Belgian Cancer Registry

Cancer in an Ageing Population

Belgium 2004-2016

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Stichting Kankerregister – Fondation Registre du Cancer – Stiftung Krebsregister

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Contents

We dedicate this publication to all older people, who are confronted with a complex world of information and specific problems when facing their diagnosis and treatment of cancer. We sincerely hope that this work can contribute to a full-hearted response to the unique needs of the older population.

The Belgian Cancer Registry Team

List of acronyms

AAPC
Average Annual Percentage Change

APC
Annual Percentage Change

ATC
Anatomical Therapeutic Chemical

AViQ
Agence pour une Vie de Qualité

BCR
Belgian Cancer Registry

CBSS
Crossroads Bank for Social Security

CCI
Charlson Comorbidity Index

CR
Crude incidence rate

CRT
Chemoradiotherapy

CT
Chemotherapy

EFFECT
EFFectiveness of Endometrial Cancer Treatment

HPV
Human papilloma virus

HPV+
HPV-test positive

HPV-
HPV-test negative

IARC
International Agency for Research on Cancer

ICD
International Classification of Diseases

IMA/AIM
InterMutualistic Agency

LE
Local excision

MOC-COM
Multidisciplinary team meeting

MV%
Percentage of microscopically verified tumours

MZG
Minimale ZiekenhuisGegevens

NA
Not applicable

NNSS
National Number for Social Security

RCM
Résumé Clinique Minimum

RS
Radical Surgery

RT
Radiotherapy

SAS
Statistical Analysis System

sFTP
Secure File Transfer Protocol

SSIN
Social Security Identification Number

TCT
Technische Cel/Cellule Technique

TEM
Transanal endoscopic microsurgery

TME
Total mesorectal excision

UN
United Nations

WHO
World Health Organization

WSR
World Standardised incidence Rate

1 Introduction

1.1 Objectives and general structure

The main objective of this publication is to describe the epidemiological situation of cancer in the ageing population in Belgium between 2004 and 2016. With the general objective in mind, the following five topics will be addressed:

- The Introduction (**Chapter 1**) aims to describe the Belgian population and more specifically the ageing population. In addition, the BCR dataflow, methods and calculations are explained, all of which are essential to correctly interpret the presented data.
- **Chapter 2** aims to explore the availability and quality of registered cancer incidence data for the ageing population.
- Cancer Burden in an Ageing Population is presented in **Chapter 3**. The epidemiological situation of cancer is described by data on cancer incidence, prevalence, survival and mortality. This chapter aims to provide data in order to answer questions such as: 'Is cancer incidence higher in the older population?' ; 'What are the most common types of cancer in the older population?' ; 'What are the largest tumour related differences according to age?' or 'Is the cancer burden different between (older) males and females?'
- This publication also provides two Capita Selecta in **Chapter 4**. The objective of Capita Selecta 1 is to elucidate descriptive numbers on patient frailty and HPV status in oropharyngeal cancer in relation to age. Capita Selecta 2 aims to describe the real-world clinical management of older patients with colon and rectal cancer compared to younger patients.
- Finally, the **Appendix** gives an overview of the Cancer Burden data in Belgium (2016) in all age groups.

1.2 The Belgian population

Belgium **(Figure 1)** comprises an area of 30,528 square kilometres. On January 1st 2016, the Belgian population counted 11,267,910 legally registered inhabitants of which 49% (5,537,532) were males and 51% (5,730,378) were females. Compared to 2015, a relatively limited absolute population growth of 58,866 inhabitants (0.5%) is noticed [2].

The population is divided in the Flemish Region (6,477,804 inhabitants), the Walloon Region (3,602,216 inhabitants) and the Brussels Capital Region (1,187,890 inhabitants).

The population density is 369 inhabitants per square kilometre for Belgium, 479 for the Flemish Region, 214 for the Walloon Region and 7,361 for the Brussels Capital Region.

Figure 1 Belgium

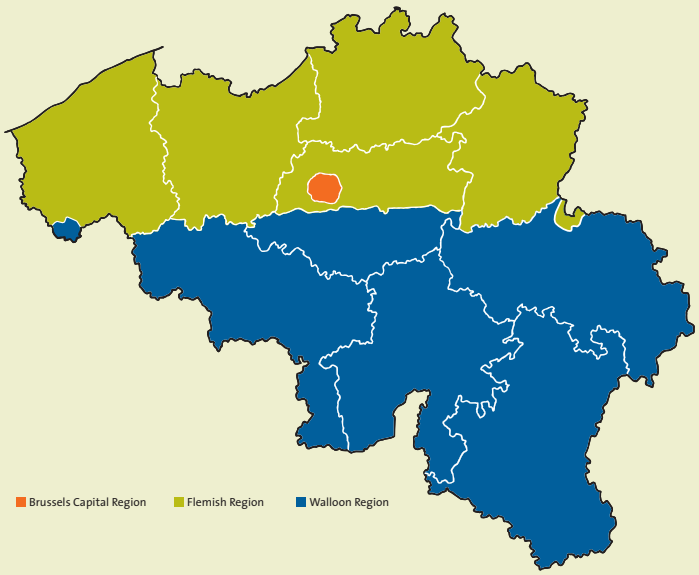


Figure 2 shows that on January 1st 2016, 13% of the Belgian population is 70 years of age or older and 5% is 80 years of age or older. The population peaks in the 50 to 54 years age group and the centre of gravity of the age pyramid situates itself between the ages of 45 and 60 years. The working age population (between 20-64 years of age) comprises 59% of the total population. This implies that anno 2016 the age pyramid has a relatively solid base but the relative share of the 'young' population (i.e. <30 years) decreased (thinning base) [2].

The proportion of Belgians of age 70+ years lies 1.2% lower than the European average but the proportion of Belgians of age 80+ years surpasses (0.1%) the European average (see **Figure 3** and **Figure 4**) [3].

According to the Directorate-general Statistics Belgium, life expectancy at birth in 2016 was 83.7 years in females and 78.8 years in males [2].

In conclusion, the Belgian population grows relatively slowly. In 2016 there were almost 1.5 million people aged 70 years or more. With a large proportion of the actual population between the ages of 45 and 60 years anno 2016, an important increase of Belgians in the 70+ and 80+ years age groups is to be expected for the near future.

Figure 2 Age pyramid of the Belgian population anno 2016

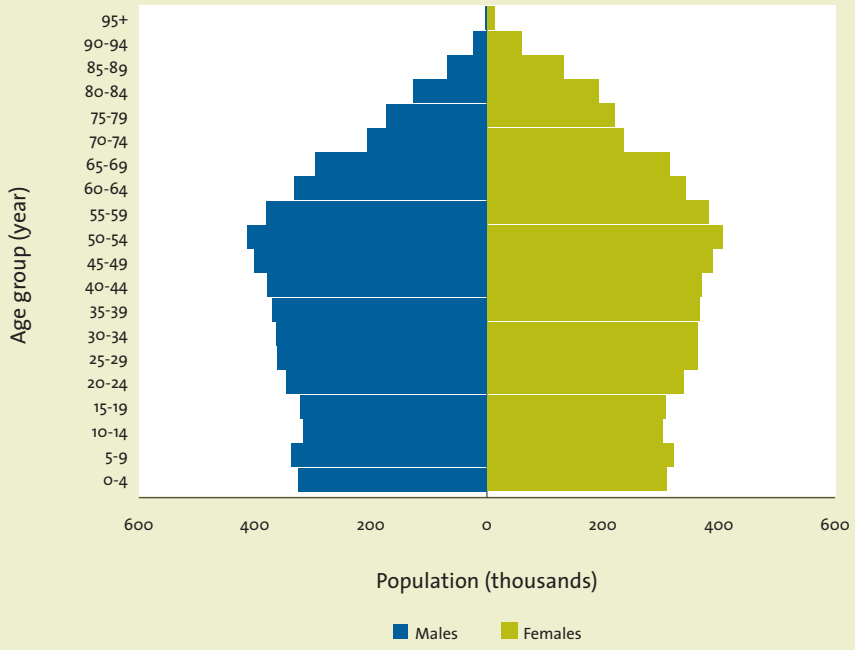


Figure 3 Proportion of 70+ years population in a selection of European countries (Source: Eurostat, 2016)

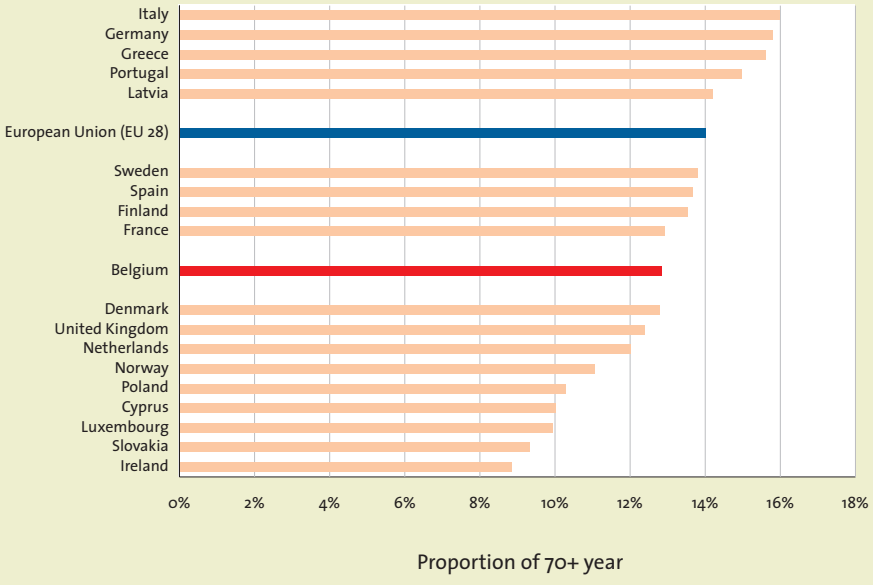
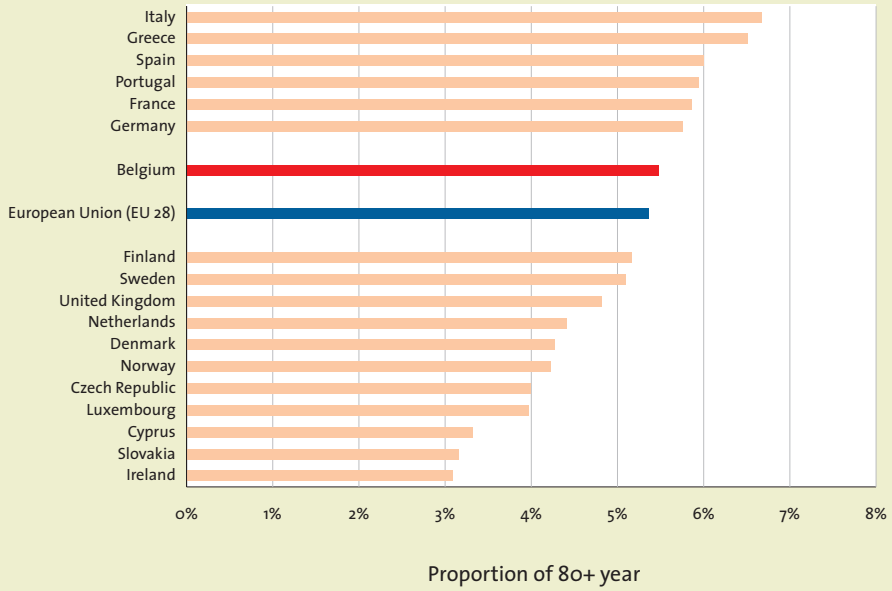


Figure 4 Proportion of 80+ years population in a selection of European countries (Source: Eurostat, 2016)



1.3 Defining the target population: "older patients"

Cutting off chronological age at a certain threshold above which all people are considered as 'old' is difficult. Most choices are arbitrary and depend on the setting, region, country and scientific interest. For developed countries, it seems plausible to take the retirement age, which is at present legally set at 65 years in Belgium. Also, the World Health Organization (WHO) recommends 65+ years to define the 'older' population for developed countries, yet the United Nations (UN) usually agrees on 60 years of age [4]. Any literature search will yield many different choices but no clear-cut working definition exists. Regardless of the actual clear-cut age threshold, the biological ages of the older population may differ greatly. Also in other respects this group is heterogeneous: differences in basic functioning, presence of comorbidities, socio-economical context etc. Since the focus of this work is on oncology, the setting is Belgium, a country with high life expectancy and a graying population, and cancer is known as a disease of older age, it was decided together with experts to focus on two different age groups throughout this publication: the cancer patients with chronological ages between 70 and 79 years and the cancer patients of 80+ years old. Both 'older' age groups are compared to the group of cancer patients aged between 15 and 69 years old. This definition also aligned perfectly with a recently approved research project the Belgian Cancer Registry will conduct with external collaborators entitled "The impact of geriatric screening and assessment on long term outcome of older patients with cancer".

