1,032.7
Brussels-Capital Region	7,889	1,319.9	921.1	9,619	1,550.1	1,003.1
Walloon Region	35,970	2,018.7	1,045.0	37,342	2,004.0	1,067.4
<b>5-year Relative survival, 2015-2019</b>						
Belgium	N at risk 172,609	% 64.4	95%CI [64.1;64.8]	N at risk 153,955	% 71.8	95%CI [71.4;72.1]
Flemish Region	105,568	66.0	[65.5;66.4]	90,108	72.5	[72.1;73.0]
Brussels-Capital Region	12,139	61.8	[60.4;63.1]	13,039	72.6	[71.5;73.8]
Walloon Region	54,925	62.0	[61.3;62.6]	50,829	70.1	[69.5;70.7]
<b>10-year Relative survival, 2010-2019</b>						
Belgium	N at risk 325,681	% 58.0	95%CI [57.6;58.4]	N at risk 294,329	% 66.4	95%CI [66.1;66.7]
Flemish Region	199,524	59.2	[58.7;59.6]	171,544	66.7	[66.3;67.1]
Brussels-Capital Region	23,556	56.1	[54.8;57.5]	25,473	67.2	[66.0;68.4]
Walloon Region	102,728	56.2	[55.5;56.8]	97,399	65.6	[65.0;66.2]

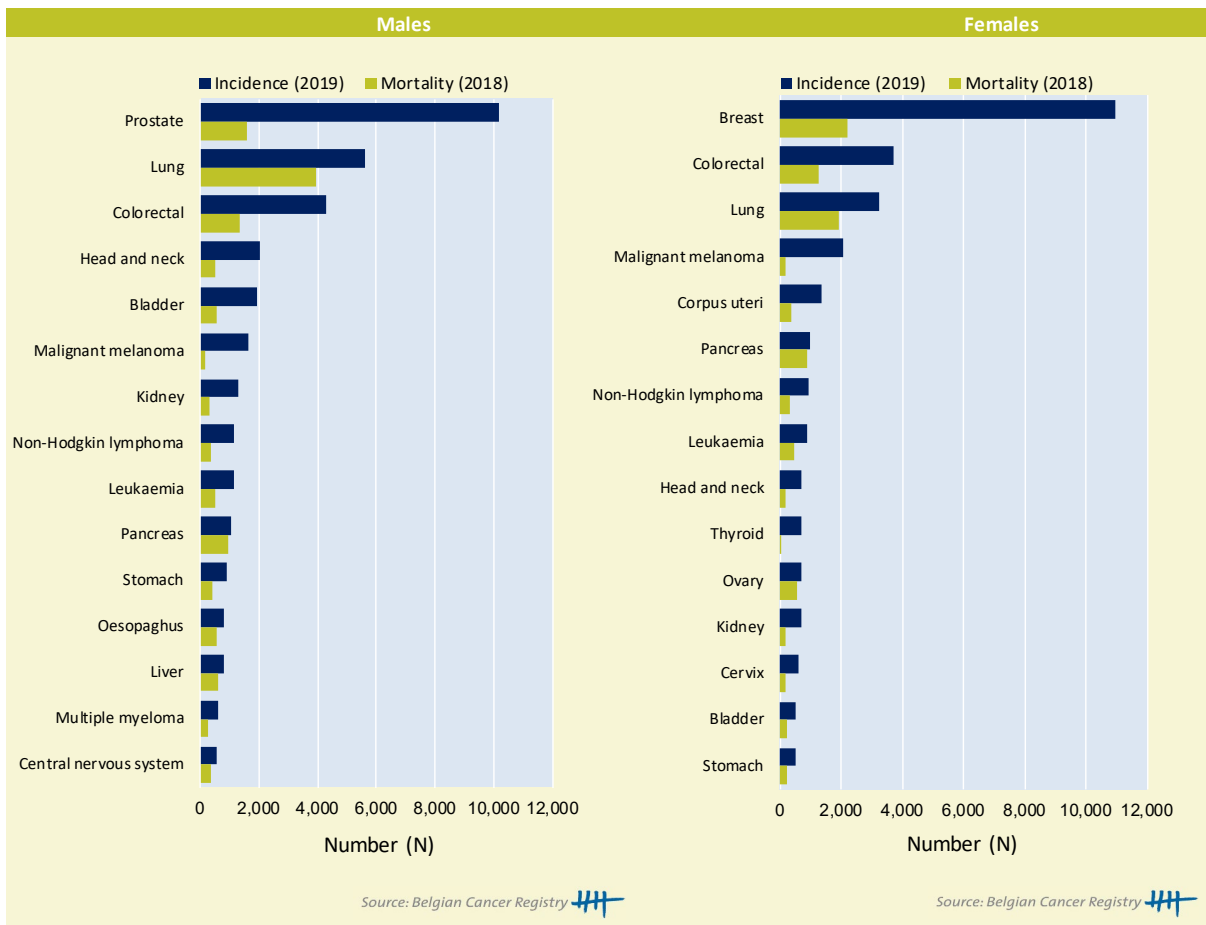
CR: crude (all ages) rate (N/100,000 person years)