Throughout this publication, the distribution in 3 different age groups (15-69, 70-79, 80+ years) was respected unless stated otherwise.

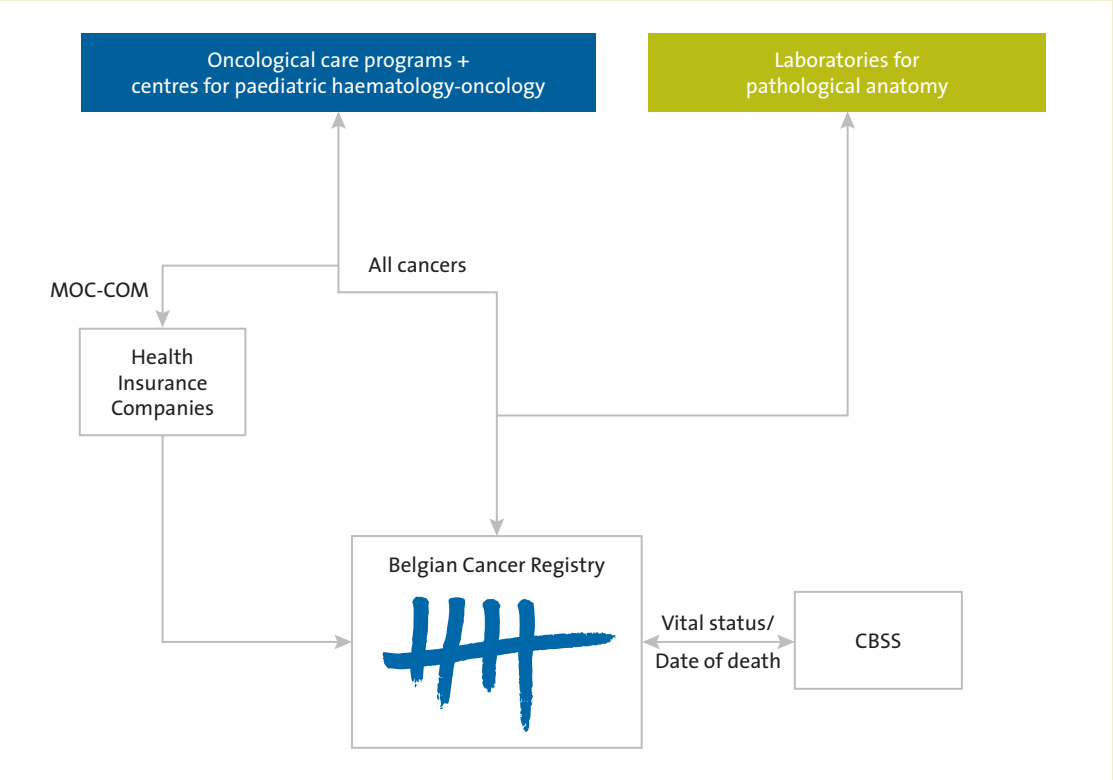
1.4 The Belgian Cancer Registry

1.4.1 Dataflow

The Belgian Cancer Registry is a national and population based cancer registry, collecting data on a national level since the incidence year 2004. The history of the Belgian Cancer Registry has been described in detail in previous publications [5-6].

Cancer registration in Belgium has a legal basis. In 2003 the Royal Decree concerning the oncological care programs [7] describing the reimbursement of the multidisciplinary oncological consult (MOC-COM) was enacted. Later on, in 2006, the law explicitly regarding the Cancer Registry [8] was created, making cancer registration compulsory for the oncological care programs and for the laboratories for pathological anatomy. Furthermore, the law authorizes the use of the national social security number (INSZ-NISS) as the unique identifier of the patient as well as linkage with other medical and/or administrative databases. Additionally, through linkage with the Crossroads Bank for Social Security (CBSS), this unique number enables the Cancer Registry to perform active follow-up on vital status and date of death of the patients.

Figure 5 Dataflow Belgian Cancer Registry



MOC-COM: Multidisciplinary Oncological Consult
CBSS: Crossroads Bank for Social Security

A thorough description of the role, the objectives and the dataflow of the Belgian Cancer Registry was reported in several previous publications [5-6;9-15]. The general dataflow (**Figure 5**) relies on information (notifications) coming from the oncological care programs (clinical network) and from the laboratories for pathological anatomy (pathology network). All hospitals have to send all cancer cases to the Belgian Cancer Registry, even if they are not discussed during a MOC-COM. The involved authorities together with several other organisations contribute financially to ensure the continuity of cancer registration in Belgium.

1.4.2 Methods & Calculations

1.4.2.1 Incidence and mortality

Incidence is the number of new cases occurring in a given time period in a specific population. It can be used to estimate the probability or risk of illness, and can be expressed in different ways. The incidence data presented in the current publication encompass the time period 2004-2016.

- The **crude incidence rate** (CR) is calculated by dividing the number of new cases observed during a given time period by the corresponding population time at risk in that time period. The crude rate is expressed as the number of new cases per 100,000 person years.
- The **age-specific incidence rate** is the crude incidence rate in a particular 5-year age group and expressed per 100,000 person years.
- The **age-standardised incidence rate** is a weighted average of the individual age-specific rates using an external standard population. It is the incidence that would be observed if the population had the age structure of the standard population (European or World Standard Population). Since age has a powerful influence on the risk of cancer, this standardisation is necessary when comparing several populations that differ with respect to their age structure. In this publication, the World Standard Population is used for standardisation and consequently World Standardised incidence Rates (WSR) are reported. These are expressed as the number of new cases per 100,000 person years.
- **Male/Female (M/F) ratios** are calculated by dividing the corresponding age-standardised incidence rates (WSR) unless stated otherwise.

The same principles are applied to calculate mortality data. Mortality represents the number of persons who died due to a malignancy in a given time period in a specific population.

Mortality statistics in Belgium are collected and treated by the three regions (Flemish Region: Agentschap Zorg en Gezondheid [16], Brussels-Capital Region: Observatorium voor Gezondheid en Welzijn van Brussel-Hoofdstad / l'Observatoire de la Santé et du Social de Bruxelles-Capitale [17], Walloon Region: Agence pour une Vie de Qualité (AViQ) [18]. The Directorate General Statistics Belgium [2] is responsible to collect and merge the data coming from the regional agencies. Mortality data used in this publication are collected from the Directorate General Statistics Belgium, and encompasses the time period 2004-2015.

1.4.2.2 Relative Survival

The **relative survival** ratio gives an estimate of the net survival, which is the survival when causes of death not related to the cancer have been eliminated. The relative survival is calculated as the ratio of the observed survival and the expected survival for a comparable group of the general population matched for age, sex, region and calendar period. The expected survival was obtained with the Ederer II method [19].

In this publication, mainly 5-year relative survival ratios are reported stratified by age group, sex and tumour type. Unless otherwise stated, survival proportions always refer to 5-year relative survival ratios. For all survival analyses cases with age younger than 15 years were excluded. The methodology was described in detail in our publication 'Cancer Survival in Belgium' [10].

The empirical life tables (by sex, age, region and calendar-year) [2], used in the calculation for expected survival, vary considerably by year of age for young (<30 years) and old ages (>90 years). To reduce the sampling variability and to ensure that death probabilities evolve consistently from one age and calendar year to another, the life tables were smoothed on age and calendar year using the LOESS-method [20-23].

Relative survival between the cohorts 2004-2009 and 2010-2016 has been compared. Remark that the follow-up period for both cohorts is not the same, as with a last date of follow-up at the 1st of July 2018, the follow-up for the 2010-2016 period is not complete.

The **conditional relative survival** reported in this publication is the relative survival proportion given that the person has already survived the first year since diagnosis. It is calculated as the standard relative survival, although only patients who survived the first year since diagnosis are considered. So the reported 5-year conditional relative survival therefore corresponds with the relative survival 6 years after diagnosis for patients that at least survived the first year since diagnosis.

1.4.2.3 Prevalence

Prevalence is the number of persons who are still alive at a given index date, and who received a cancer diagnosis during a specified time period preceding the index date. For example, 5-year prevalence is the number of persons who received at least one new diagnosis of cancer during a specific 5-year period and who are still alive at the end of the 5-year period. The prevalence data in this publication were estimated with an index date of 31st December 2016, representing people living in Belgium who were diagnosed with at least one invasive malignancy in the period from 1st January 2012 to 31st December 2016 and who were still alive at the end of 2016 (index date) for 5-year prevalence or from 1st January 2007 to 31st December 2016 for 10-year prevalence. Persons with more than one malignancy were included as prevalent cases in each cancer type, but were counted only once in analyses regrouping multiple tumour sites.

The methodology used was described in detail in our publication 'Cancer Prevalence in Belgium 2010' [12].

1.4.2.4 Incidence Trends

Trends in age-standardised incidence and mortality rate (WSR) were quantified by the Annual Percentage Change (APC), which expresses a mean multiplicative change per year. Trends and APC calculations are given by sex and age group. Stratification by stage, localisation or morphology is given for some selected cancer sites. The APC is estimated from a least squares regression on the logarithm of the age-standardised rate (WSR) versus incidence year. Due to the log transformation, no APC can be obtained if the WSR is zero for at least one year (This is indicated by '-' in the tables).. In cases where the relation of the WSR with incidence year cannot be adequately fit with a log-linear model (i.e. a constant APC for the full data range cannot be assumed), a piecewise log-linear model was estimated in which the different linear segments are connected at certain joinpoints. This model results in an estimated APC per time segment of which an Average Annual Percentage Change (AAPC) is calculated as the average of the APC estimates per segment weighted by the corresponding segment length [24].

The model building process on the logarithm of the WSR was fully automated in SAS (version 9.3) and consists of the following steps:

1. The simple linear regression model, assuming a normal error structure, was compared with a non-parametric smoother fit (PROC REG and PROC LOESS respectively) using an F-test on the residual sets for both models. When the linear regression model was not significantly different from the smoother at the 5% level, the linear model was accepted as final model and a single APC value resulted to quantify the trend over the full time range.
2. When the linear model at the log scale was rejected, a piecewise model with one joinpoint was fitted. The optimal position of the joinpoint was determined using a non-linear optimisation procedure (PROC NLIN). Joinpoints were not allowed to be the first or second time point or the before last and last time point, as those endpoints can be influential points and induce spurious segments. The estimated joinpoint position was rounded to the nearest integer value and fixed in a re-estimation of the piecewise model with PROC GENMOD. As in the previous step, an F-test was used to accept or reject the piecewise model against the smoother. When the regression model was accepted, the final model consisted of a piecewise model with two connected linear segments each quantified by their own APC and a weighted overall AAPC.
3. When the piecewise model with one joinpoint was not accepted, the process continues to evaluate two joinpoints in the same way as described in step 2. As an additional restriction, the difference in position between the two joinpoints should be at least three years. If the two joinpoints were closer, the piecewise model with only one joinpoint from the previous step was retained.

A 95% confidence interval (CI) and p-value for the individual segments and the overall AAPC were calculated from the final regression model. The loss in degrees of freedom due to the optimisation of the joinpoint position(s) was not taken into account for the construction of the CI and final p-values. When the 95% CI for the AAPC contains the value zero, no significant trend with incidence year is observed.

Combined changes in trends of incidence, mortality and survival can have various causes and are often difficult to interpret and are not considered as an objective of this publication. However, a manuscript by Karim-Kos *et al*. on trends of cancer in Europe provides an excellent framework to help gaining insights and provide possible explanations for the observed trends [25].

1.4.2.5 Cancer Maps

Incidence and mortality maps for Belgium were created using the methodology developed at the Finnish Cancer Registry [5]. The algorithm for this methodology was incorporated into an in house developed software application of the BCR. The geographic representations use municipality specific age standardised rates (WSR). Cities with at least 100,000 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 WSR in that city. The 19 municipalities of the Brussels Capital Region (more than 1,000,000 inhabitants) were divided in three separate circles. This division was based on socio-economic parameters [9]. The socio-economic status is lowest in the westernmost circle and highest in the easternmost circle. Rates (WSR) from the remaining municipalities were smoothed. For each grid (0.25 km^2) on the map, a rate was calculated as a weighted average of the WSR in all neighbouring municipalities within 150 km from the centre of the grid. The weights were inversely associated with the distance, the weight being halved at a distance of 25 km. In addition, the weights were directly proportional to the sizes of populations of the municipalities within the radius of 150 km. A relative scale was applied. A change in colour level corresponds to a 1.07-fold change in the WSR.

The incidence maps presented in the current publication encompass the period 2004-2016, whereas the mortality maps cover the period 2004-2015. The cancer maps provided in this publication have to be considered additional to the tables with the incidence and mortality data per region as they also unveil small or large incidence/mortality patterns within the Belgian regions. Although these maps may generate numerous hypotheses, their discussion is beyond the scope of this publication.

2 Availability and quality of incidence data in the older population

2.1 Is the registration of tumours less complete in the older population?

Completeness is the extent to which all incident cancers in the Belgian population are incorporated in the Belgian Cancer Registry. Incidence rates will approximate their true value if maximum completeness in the case-finding procedures can be achieved.

The BCR validates its completeness on a regular basis. Currently, we estimate the database of the BCR to be more than 95% complete [5], with the incompleteness being more likely due to older patients with a very poor prognosis at diagnosis on the one hand and outpatients with a mere clinical diagnosis on the other hand.

2.1.1 Independent data set method

The independent data set method is a technique to verify the completeness of cancer registration by validating the presence of cancer cases recorded in an independent - sometimes project-specific - database with the general database at the BCR [26].

Overall completeness is routinely evaluated using the independent data set method. Record linkage with specific datasets for endometrial and prostate cancer resulted in an overlap between 98.6% and 100% [5]. Using data from a multicentre prospective registration project on endometrial carcinoma (EFFECT-EFFectiveness of Endometrial Cancer Treatment), revealed that 871 out of 876 cases (99.4%) diagnosed in 2015, were present in the cancer registry database of the BCR. A registration project on prostate cancer revealed that 1,473 out of 1,503 cases (99.8%) diagnosed in 2015, were present in the cancer registry database of the BCR.

The BCR also receives the death certificates. Ninety-eight percent (98%) of all deaths (period 2004-2014) stated with cause of death 'cancer' were known in the cancer registry database of the BCR. This result establishes our assessment of the current completeness of the BCR database.

A recent study performed at the BCR deals specifically with the assessment of the completeness and the correctness of the malignant mesothelioma registration in Belgium [27]. Therefore, three independent national databases were used, i.e. the general cancer database of the BCR, the death certificates and the Belgian Mesothelioma Registry (BMR).

2.1.2 Overlap between clinical and pathology network

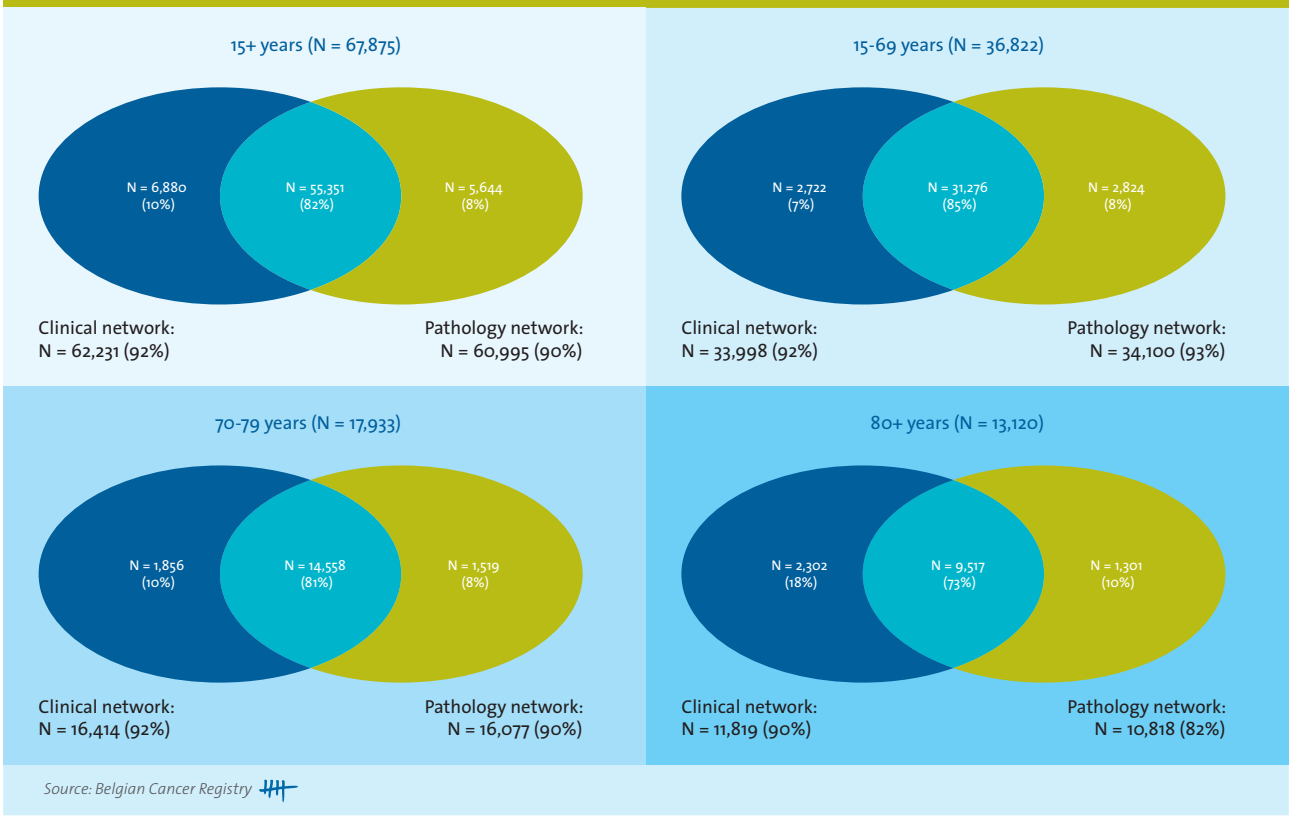
Through linkage of data coming from different sources, information becomes more complete, precise and reliable.

When considering the two main source types (**Figure 1**), i.e. the laboratories for pathological anatomy (pathology network) versus the oncological care programs (clinical network), 82% of all malignancies were notified by both groups (double notification) in Belgium in 2016.

There are differences depending on the age of the patients. Cancers of people aged 80+ years are less often reported by both networks (73%), 18% of the tumours are not recorded by the pathology network while 10% of the tumours are not recorded by the clinical network. The lower number of notifications via the pathology network is probably due to a lower number of surgery or biopsies that are performed in older patients. Tumours in patients aged 15 to 69 years and aged 70 to 79 years are better recorded with a double notification proportion of 85% and 81%, respectively.

The age of the patients is an important factor because the diagnostic procedure and the medical management of cancer are adapted to the general state of health of the patient and to his life expectancy. Older patients who receive a more passive treatment approach are more likely to escape clinical cancer registration as they are often treated in a geriatric hospital unit which could be associated with a lower systematic discussion on a multidisciplinary oncological consult (MOC-COM). The lack of biopsies or surgery in some of these cases also precludes registration by the pathology network.

Figure 1 Invasive tumours, excl. non melanoma skin cancer: combination of notifications by source type and age group, Belgium 2016



Source: Belgian Cancer Registry

Table 1 presents tumour specific notification rates by source type for three age groups (15-69 years, 70-79 years and 80 years or older).

For all cancer types, except for malignant melanoma and stomach cancer, the double notification rate decreases with age. The notification rate of cases only registered by the clinical network increases with age for many cancers, including haematological malignancies and cancer of the lung, pancreas, kidney, liver, gallbladder, biliary tract and central nervous system. For several cancers in older patients,among which those with high incidence rates such as head and neck, oesophagus, rectal, breast, prostate and bladder cancer, a slight increase is observed of the registration of cases only delivered by the pathology network.

2.1.3 Mortality/Incidence ratios

Mortality/incidence ratios (M/I ratios) reflect the relationship between the number of deaths (derived from the mortality statistics) and the number of new cancer cases, both with reference to a specific type of cancer and the same period of time (**Table 2**). Concerning this publication, the period of time studied for the M/I ratios is 2004-2015 since mortality statistics of 2016 were not yet available.

These cancer cases and deaths do not necessarily refer to the same patients, but rather to the same diagnosis. M/I ratios greater than 100% reflect under-reporting of incident cancer cases and/or inaccurate mortality statistics. Unfortunately, death certificates are frequently not filled in by the treating physician, which can partly explain inaccuracies in the mortality statistics. In liver cancer for example, it might be possible that the mortality statistics also include cases of liver metastases, mistakenly characterized as primary liver cancer, whereas in case of pancreatic cancer, an under-registration of new cases at the BCR can be assumed (likely attributed to older patients and/or patients with a very poor prognosis).

Table 1 Combination of notifications by cancer type (following ICD10), source type and age group, Belgium 2016

		15-69 years				70-79 years				80+ years			
ICD10	Tumour type	Incidence (N)	% Only Clinical	% Clinical + Pathological	% Only Pathological	Incidence (N)	% Only Clinical	% Clinical + Pathological	% Only Pathological	Incidence (N)	% Only Clinical	% Clinical + Pathological	% Only Pathological
C00-C43;C45-C97 + MDS/MPN	Invasive tumours (excl. non melanoma skin cancer)	36,822	7	85	8	17,933	10	81	8	13,120	18	73	10
C00-C14;C30-C32	Head and neck	1,868	5	88	7	542	6	89	5	279	8	80	13
C15-C16.0	Oesophagus	833	3	92	5	372	5	90	5	286	3	85	11
C16.1-C16.9	Stomach	443	6	79	16	251	6	82	12	316	4	84	11
C18-C19	Colon	2,409	3	91	6	1,855	2	91	7	1,786	5	88	7
C20	Rectum	1,173	3	93	5	675	3	93	5	558	3	89	7
C22	Liver	500	40	56	4	268	40	56	4	164	50	46	4
C23-C24	Gallbaldder and biliary tract	172	9	83	8	151	18	76	6	138	45	44	11
C25	Pancreas	826	12	83	5	527	17	75	8	426	41	54	6
C34	Lung	4,309	10	86	5	2,504	13	81	6	1,361	32	62	6
C43	Malignant melanoma	2,143	3	71	25	508	4	70	26	416	3	73	24
C45	Mesothelioma	92	9	90	1	105	8	88	5	74	14	72	15
C50	Breast	7,226	2	96	2	2,015	2	95	3	1,605	3	92	5
C53	Cervix uteri	517	2	91	7	82	7	88	5	41	10	88	2
C54	Corpus uteri	698	4	92	4	464	2	94	4	276	6	89	5
C56	Ovary	416	6	88	5	193	6	91	3	140	10	84	6
C61	Prostate	4,557	3	89	8	3,025	3	86	11	1,468	8	79	13
C62	Testis	391	4	92	4	8	0	88	13	-	-	-	
C64	Kidney	995	9	82	8	467	18	73	9	331	50	44	7
C67	Bladder	797	3	85	12	766	4	81	15	783	5	79	17
C70-C72	Central nervous system	566	10	88	3	178	10	84	6	102	41	53	6
C73	Thyroid	868	7	80	13	118	8	81	11	54	11	81	7
C81	Hodgkin lymphoma	286	6	86	8	27	11	89	0	24	17	67	17
C82-C85	Non-Hodgkin lymphoma	943	11	79	10	562	15	75	10	447	23	64	12
C88	Malignant immunoproliferative diseases	182	27	60	13	96	23	67	10	84	42	50	8
C90	Multiple myeloma	367	25	65	9	308	31	62	7	226	43	50	6
C91	Lymphoid leukaemia	508	57	35	7	276	61	28	11	210	73	23	3
C92	Myeloid leukaemia	335	25	69	6	171	37	54	9	141	43	49	8
C93	Monocytic leukaemia	37	16	76	8	60	38	53	8	43	56	37	7
C94-C95	Leukaemia other	14	21	79	0	3	33	0	67	8	100	0	0
MPN	Myeloproliferative neoplasms	385	49	39	11	236	61	31	8	168	65	26	9
MDS	Myelodysplastic syndromes	253	40	43	17	247	56	36	8	316	59	31	10