WSR: age-standardised rate using the World Standard Population (N/100,000 person years)

Source: Belgian Cancer Registry 



**Figure 1** Incidence (N) and mortality (N) for the 15 most frequently diagnosed malignancies (excl. non-melanoma skin cancer) by sex in Belgium\*



\* All results are represented in the ICD-10 classification.

Oesophagus (C15) is defined without 'gastro-oesophageal junction (C16.0)'. The latter is included with stomach (C16).

The results for corpus uteri (C54-C55) include the data for 'uterus, NOS'. Central nervous system is defined as C70-C72 (meningioma included).

**Table 2** Incidence (N, 2019) and 5-year relative survival (5y-RS(%), 2015-2019) of the five most frequently occurring tumours by sex and age group in Belgium

Boys (0-19y)		N (2019)	5y-RS (%)	Girls (0-19y)		N (2019)	5y-RS (%)
Invasive tumours		216	85.8	Invasive tumours		198	87.2
1) Leukaemia		56	86.5	1) Leukaemia		44	90.2
2) Central nervous system		22	66.2	2) Central nervous system		24	65.9
3) Hodgkin lymphoma		22	99.2	3) Hodgkin lymphoma		24	98.0
4) Non-Hodgkin lymphoma		15	91.4	4) Soft tissue		18	83.1
5) Malignant bone tumours		13	67.7	5) Colon and rectum		15	96.5
Males (20-34y)		N (2019)	5y-RS (%)	Females (20-34y)		N (2019)	5y-RS (%)
Invasive tumours		604	89.2	Invasive tumours		807	91.3
1) Testicular cancer		178	98.8	1) Breast		198	91.9
2) Hodgkin lymphoma		60	99.2	2) Malignant melanoma		165	98.5
3) Malignant melanoma		60	92.6	3) Thyroid		83	99.6
4) Leukaemia		46	81.7	4) Hodgkin lymphoma		55	98.7
5) Colon and rectum		43	81.2	5) Cervix uteri		53	84.2
Males (35-49y)		N (2019)	5y-RS (%)	Females (35-49y)		N (2019)	5y-RS (%)
Invasive tumours		1,823	74.9	Invasive tumours		3,759	88.3
1) Malignant melanoma		222	94.7	1) Breast		1,848	94.5
2) Colon and rectum		201	74.8	2) Malignant melanoma		469	97.8
3) Lung		157	31.3	3) Thyroid		218	99.4
4) Testicular cancer		153	98.3	4) Cervix uteri		184	84.9
5) Head and neck		116	65.5	5) Colon and rectum		159	75.7
Males (50-69y)		N (2019)	5y-RS (%)	Females (50-69y)		N (2019)	5y-RS (%)
Invasive tumours		16,479	67.4	Invasive tumours		13,651	76.0
1) Prostate		4,756	98.2	1) Breast		5,096	94.1
2) Lung		2,470	26.2	2) Lung		1,703	32.9
3) Colon and rectum		1,692	75.8	3) Colon and rectum		1,203	77.7
4) Head and neck		1,255	51.7	4) Malignant melanoma		885	97.2
5) Malignant melanoma		740	92.6	5) Corpus uteri		564	87.1
Males (70+)		N (2019)	5y-RS (%)	Females (70+)		N (2019)	5y-RS (%)
Invasive tumours		19,450	59.0	Invasive tumours		14,664	60.5
1) Prostate		5,387	96.9	1) Breast		3,820	86.8
2) Lung		2,987	17.5	2) Colon and rectum		2,264	67.6
3) Colon and rectum		2,357	67.6	3) Lung		1,418	22.8
4) Bladder		1,325	52.9	4) Corpus uteri		723	76.8
5) Head and neck		674	51.8	5) Pancreas		581	6.3