Source: Belgian Cancer Registry

The mortality /incidence ratios increase with age. The fact that patients aged 80+ years have a higher M/I ratio can be interpreted by several factors combined:

- An increased mortality due to a lower survival with age
- The risk of developing cancers that are less frequent in older people
- Fewer diagnostic tests are performed in older patients and thus a lower case detection in hospitals, with negative repercussions on registration and incidence
- More often, a symptomatic or palliative therapeutic approach is performed in older people
- Shift in time between incidence and mortality: patients die at an older age than the age at the time of diagnosis, or they die of a previously undiagnosed cancer
- If the localisation of metastases is incorrectly coded as the primary tumour site, this introduces a bias that is potentially more pronounced in older patients.

Table 2 Mortality / Incidence ratio by tumour type and age group, Belgium 2004-2015

		15-69 years			70-79 years			80+ years		
ICD10	Tumour type	Incidence	Mortality	M/I ratio (%)	Incidence	Mortality	M/I ratio (%)	Incidence	Mortality	M/I ratio (%)
C00-C14;C30-C32	Head and neck	22,170	5,870	26	5,633	2,017	36	2,784	1,453	52
C15	Oesophagus	6,510	4,179	64	2,876	2,302	80	1,853	1,923	104
C16	Stomach	7,360	3,088	42	5,190	2,674	52	4,833	3,656	76
C18-C19	Colon	27,921	7,708	28	23,471	8,683	37	20,034	12,409	62
C20	Rectum	13,992	1,890	14	8,574	1,895	22	5,896	2,352	40
C22	Liver	4,349	3,544	81	2,461	3,140	128	1,156	2,882	249
C23-C24	Gallbladder and biliary tract	1,707	447	26	1,540	633	41	1,257	916	73
C25	Pancreas	7,798	6,334	81	5,550	5,999	108	3,461	6,130	177
C34	Lung	49,217	34,377	70	29,481	25,516	87	13,750	17,547	128
C43	Malignant melanoma	18,304	1,907	10	4,326	937	22	2,910	936	32
C45	Mesothelioma	1,317	908	69	1,202	1,041	87	612	655	107
C50	Breast	82,933	12,040	15	22,067	6,924	31	15,491	8,939	58
C53	Cervix uteri	6,079	1,224	20	885	426	48	628	450	72
C54-C55	Corpus uteri	8,916	1,223	14	5,275	1,392	26	3,104	1,753	56
C56	Ovary	5,762	2,959	51	2,710	2,463	91	1,763	2,566	146
C61	Prostate	52,796	2,336	4	37,383	5,461	15	15,318	9,580	63
C62	Testis	3,742	95	3	45	13	29	19	19	100
C64	Kidney	10,378	2,195	21	5,297	2,093	40	2,562	2,367	92
C67	Bladder	9,233	2,237	24	9,272	3,233	35	8,133	4,970	61
C70-C72	Central nervous system	6,395	4,482	70	1,998	1,907	95	762	1,005	132
C73	Thyroid	8,482	298	4	1,111	313	28	441	323	73
C81	Hodgkin lymphoma	3,060	280	9	322	151	47	174	165	95
C82-C86	Non-Hodgkin lymphoma	11,663	2,355	20	6,421	2,592	40	4,544	3,223	71
C88	Malignant immunoproliferative diseases	1,511	61	4	804	112	14	617	236	38
C90	Multiple myeloma	4,021	1,324	33	2,971	1,871	63	1,808	2,100	116
C91-C95	Leukaemia	9,659	2,959	31	5,105	3,391	66	3,498	4,735	135

Source: Belgian Cancer Registry

2.1.4 Microscopically verified tumours

Validity of the diagnosis is likely to be higher if it is based on histological or cytological examination. The percentage of microscopically verified tumours (MV%) is a positive indicator of validity; however, a very high MV% could suggest an over-reliance on the pathology laboratory as a source of information and a failure to detect cases diagnosed by other means.

The MV% for all malignancies (excl. non-melanoma skin cancer) is currently 97% in Belgium. Compared to other registries, the results for Belgium are rather high [28]. MV% is lower for cancer of the liver (67%), gallbladder and biliary tract (84%), pancreas (88%), kidney (86%), lung (91%) and central nervous system (91%).

A higher MV% is observed for the youngest age group (15-69 years). For all invasive tumours together (excl. non-melanoma skin cancer), there is a 5.3% difference in MV% between the age group 15-69 years and 80+ years (Table 3). The largest differences are observed for gallbladder and biliary tract, pancreatic, lung and renal cancer and tumours of the central nervous system (i.e. a difference of 19% to 30% between the youngest and the oldest age group).

Table 3 Microscopic verification (MV%) by tumour type and age group, Belgium 2016

ICD10	Tumour type	15+ years	15-69 years	70-79 years	80+ years
C00-C43,C45-C97, MDS and MPN	Invasive tumours (excl. non melanoma skin cancer)	96.7	98.5	97.0	91.4
C00-C14,C30-C32	Head and neck	99.0	99.4	98.7	97.1
C15-C16.0	Oesophagus	99.6	99.9	99.5	99.0
C16.1-C16.9	Stomach	99.6	99.8	99.6	99.4
C18-C19	Colon	98.8	99.8	99.5	96.9
C20	Rectum	99.4	99.7	99.6	98.4
C22	Liver	66.6	67.8	68.7	59.8
C23-C24	Gallbladder and biliary tract	84.2	94.8	89.4	65.2
C25	Pancreas	87.6	96.0	91.5	66.7
C34	Lung	91.1	95.8	92.1	74.1
C43	Malignant melanoma	99.9	100.0	100.0	99.5
C45	Mesothelioma *	100.0	100.0	100.0	100.0
C50	Breast	99.8	100.0	99.7	99.0
C53	Cervix uteri	99.5	100.0	100.0	92.7
C54	Corpus uteri	99.2	99.7	100.0	96.7
C56	Ovary	97.3	98.6	98.4	92.1
C61	Prostate	98.8	99.8	99.4	94.6
C62	Testis	100.0	100.0	100.0	-
C64	Kidney	86.2	95.6	87.6	55.9
C67	Bladder	98.8	99.4	98.8	98.2
C70-C72	Central nervous system	91.3	96.3	91.6	62.7
C73	Thyroid	99.6	100.0	99.2	94.4
C81-C96 + MDS/MPN	Haematological malignancies	99.7	99.9	99.9	99.2

MDS: Myelodysplastic syndrome
MPN: Myeloproliferative neoplasms
** Due to registration guidelines a diagnosis of mesothelioma is only possible after microscopic confirmation*

Source: Belgian Cancer Registry

Conclusion

- In conclusion, the data show that cancer registration is indeed more likely to be incomplete for older patients compared to the younger patients, and this applies to notifications coming from both the clinical and the pathology network.
- Whereas the previous section focused on the completeness of the registration of tumours, the following section will elaborate on the impact of age on the availability of more detailed tumour information such as stage, tumour localization and morphology.

2.2 Is tumour information less detailed in the older population?

Validity or accuracy refers to the proportion of cases in a dataset with a given characteristic (e.g. cancer site, histology, age at diagnosis ...) which truly has the attribute. The validity of the data strongly depends on the quality of information offered by the sources. All information that enters the BCR is submitted to an extended set of automated and manual validation procedures based on the IARC guidelines [29] to ensure validity and quality of the data. If required, the data source in question is consulted to provide additional details for cases with an uncertain diagnosis, insufficient, erroneous or conflicting information.

2.2.1 Availability of information on stage

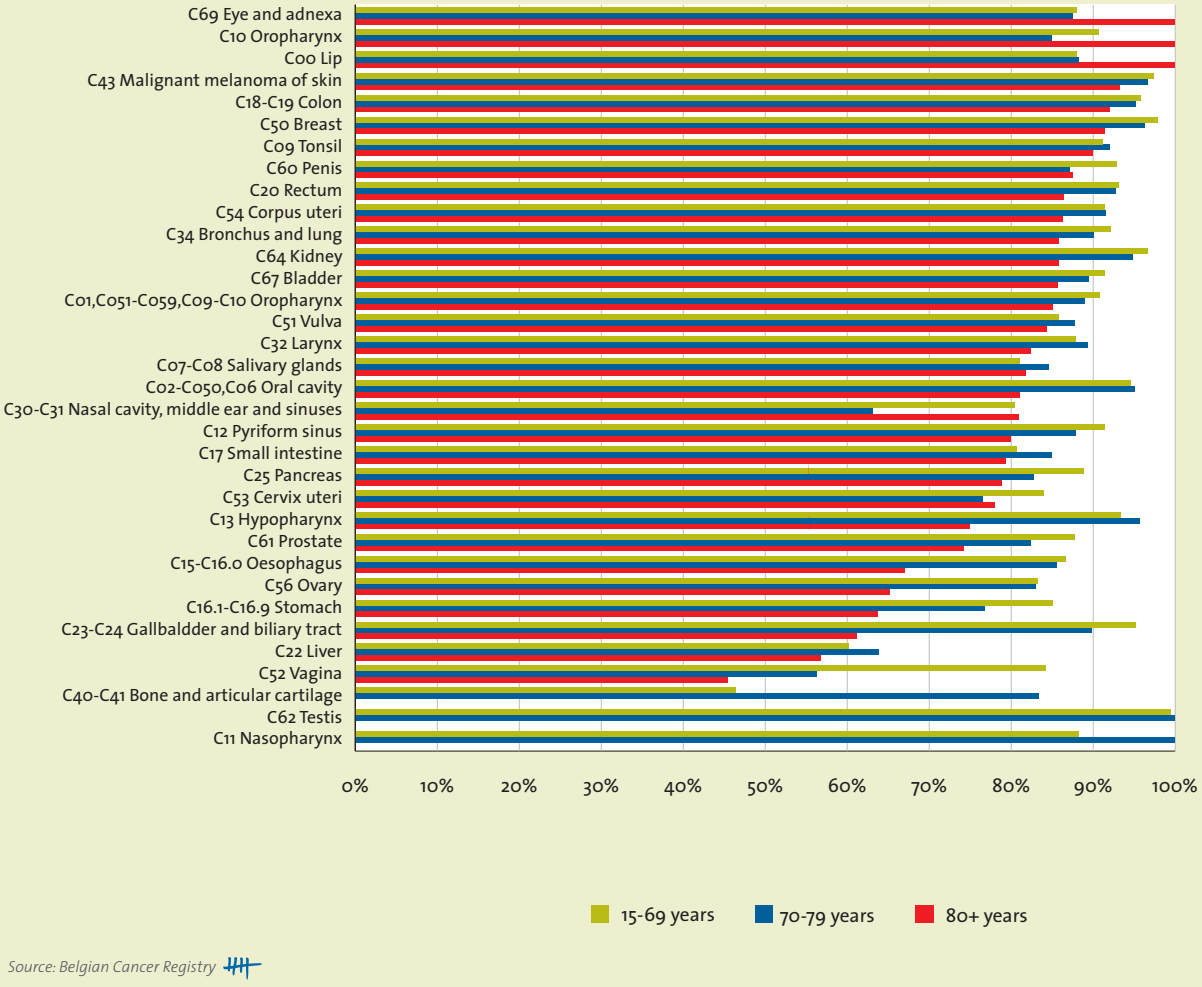
The proportion of cases with known values is also an indicator of the quality of the data. Table 4 demonstrates the percentage of registered cases in Belgium with known values for TNM stage by tumour type and age group. Information on clinical (i.e. cTNM) and pathological stage (i.e. pTNM) is provided separately. For reporting motives, both staging systems are (sometimes) merged into a 'combined TNM stage' at the BCR. To determine these 'combined' stages, in general, the pathological stage prevails over the clinical one except for cases diagnosed with clinical stage IV (i.e. category cM1 for most cases). The availability of clinical TNM data depends notably on the primary tumour site, and, for most cancer types, it is expected that more cTNM data are available than the amount reported at BCR. Nevertheless, an enhancement has been observed over time. Pathological TNM data should almost always be available for tumours for which surgery was performed. Hence, for tumour sites with little surgical treatment (e.g. cancer of the lung, pancreas, nasopharynx, oropharynx ...), the availability of pathological TNM data will be low.

In general, stage availability is the lowest in older patients (i.e. 80+ years). For many cancers, there is already a noticeable decrease in availability of stage information from the age of 70 years old (Figure 2).

Especially the availability of pathological stages decreases with age. In patients older than 80 years, the availability of pathological stage is notably lower for oral cavity (54%), oesophageal (16%), stomach (35%), small intestinal (48%), rectal (59%), liver (10%), biliary (31%), pancreatic (20%), lung (12%), breast (59%), cervix uteri (20%), corpus uteri (72%), ovarian (30%), prostate (7%) and renal cancer (48%) (Table 4). This is most probably due to the less frequent use of surgical treatment in older patients and is also consistent with the lower availability of microscopic tumour confirmation with age (see section 2.1.4 Microscopically verified tumours).

Clinical stages are also less available for some cancers in older patients (i.e. 80 + years) e.g. for oesophagus (60%), stomach (45%), rectal (68%), prostate (71%) and biliary cancer (33%).

Figure 2 Availability of information on stage (combined) by age group, only for stageable tumours, Belgium 2016



Source: Belgian Cancer Registry

2.2.2 Availability of information on tumour localisation

Some cancer diagnoses are only based on the observation of secondary lesions (metastases). These cancers are then stated as cancers with an unknown primary localisation. This proportion gradually increases with age. In the younger age group, the percentages are 1.4% and 1.0% for males and females, while the proportions rise to 2.2% and 2.9% for males and females in the oldest patient group (80+ years).

Table 4 Availability of information on stage (clinical, pathological and combined), only for stageable tumours, Belgium 2016

	15+ years							15-69 years							70-79 years							80+ years						
		cTNM		pTNM		Combined TNM stage			cTNM		pTNM		Combined TNM stage			cTNM		pTNM		Combined TNM stage			cTNM		pTNM		Combined TNM stage	
Tumour localisation	Total	N	%	N	%	N	%	Total	N	%	N	%	N	%	Total	N	%	N	%	N	%	Total	N	%	N	%	N	%
C00 Lip	56	31	55	47	84	51	91	25	15	60	21	84	22	88	17	7	41	15	88	15	88	14	9	64	11	79	14	100
C02-C050,C06 Oral cavity	637	461	72	442	69	593	93	440	321	73	314	71	416	95	123	95	77	88	72	117	95	74	45	61	40	54	60	81
C01,C051-C059,C09-C10 Oropharynx	772	654	85	169	22	696	90	589	507	86	127	22	535	91	136	109	80	35	26	121	89	47	38	81	7	15	40	85
C07-C08 Salivary glands	138	69	50	78	57	113	82	79	39	49	46	58	64	81	26	12	46	14	54	22	85	33	18	55	18	55	27	82
C09 Tonsil	296	256	86	65	22	270	91	226	197	87	49	22	206	91	50	43	86	14	28	46	92	20	16	80	2	10	18	90
C10 Oropharynx	206	179	87	29	14	185	90	161	142	88	24	15	146	91	40	32	80	4	10	34	85	5	5	100	1	20	5	100
C11 Nasopharynx	60	52	87	4	7	54	90	51	44	86	2	4	45	88	9	8	89	2	22	9	100	-	-	-	-	-	-	-
C12 Pyriform sinus	194	171	88	38	20	175	90	151	134	89	30	20	138	91	33	29	88	7	21	29	88	10	8	80	1	10	8	80
C13 Hypopharynx	87	81	93	10	11	81	93	60	56	93	5	8	56	93	23	22	96	5	22	22	96	4	3	75	0	0	3	75
C15-C16.0 Oesophagus	1,477	1,090	74	544	37	1,221	83	828	638	77	356	43	718	87	367	283	77	142	39	314	86	282	169	60	46	16	189	67
C16.1-C16.9 Stomach	793	450	57	379	48	599	76	328	213	65	189	58	279	85	181	108	60	92	51	139	77	284	129	45	98	35	181	64
C17 Small intestine	266	115	43	168	63	217	82	135	49	36	95	70	109	81	73	37	51	45	62	62	85	58	29	50	28	48	46	79
C18-C19 Colon	6,044	2,499	41	5,194	86	5,714	95	2,405	1,003	42	2,133	89	2,305	96	1,854	744	40	1,620	87	1,766	95	1,785	752	42	1,441	81	1,643	92
C20 Rectum	2,403	1,766	73	1,691	70	2,197	91	1,170	892	76	864	74	1,089	93	675	495	73	499	74	626	93	558	379	68	328	59	482	86
C22 Liver	927	446	48	208	22	562	61	497	221	44	134	27	299	60	268	142	53	57	21	171	64	162	83	51	17	10	92	57
C23-C24 Gallbaldder and biliary tract	230	103	45	145	63	192	83	84	36	43	67	80	80	95	79	45	57	57	72	71	90	67	22	33	21	31	41	61
C25 Pancreas	1,779	1,263	71	643	36	1,506	85	826	591	72	371	45	734	89	527	362	69	185	35	436	83	426	310	73	87	20	336	79
C30-C31 Nasal cavity, middle ear and sinuses	91	60	66	35	38	70	77	51	34	67	24	47	41	80	19	10	53	5	26	12	63	21	16	76	6	29	17	81
C32 Larynx	580	467	81	166	29	508	88	371	297	80	110	30	326	88	141	118	84	41	29	126	89	68	52	76	15	22	56	82
C34 Bronchus and lung	8,152	6,910	85	2,173	27	7,371	90	4,296	3,668	85	1,356	32	3,957	92	2,496	2,101	84	652	26	2,247	90	1,360	1,141	84	165	12	1,167	86
C40-C41 Bone and articular cartilage	66	24	36	20	30	31	47	56	19	34	17	30	26	46	6	5	83	3	50	5	83	4	0	0	0	0	0	0
C43 Malignant melanoma of skin	2,987	1,107	37	2,868	96	2,889	97	2,098	783	37	2,032	97	2,043	97	488	189	39	467	96	472	97	401	135	34	369	92	374	93
C50 Breast	10,812	9,050	84	9,031	84	10,450	97	7,207	6,072	84	6,434	89	7,056	98	2,009	1,667	83	1,661	83	1,935	96	1,596	1,311	82	936	59	1,459	91
C51 Vulva	218	91	42	154	71	187	86	99	33	33	76	77	85	86	49	27	55	33	67	43	88	70	31	44	45	64	59	84
C52 Vagina	46	22	48	13	28	30	65	19	9	47	10	53	16	84	16	8	50	3	19	9	56	11	5	45	0	0	5	45
C53 Cervix uteri	635	327	51	336	53	525	83	513	250	49	299	58	431	84	81	49	60	29	36	62	77	41	28	68	8	20	32	78
C54 Corpus uteri	1,356	593	44	1,138	84	1,227	90	660	269	41	579	88	603	91	440	201	46	375	85	403	92	256	123	48	184	72	221	86
C56 Ovary	739	369	50	447	60	590	80	413	189	46	294	71	344	83	188	112	60	112	60	156	83	138	68	49	41	30	90	65
C60 Penis	89	41	46	72	81	80	90	42	19	45	35	83	39	93	31	12	39	25	81	27	87	16	10	63	12	75	14	88
C61 Prostate	9,049	6,859	76	3,325	37	7,582	84	4,557	3,533	78	2,459	54	4,000	88	3,024	2,290	76	763	25	2,493	82	1,468	1,036	71	103	7	1,089	74
C62 Testis	394	258	65	384	97	392	99	388	255	66	378	97	386	99	6	3	50	6	100	6	100	-	-	-	-	-	-	-
C64 Kidney	1,783	1,022	57	1,403	79	1,679	94	989	528	53	881	89	956	97	464	278	60	365	79	440	95	330	216	65	157	48	283	86
C67 Bladder	2,331	731	31	1,925	83	2,072	89	786	276	35	678	86	719	91	763	236	31	635	83	683	90	782	219	28	612	78	670	86
C69 Eye and adnexa	99	68	69	23	23	89	90	50	40	80	6	12	44	88	32	21	66	7	22	28	88	17	7	41	10	59	17	100

Source: Belgian Cancer Registry

Table 5 Proportion "Unknown primary tumour localisation" by sex and age group, Belgium 2004-2016

Males	ICD10	15+ years	15-69 years	70-79 years	80+ years
Number of all invasive tumours (excl. Non-melanoma skin cancer)	C00-C43;C45-C97 + MDS/MPN	438,135	229,032	136,726	72,377
Number of unknown primary localisation of tumours	C76;C80	6,859	3,191	2,092	1,576
%		1.6	1.4	1.5	2.2
Females	ICD10	15+ years	15-69 years	70-79 years	80+ years
Number of all invasive tumours (excl. Non-melanoma skin cancer)	C00-C43;C45-C97 + MDS/MPN	374,455	216,528	87,665	70,262
Number of unknown primary localisation of tumours	C76;C80	5,779	2,117	1,632	2,030
%		1.5	1.0	1.9	2.9

MDS: Myelodysplastic syndrome
MPN: Myeloproliferative neoplasms

Source: Belgian Cancer Registry

2.2.3 Availability of information on morphology

Coding the morphology refers mainly to two essential features. Firstly, the microscopic appearance and cellular origin of the tumour should be described (histopathological type). Secondly, the tumour behaviour should be specified (i.e. malignant, benign, in situ, or uncertain behaviour). Some morphological codes only confirm the notion of malignancy (i.e. 8000-8005 /3). Other codes only indicate the main histological type of cancer without further specifying the diagnosis (e.g. carcinoma: 8010-8011 /3; sarcoma: 8800 /3; (non-Hodgkin) lymphoma: 9590-9591 /3; leukaemia: 9800 /3).

Around 50% of all non-specific morphology codes (i.e. 8000-8005 /3), confirming only the malignancy, occur in patients of 80+ years old (**Table 6**). The dominant code is 8000/3 (i.e. malignant neoplasm) as it is often used for cancers without microscopic verification, which is more common in older patients (see section *2.1.4 Microscopically verified tumours*).

Table 6 Availability of information on morphology: Number of tumours by non-specific morphology codes and by age group, Belgium 2004-2016

Morphology code	Label	15-69 years	70-79 years	80+ years
8000-8005 /3	Malignant neoplasms	3,889	5,036	9,017
8010-8011 /3	Carcinoma	1,403	1,081	948
8800 /3	Sarcoma	258	138	153
9590 /3	Malignant Lymphoma	149	114	169
9591 /3	Malignant Non-Hodgkin Lymphoma	587	452	465
9800 /3	Leukaemia	33	29	22

Source: Belgian Cancer Registry

Even after excluding diagnoses without microscopic verification, non-specific morphology codes remain more frequent in patients aged 80 years or older: 1.8%, whereas this percentage is only 0.7% for patients aged 15 to 69 years and 1.1% for patients between 70 and 79 years (**Table 7**).