Source: Belgian Cancer Registry 

\* The results for corpus uteri (C54-C55) include the data for 'uterus, NOS'. Central nervous system is defined as C70-C72 (meningioma included).

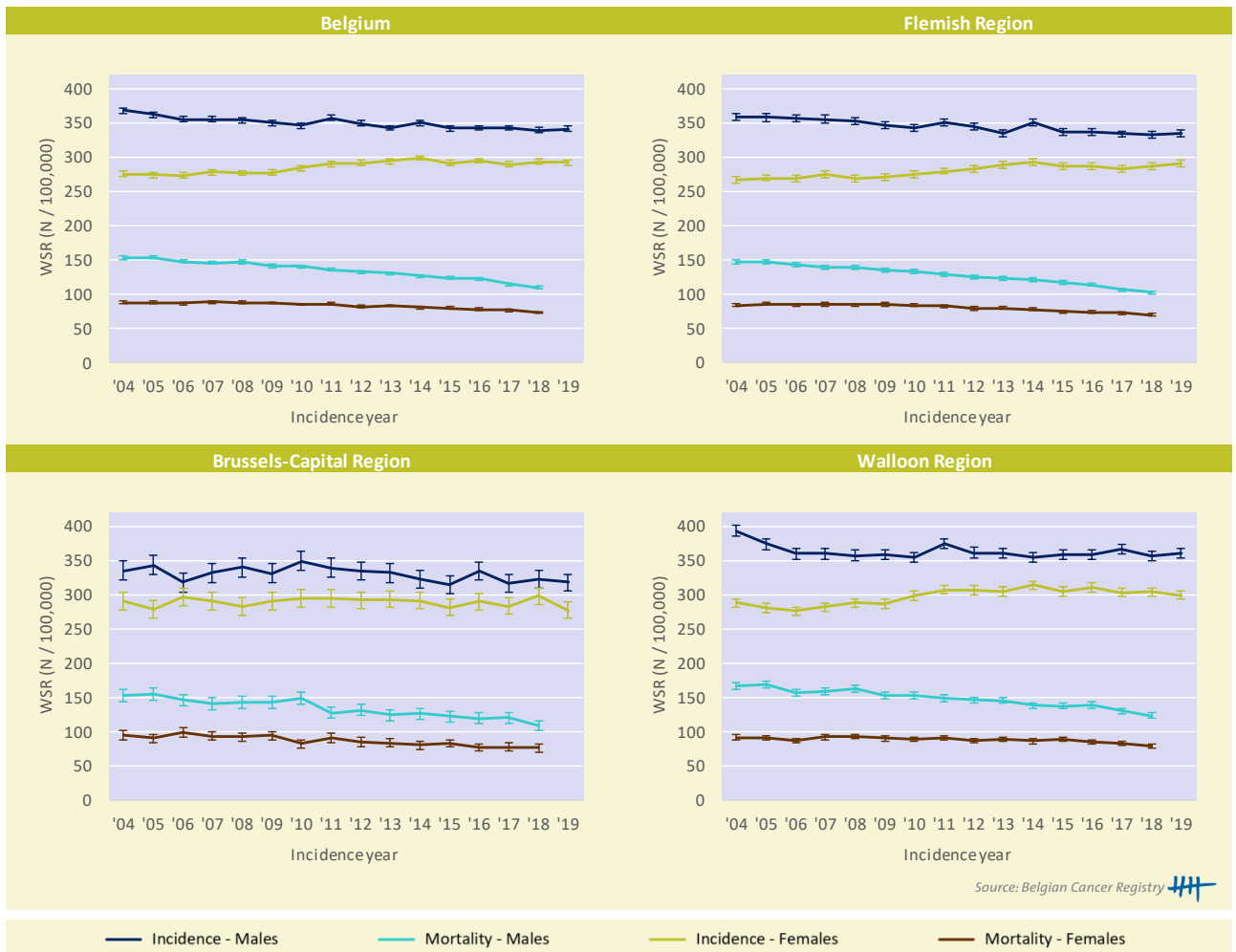
All results are represented in the ICD-10 classification, including the results of children and adolescents (0-19 years). The most recent results of cancer in children and adolescents according to the ICC-3 classification can be found in the following publication:

*Cancer in children and adolescents in Belgium 2004-2016*

More detailed results on haematological malignancies can be found in this publication: *Haematological malignancies in Belgium 2004-2018*

## 3.2 INCIDENCE TRENDS

**Figure 2** Invasive tumours (excl. non-melanoma skin cancer): Trends in age-standardised incidence and mortality (WSR) by sex and region, 2004-2019



\* The age-standardised incidence rates are represented with 95% Confidence Intervals.

**Table 3** Invasive tumours (excl. non-melanoma skin cancer): AAPC(%) by sex and region in Belgium

Invasive tumours (excl. non-melanoma skin cancer)	Males			Females			
	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period	
Incidence	Belgium	-0.4	[-0.6; -0.3]	2004-2019	0.4	[0.3; 0.5]	2004-2019
					0.2	[-0.3; 0.6]	2004-2008
					1.4	[1.1; 1.7]	2008-2013
	Flemish Region	-0.5	[-0.7; -0.4]	2004-2019	-0.3	[-0.5; 0.0]	2013-2019
					0.5	[0.3; 0.6]	2004-2019
					0.3	[-0.2; 0.7]	2004-2009
					1.5	[1.1; 2.0]	2009-2013
	Brussels-Capital Region	-0.4	[-0.7; -0.0]	2004-2019	0.0	[-0.4; 0.3]	2013-2019
					-0.1	[-0.3; 0.2]	2004-2019
	Walloon Region	-0.5	[-0.7; -0.3]	2004-2019	0.4	[0.2; 0.6]	2004-2019
-2.6					[-3.8; -1.5]	2004-2007	
Mortality	Belgium	-2.3	[-2.5; -2.1]	2004-2018	1.8	[1.3; 2.3]	2007-2013
					-0.6	[-1.1; -0.1]	2013-2019
					-0.3	[-0.7; 0.0]	2004-2011
	Flemish Region	-2.6	[-2.7; -2.4]	2004-2018	-2.0	[-2.4; -1.7]	2011-2018
					-1.3	[-1.5; -1.2]	2004-2018
					-1.5	[-2.0; -1.1]	2004-2008
	Brussels-Capital Region	-2.2	[-2.6; -1.8]	2004-2018	-2.3	[-2.5; -2.0]	2010-2018
					-4.5	[-5.1; -3.9]	2015-2018
	Walloon Region	-2.0	[-2.3; -1.7]	2004-2018	-1.7	[-2.2; -1.2]	2004-2018
					-1.6	[-2.0; -1.1]	2004-2011
Walloon Region	-2.7	[-3.7; -1.8]	2013-2018	-0.7	[-1.0; -0.4]	2004-2018	
				0.0	[-0.7; 0.7]	2004-2011	
Walloon Region	-2.7	[-3.7; -1.8]	2013-2018	-1.3	[-2.0; -0.6]	2011-2018	
				-1.3	[-2.0; -0.6]	2011-2018	