For the majority of tumour types, the use of non-specific morphology codes is about 2 to 3 times higher in the oldest age group compared to the youngest age group. The highest difference is observed for thyroid, prostatic and ovarian cancer where the percentage of cases without specific morphology code is 5 to 7 times higher in the oldest age group (**Table 7**).

Table 7 Availability of information on morphology: the use of 8000-8011;8800;9590;9591;9800 /3 in combination with microscopic base of diagnosis (1, 2, 3 or 4*), by tumour localisation and age group, Belgium 2004-2016

		15-69 years			70-79 years			80+ years		
Tumour localisation	ICD-10	Total	N	%	Total	N	%	Total	N	%
All invasive tumours (excl. non-melanoma skin cancer)	C00-C43;C45-C97 + MDS + MPN	441,205	3,218	0.7	219,284	2,514	1.1	133,651	2,457	1.8
Head and neck	C00-C14;C30-C32	23,955	98	0.4	6,130	40	0.7	2,987	40	1.3
Oesophagus	C15-C16.0	9,722	52	0.5	4,594	27	0.6	2,960	32	1.1
Stomach	C16.1-C16.9	5,388	19	0.4	4,056	30	0.7	4,233	37	0.9
Colon	C18-C19	30,253	53	0.2	25,178	59	0.2	21,293	71	0.3
Rectum	C20	15,146	19	0.1	9,226	17	0.2	6,397	13	0.2
Liver	C22	3,867	9	0.2	2,093	5	0.2	880	7	0.8
Gallbladder and biliary tract	C23-C24	1,831	27	1.5	1,571	26	1.7	1,115	25	2.2
Pancreas	C25	8,230	165	2.0	5,460	179	3.3	2,617	148	5.7
Lung	C34	52,032	531	1.0	29,955	460	1.5	12,155	341	2.8
Malignant melanoma	C43	20,445	0	0.0	4,831	0	0.0	3,320	0	0.0
Mesothelioma**	C45	1,409	0	0.0	1,307	0	0.0	686	0	0.0
Breast	C50	90,122	125	0.1	24,025	57	0.2	16,935	60	0.4
Cervix uteri	C53	6,591	38	0.6	962	7	0.7	647	8	1.2
Corpus uteri	C54	9,498	38	0.4	5,673	24	0.4	3,259	28	0.9
Ovary	C56	6,141	60	1.0	2,852	47	1.6	1,711	85	5.0
Prostate	C61	57,282	31	0.1	40,206	67	0.2	16,217	63	0.4
Testis	C62	4,127	8	0.2	52	0	0.0	18	1	5.6
Kidney	C64	11,143	71	0.6	5,376	55	1.0	2,076	50	2.4
Bladder	C67	10,011	23	0.2	9,995	29	0.3	8,799	51	0.6
Central nervous system	C70-C72	6,697	11	0.2	2,033	3	0.1	604	3	0.5
Thyroid	C73	9,342	38	0.4	1,227	14	1.1	489	14	2.9
Haematological malignancies	C81-C96 + MDS + MPN	38,802	739	1.9	22,137	577	2.6	16,114	594	3.7

** Basis of diagnosis:*
1 = Autopsy
2 = Histology primary tumour
3 = Histology metastic disease
4 = Cytology / Hematology

MDS: Myelodysplastic syndrome
MPN: Myeloproliferative neoplasms
*** Due to registration guidelines is a diagnosis of mesothelioma only possible after microscopic confirmation*

Source: Belgian Cancer Registry

Conclusion

- In conclusion, the diagnosis is often less detailed in older patients.
- The diagnosis of older patients is less detailed in terms of stage, primary tumour localisation and morphological diagnosis. This is probably partly due to a lower use of diagnostic techniques or surgical treatments.

3 Cancer burden in an ageing population

This chapter presents detailed information on the cancer burden in an ageing population. *Firstly*, incidence, prevalence, mortality and survival for all invasive tumours together are presented (see section '*3.1 Is cancer incidence higher in the older population?*'). *Secondly*, the 5 most frequently occurring tumours in 7 subsequent age categories (from paediatric up to the older population) are shown in section '*3.2 What are the most common types of cancer in the older population?*'. *Finally*, section '*3.3 What are the largest tumour related differences according to age?*' presents a detailed tumour-site specific overview on 11 different tumour sites, selected based on their incidence in the older population (i.e. more, less or equally frequent as compared to the younger age groups).

3.1 Is cancer incidence higher in the older population?

Table 1 presents the typical epidemiological descriptors for all invasive tumours (excl. non-melanoma skin cancer) in males and females separately, focusing on the three age groups of interest for this publication, i.e. 15-69, 70-79 and 80+ years. In addition, more detailed information is provided on the age group 80+ years by further distinguishing the age groups 80-89 and 90+ years.

Table 1 and figure 1 show that in Belgium in 2016:

- 68,216 new diagnoses of cancer were observed:
  - 36,243 in males of which 36,049 were 15 years or older
  - 31,973 in females of which 31,826 were 15 years or older
- Global cancer incidence and mortality rates in males and females are highest in the age group 80+ years.
- 5- and 10-year cancer prevalence rates are much higher in both age groups of 70-79 and 80+ years compared to the younger age group.
- The lowest 5-year relative survival rates are observed in the oldest age group (i.e. 80+ years). Five-year relative survival rates are slightly higher in females in all three studied age groups.
- Although the age-specific incidence rates increase with age and show peak in the age group 80+ years, once past 90 years of age, incidence decreases again Figure 1. Also prevalence is lower in the age group 90+ years compared to the 80-89 years. Mortality on the other hand, keeps increasing with age and the relative survival keeps decreasing.
- Cancer incidence and prevalence in males and females in the age group 15-69 years, are comparable. In the older population however, incidence, prevalence and mortality are much higher in males compared to females.
- As shown in Figure 2 and Table 2, trends in age standardised incidence and mortality are comparable across the three age groups. A small decrease of incidence over time is observed in males (AAPC: -0.5%), while a small increase in females (AAPC: +0.6%). Mortality rates decrease in both males and females; the decrease in males is more pronounced than in females (AAPC: -1.8% vs. -0.7%).

Figure 1 Invasive tumours (excl. non-melanoma skin cancer): Age-specific incidence rates (N/100,000) by sex, Belgium 2004-2016

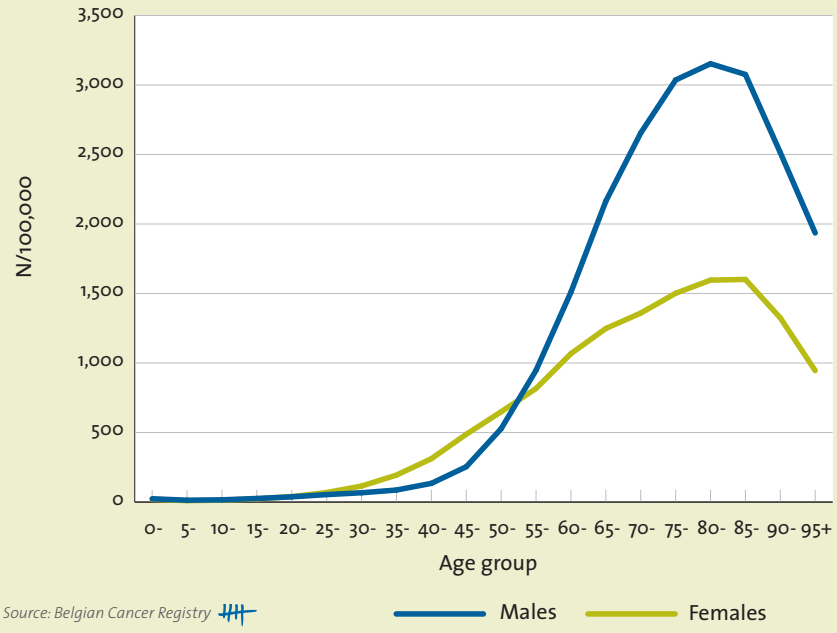


Table 1 Invasive tumours (excl. non-melanoma skin cancer): Overview of incidence, mortality, prevalence and survival by sex and region

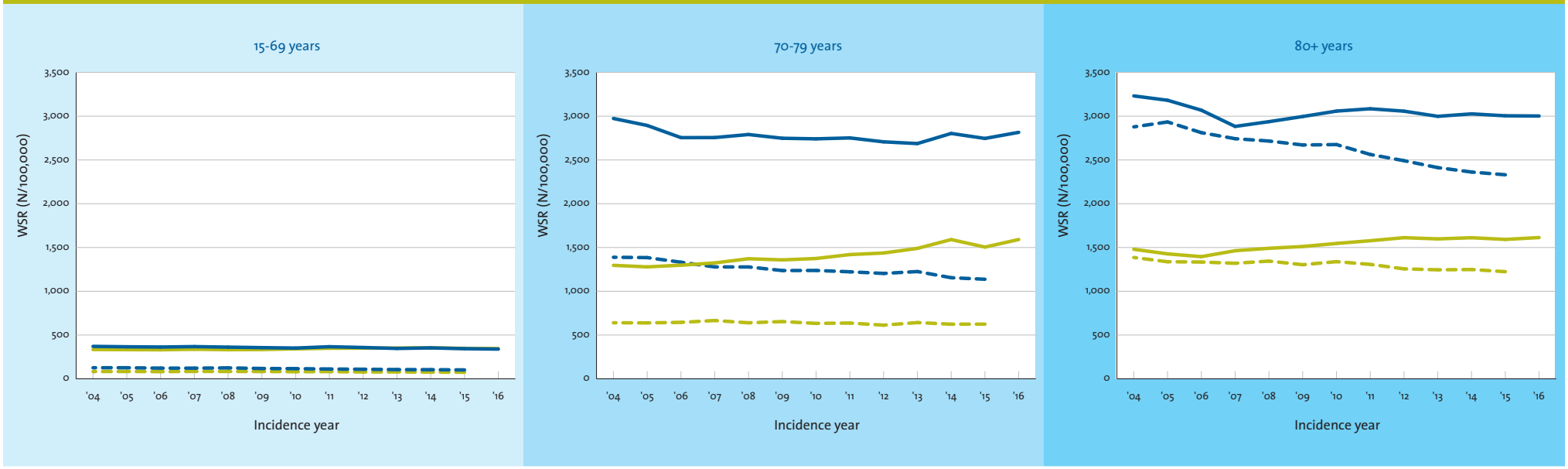
Males	15+ years			15-69 years			70-79 years			80+ years			80-89 years			90+ years		
Incidence, 2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Belgium	36,049	790.6	485.6	18,635	470.6		10,681	2,826.8		6,733	3,028.3		6,119	3,124.2		614	2,319.0	
Flemish Region	22,031	827.2	477.0	10,756	472.3		6,919	2,841.1		4,356	3,057.6		3,984	3,161.1		372	2,264.3	
Brussels-Capital Region	2,657	577.7	474.6	1,478	354.0		719	2,762.1		460	2,801.1		407	2,924.7		53	2,114.9	
Walloon Region	11,361	790.9	504.8	6,401	506.1		3,043	2,810.2		1,917	3,021.3		1,728	3,090.8		189	2,506.0	
Mortality, 2015	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Belgium	15,024	331.6	178.8	5,684	144.2		4,439	1,190.4		4,901	2,251.3		4,064	2,106.2		837	3,382.9	
Flemish Region	8,936	337.4	168.8	3,143	138.5		2,758	1,149.3		3,035	2,195.3		2,533	2,058.9		502	3,296.6	
Brussels-Capital Region	1,106	243.4	176.7	433	105.1		326	1,254.9		347	2,110.6		284	2,030.0		63	2,570.4	
Walloon Region	4,982	348.8	198.9	2,108	167.5		1,355	1,266.9		1,519	2,411.1		1,247	2,229.3		272	3,851.1	
Prevalence (5 years), 2012-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Belgium	106,474	2,322.0	1,421.4	54,686	1,378.7		32,753	8,365.8		19,035	8,363.9		17,281	8,659.4		1,754	6,259.6	
Flemish Region	66,800	2,493.2	1,437.2	32,759	1,436.0		21,506	8,569.6		12,535	8,527.5		11,420	8,826.4		1,115	6,331.6	
Brussels-Capital Region	7,385	1,598.9	1,295.5	4,037	963.6		2,075	7,839.4		1,273	7,741.0		1,146	8,227.4		127	5,047.7	
Walloon Region	32,301	2,236.3	1,424.5	17,896	1,413.4		9,175	8,042.2		5,230	8,153.4		4,718	8,387.6		512	6,485.1	
Prevalence (10 years), 2007-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Belgium	168,245	3,669.1	2,198.7	81,229	2,047.9		53,450	13,652.3		33,566	14,748.8		30,288	15,177.1		3,278	11,698.4	
Flemish Region	106,384	3,970.7	2,229.2	48,687	2,134.2		35,232	14,039.1		22,465	15,282.8		20,341	15,721.3		2,124	12,061.3	
Brussels-Capital Region	11,556	2,502.0	1,996.3	6,024	1,437.8		3,335	12,599.6		2,197	13,359.7		1,938	13,913.4		259	10,294.1	
Walloon Region	50,355	3,486.3	2,191.4	26,540	2,096.1		14,904	13,063.9		8,911	13,892.0		8,016	14,250.7		895	11,336.3	
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Belgium	164,970	61.5	[61.2; 61.8]	87,431	66.0	[65.6; 66.4]	48,129	60.0	[59.4; 60.7]	30,110	48.4	[47.2; 49.6]	27,498	49.2	[48.0; 50.5]	2,667	38.9	[32.5; 45.9]
Flemish Region	101,352	62.9	[62.5; 63.3]	51,345	68.4	[67.9; 68.9]	31,088	61.3	[60.5; 62.2]	19,384	48.4	[46.9; 49.9]	17,750	49.2	[47.7; 50.7]	1,663	35.8	[28.2; 44.5]
Brussels-Capital Region	11,931	59.4	[58.2; 60.7]	6,581	63.7	[62.2; 65.1]	3,218	58.1	[55.4; 60.7]	2,169	46.5	[42.2; 51.0]	1,918	48.4	[43.8; 53.0]	253	32.4	[16.9; 54.7]
Walloon Region	51,710	59.1	[58.5; 59.7]	29,516	62.3	[61.6; 63.0]	13,828	57.5	[56.2; 58.8]	8,562	48.9	[46.5; 51.4]	7,834	49.4	[47.0; 51.9]	752	48.3	[35.3; 63.6]

Females	15+ yearss			15-69 years			70-79 years			80+ years			80-89 years			90+ years		
Incidence, 2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Belgium	31,826	663.6	418.4	18,187	461.0		7,252	1,593.9		6,387	1,611.8		5,409	1,674.7		978	1,334.7	
Flemish Region	18,518	669.9	408.0	10,252	456.6		4,415	1,568.5		3,851	1,619.8		3,269	1,667.7		582	1,394.8	
Brussels-Capital Region	2,746	556.5	410.7	1,587	374.3		581	1,630.9		578	1,711.9		471	1,802.6		107	1,401.6	
Walloon Region	10,562	686.5	440.0	6,348	497.5		2,256	1,636.0		1,958	1,569.5		1,669	1,655.1		289	1,208.4	
Mortality, 2015	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Belgium	11,967	250.7	115.5	4,197	106.8		2,945	651.4		4,825	1,225.7		3,697	1,143.6		1,128	1,602.4	
Flemish Region	6,681	242.8	107.6	2,274	101.6		1,714	613.6		2,693	1,149.9		2,091	1,076.4		602	1,507.8	
Brussels-Capital Region	1,050	214.5	120.5	363	86.5		261	733.1		426	1,249.0		318	1,198.9		108	1,424.4	
Walloon Region	4,236	276.4	128.9	1,560	122.8		970	707.2		1,706	1,360.8		1,288	1,256.8		418	1,826.2	
Prevalence (5 years), 2012-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Belgium	110,488	2,294.0	1,484.1	66,387	1,681.0		24,540	5,257.3		19,561	4,886.7		16,562	5,116.0		2,999	3,917.2	
Flemish Region	65,147	2,345.1	1,466.5	38,178	1,697.8		14,944	5,202.4		12,025	4,966.4		10,187	5,143.7		1,838	4,169.8	
Brussels-Capital Region	9,379	1,898.3	1,437.8	5,692	1,341.2		1,999	5,526.5		1,688	5,040.3		1,398	5,429.8		290	3,745.3	
Walloon Region	35,968	2,329.2	1,533.7	22,518	1,764.4		7,601	5,302.1		5,849	4,691.6		4,978	4,981.3		871	3,521.0	
Prevalence (10 years), 2007-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Belgium	181,289	3,764.0	2,396.1	107,091	2,711.7		40,755	8,731.1		33,443	8,354.7		27,994	8,647.3		5,449	7,117.4	
Flemish Region	106,739	3,842.3	2,362.5	61,404	2,730.7		24,792	8,630.7		20,543	8,484.3		17,274	8,722.0		3,269	7,416.2	
Brussels-Capital Region	15,437	3,124.5	2,345.1	9,233	2,175.5		3,341	9,236.7		2,863	8,548.8		2,300	8,933.1		563	7,271.1	
Walloon Region	59,157	3,830.8	2,480.6	36,473	2,857.9		12,642	8,818.5		10,042	8,054.9		8,424	8,429.6		1,618	6,540.8	
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Belgium	149,843	70.5	[70.2; 70.8]	87,135	78,3	[77.9; 78.6]	33,299	63.7	[63.0; 64.5]	29,729	52.9	[51.7; 54.0]	25,555	53.8	[52.7; 55.0]	4,260	45.9	[41.3; 50.7]
Flemish Region	87,308	71.2	[70.8; 71.6]	49,566	79,3	[78.8; 79.7]	20,201	64.5	[63.5; 65.4]	17,728	53.8	[52.4; 55.3]	15,272	54.5	[53.0; 56.0]	2,502	50.8	[44.6; 57.4]
Brussels-Capital Region	12,918	71.2	[70.0; 72.2]	7,521	78,6	[77.5; 79.8]	2,779	65.0	[62.4; 67.5]	2,637	54.4	[50.6; 58.2]	2,199	56.3	[52.3; 60.2]	451	40.6	[28.3; 55.2]
Walloon Region	49,628	69.2	[68.6; 69.8]	30,050	76,6	[76.0; 77.1]	10,323	61.9	[60.6; 63.3]	9,367	50.6	[48.5; 52.6]	8,086	51.9	[49.8; 54.0]	1,307	39.2	[31.5; 47.8]

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

Source: Belgian Cancer Registry

Figure 2 Invasive tumours (excl. non-melanoma skin cancer): Trends in age-standardised incidence and mortality (WSR) by sex and age group, Belgium 2004-2016



Source: Belgian Cancer Registry

Table 2 Invasive tumours (excl. non-melanoma skin cancer): AAPC (%) by sex and age group in Belgium

Invasive tumours	Males			Females		
Incidence	AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
15+ years	-0.5	[-0.7, -0.3]	2004-2016	0.6	[0.4, 0.8]	2004-2016
				0.3	[-0.1, 0.7]	2004-2009
				1.9	[1.3, 2.6]	2009-2012
				-0.0	[-0.6, 0.5]	2012-2016
15-69 years	-0.6	[-0.8, -0.4]	2004-2016	0.3	[0.2, 0.5]	2004-2016
				0.1	[-0.3, 0.4]	2004-2009
				1.8	[1.2, 2.4]	2009-2012
				-0.4	[-0.9, 0.0]	2012-2016
70-79 years	-0.5	[-0.7, -0.2]	2004-2016	1.9	[1.5, 2.2]	2004-2016
	-3.5	[-4.8, -2.2]	2004-2006			
	-0.3	[-0.7, 0.0]	2006-2013			
	1.2	[0.3, 2.0]	2013-2016			
80+ years	-0.7	[-0.9, -0.5]	2004-2016	0.7	[0.5, 0.9]	2004-2016
	-3.9	[-4.8, -3.0]	2004-2007	-2.0	[-3.2, -0.8]	2004-2006
	1.8	[1.0, 2.6]	2007-2010	2.2	[1.9, 2.6]	2006-2012
	-0.4	[-0.8, 0.0]	2010-2016	-0.2	[-0.7, 0.4]	2012-2016
Mortality	AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
15+ years	-1.8	[-2.0, -1.6]	2004-2015	-0.7	[-0.9, -0.5]	2004-2015
	-1.4	[-1.8, -1.0]	2004-2010	-0.0	[-0.5, 0.4]	2004-2010
	-2.2	[-2.7, -1.8]	2010-2015	-1.5	[-2.0, -1.0]	2010-2015
15-69 years	-1.8	[-2.0, -1.6]	2004-2015	-0.8	[-1.0, -0.6]	2004-2015
	-0.6	[-1.3, 0.1]	2004-2008	0.2	[-0.4, 0.9]	2004-2009
	-2.5	[-2.9, -2.1]	2008-2015	-1.7	[-2.1, -1.2]	2009-2015
70-79 years	-1.4	[-1.8, -1.1]	2004-2015	-0.2	[-0.5, 0.1]	2004-2015
80+ years	-1.8	[-2.1, -1.5]	2004-2015	-0.8	[-1.1, -0.5]	2004-2015

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

Source: Belgian Cancer Registry

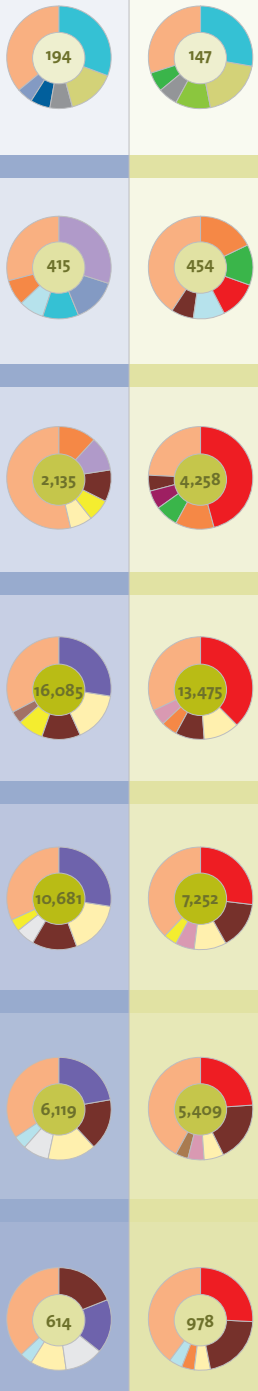
3.2 What are the most common types of cancer in the older population?

Figure 3 shows the 5 most frequently occurring tumour types in 7 different age categories, the last three are covering the older patients (70-79, 80-89 and 90+ years):

- 341 paediatric (0-14 years old) cancer cases were registered. Leukaemia and tumours of the central nervous system cover 47% of all tumours in children.
- Invasive tumours of the genital organs, haematological malignancies, malignant melanoma, thyroid cancer and the breast are the most frequently occurring malignancies in adolescents (15-29 years) and young adults (30-49 years).
- Prostate, breast, lung and colorectal cancer are the most common cancers in patients older than 50 years of age.
- In the 3 oldest age groups, the frequency of prostate cancer and lung cancer decreases, while colorectal cancer becomes more important. In the age group 90+ years, colorectal cancer is more frequently diagnosed than prostate cancer in males and almost as frequently as breast cancer in females.