Source: Belgian Cancer Registry 

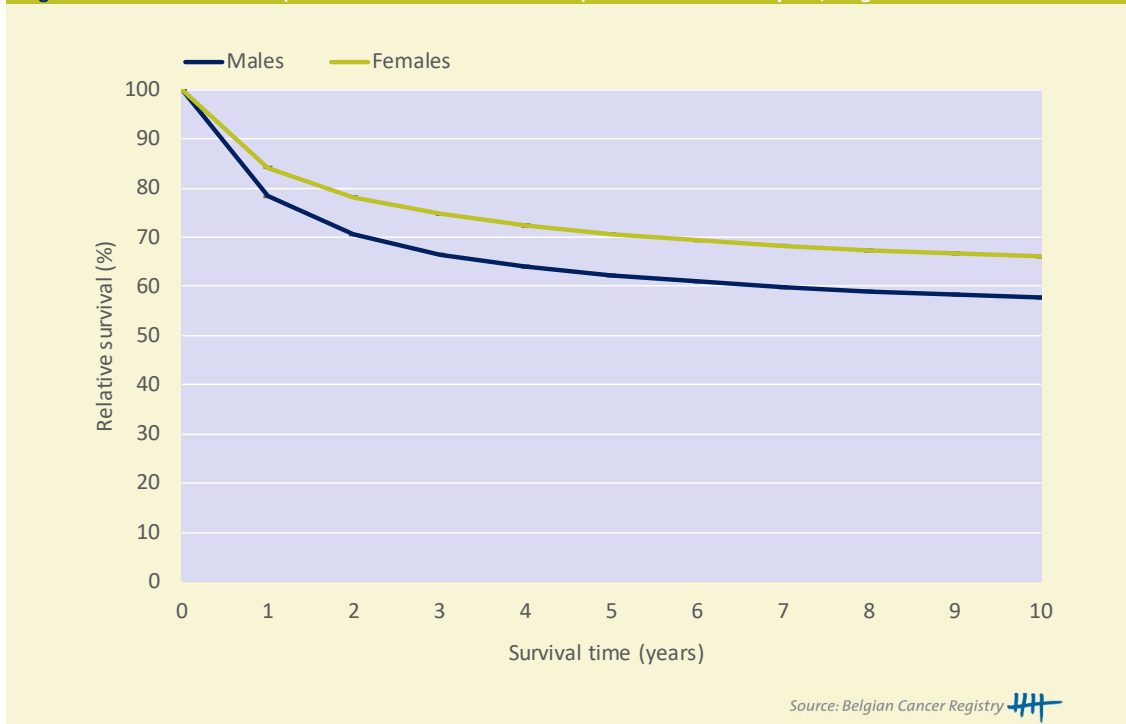
AAPC: average annual percentage change

Period: When a joinpoint occurred, APC's are calculated for the period before and after the joinpoint. This column represents the corresponding time interval.

AAPC's are always calculated over the entire study-period.

### 3.3 SURVIVAL

**Figure 3** Invasive tumours (excl. non-melanoma skin cancer): Relative survival\* by sex, Belgium 2008-2019



Source: Belgian Cancer Registry 

\* The relative survival values are represented with 95% Confidence Intervals

### 3.4 SURVIVAL TRENDS

**Figure 4** Invasive tumours (excl. non-melanoma skin cancer): 1-, 3-, 5- and 10-year relative survival (RS)\* by sex and region



\* The relative survival values are represented with 95% Confidence Intervals