Figure 3 Incidence (N, 2016) of the five most frequently occuring tumours by sex and age group in Belgium

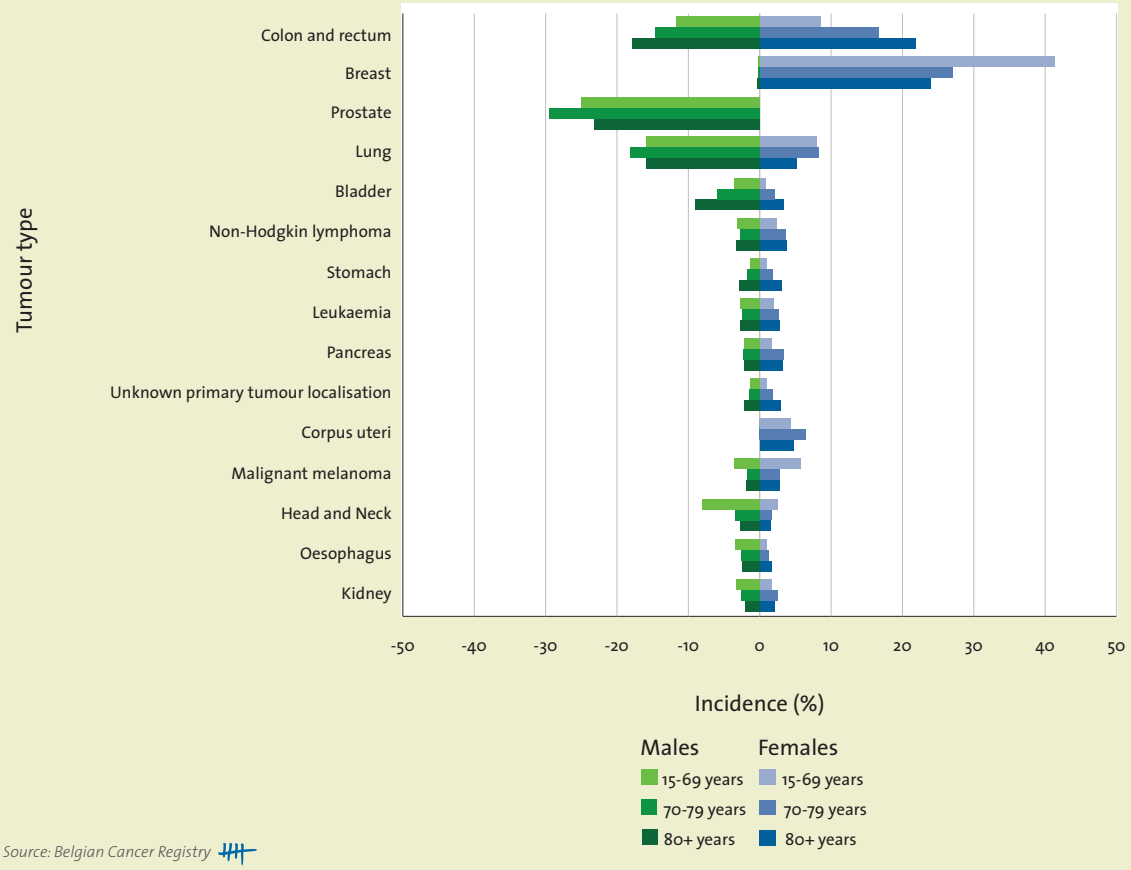
Males	N	%	Females	N	%
0-14 years	**194**		**0-14 years**	**147**	
1) Leukaemia	60	31%	1) Leukaemia	41	28%
2) Central nervous system	30	15%	2) Central nervous system	28	19%
3) Kidney	13	7%	3) Soft tissue	16	11%
4) Histiocytosis and other ICD-10 C 96	12	6%	4) Kidney	9	6%
5) Hodgkin lymphoma	10	5%	5) Adrenal gland	9	6%
Other cancer types	69	36%	Other cancer types	44	30%
15-29 years	**415**		**15-29 years**	**454**	
1) Testis	125	30%	1) Malignant Melanoma	82	18%
2) Hodgkin lymphoma	58	14%	2) Thyroid	58	13%
3) Leukaemia	46	11%	3) Breast	53	12%
4) Non-Hodgkin lymphoma	34	8%	4) Hodgkin lymphoma	46	10%
5) Malignant Melanoma	33	8%	5) Colon and rectum	30	7%
Other cancer types	119	29%	Other cancer types	185	41%
30-49 years	**2,135**		**30-49 years**	**4,258**	
1) Malignant Melanoma	255	12%	1) Breast	1,961	46%
2) Testis	230	11%	2) Malignant Melanoma	516	12%
3) Colon and rectum	210	10%	3) Thyroid	302	7%
4) Head and Neck	152	7%	4) Cervix uteri	244	6%
5) Lung	141	7%	5) Colon and rectum	219	5%
Other cancer types	1,147	54%	Other cancer types	1,016	24%
50-69 years	**16,085**		**50-69 years**	**13,475**	
1) Prostate	4,455	28%	1) Breast	5,161	38%
2) Lung	2,529	16%	2) Lung	1,486	11%
3) Colon and rectum	1,884	12%	3) Colon and rectum	1,222	9%
4) Head and Neck	1,275	8%	4) Malignant Melanoma	700	5%
5) Oesphagus	599	4%	5) Corpus uteri	630	5%
Other cancer types	5,343	33%	Other cancer types	4,276	32%
70-79 years	**10,681**		**70-79 years**	**7,252**	
1) Prostate	3,025	28%	1) Breast	1,986	27%
2) Lung	1,773	17%	2) Colon and rectum	1,052	15%
3) Colon and rectum	1,478	14%	3) Lung	731	10%
4) Bladder	629	6%	4) Corpus uteri	464	6%
5) Head and Neck	398	4%	5) Non-Hodgkin lymphoma	254	4%
Other cancer types	3,378	32%	Other cancer types	2,765	38%
80-89 years	**6,119**		**80-89 years**	**5,409**	
1) Prostate	1,364	22%	1) Breast	1,319	24%
2) Colon and rectum	1,002	16%	2) Colon and rectum	1,024	19%
3) Lung	926	15%	3) Lung	319	6%
4) Bladder	499	8%	4) Corpus uteri	246	5%
5) Non-Hodgkin lymphoma	223	4%	5) Pancreas	204	4%
Other cancer types	2,105	34%	Other cancer types	2,297	42%
90+ years	**614**		**90+ years**	**978**	
1) Colon and rectum	114	19%	1) Breast	255	26%
2) Prostate	104	17%	2) Colon and rectum	204	21%
3) Bladder	72	12%	3) Lung	49	5%
4) Lung	67	11%	4) Malignant Melanoma	44	4%
5) Non-Hodgkin lymphoma	27	4%	5) Non-Hodgkin lymphoma	36	4%
Other cancer types	230	37%	Other cancer types	390	40%



Source: Belgian Cancer Registry

Figure 4 shows the 15 most common tumour types in older patients (i.e. 80+ years). To create this ranking, the percentage of cancer incidence in the age group 80+ years was calculated for all tumour types and in both sexes together. This shows that colorectal cancer (18% in males, 22% in females) is the most frequent cancer type in the oldest age group, together with breast (24%) and prostate (23%) cancer in females and males respectively. Lung cancer is found on the third place, presenting 16% of all cancers in the age group 80+ years in males and 5% in females. On the fourth place, bladder cancer (9% in males, 3% in females) is found, while the top 5 is closed by Non-Hodgkin lymphoma, representing 3% in males and 4% in females of all cancers in this older population. The haematological malignancies will not be discussed further in this publication considering the dedicated publication on haematological malignancies previously published by the Belgian Cancer Registry [13].

Figure 4 The 15 most frequent tumours in the age group 80+ years in Belgium, by sex and age group (2004-2016)



Source: Belgian Cancer Registry

3.3 What are the largest tumour related differences according to age?

3.3.1 Special focus on what is different in the older and the younger population

In this chapter, the focus lies on tumour types that are relatively more or less frequently present in the older population (i.e. 70-79, 80+ years old) versus the younger age group (i.e. 15-69 years old). The previous chapter (see section *'3.2 What are the most common types of cancer in the older population?'*) on the top 5 most frequent tumour types in seven different age categories showed that in the older population:

- Bladder cancer is **more frequent**
- Head and neck tumours and malignant melanoma are **less frequent**
- Cervical cancer and thyroid cancer are **less frequent in females**

In addition, more detailed investigations have shown that stomach cancer is **more frequent** in the older population (males and females) compared to the 15-69 years old population, despite of the fact that stomach cancer never makes it to the top 5.

The next six sections present detailed tumour specific information for these six tumour sites while comparing the older population to patients aged 15-69 years old.

3.3.1.1 Stomach cancer (ICD-10: C16.1-C16.9)

Table 1 Stomach cancer: Overview of incidence, mortality, prevalence and survival by sex and age group (Belgium)

Belgium	All ages together (15 years or older)			15-69 years			70-79 years			80+ years			80-89 years			90+ years		
Incidence, 2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	556	12.2	7.1	255	6.4		138	36.5		163	73.3		142	72.5		21	79.3	
Females	454	9.5	4.9	188	4.8		113	24.8		153	38.6		120	37.2		33	45.0	
Mortality, 2015	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	472	10.4	5.7	187	4.7		135	36.2		150	68.9		128	66.3		22	88.9	
Females	268	5.6	2.3	78	2.0		56	12.4		134	34.0		90	27.8		44	62.5	
Prevalence (5 years), 2012-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	1,285	28.0	16.4	611	15.4		378	96.5		296	130.1		264	132.3		32	114.2	
Females	1,165	24.2	13.5	552	14.0		306	65.6		307	76.7		267	82.5		40	52.2	
Prevalence (10 years), 2007-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	1,984	43.3	24.6	886	22.3		577	147.4		521	228.9		459	230.0		62	221.3	
Females	1,847	38.3	20.6	827	20.9		471	100.9		549	137.2		455	140.5		94	122.8	
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Males	2,781	40.1	[37.6; 42.6]	1,211	46.7	[43.2; 50.1]	785	39.1	[34.4; 43.8]	786	31.2	[25.8; 37.3]	668	34.0	[28.1; 40.5]	118	-	-
Females	2,220	45.6	[42.9; 48.4]	876	60.2	[56.3; 63.9]	560	45.8	[40.6; 51.0]	785	26.6	[21.9; 32.4]	626	30.9	[25.2; 37.0]	160	6.0	[0.8; 23.4]

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

Source: Belgian Cancer Registry

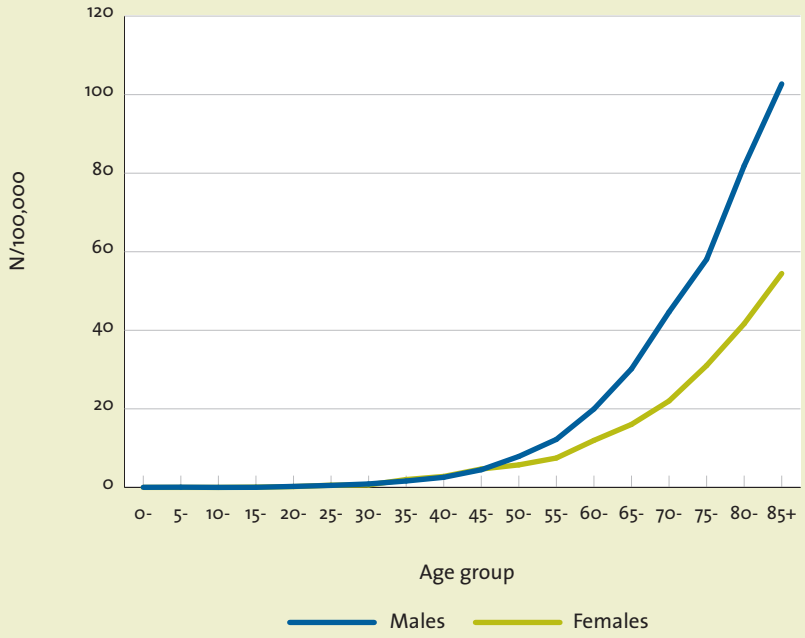
- **Incidence** (**Figure 1**, **Table 1**, **Figure 2**):
  - Stomach cancer is the 14th most frequent cancer in males and the 16th most frequent in females. In the age group 80+ years, stomach cancer is the 13th most frequent cancer, regardless of the sex.
  - In 2016, there were 1010 new diagnoses of stomach cancer in Belgium, all of them occurred in patients aged 15 years or older. 55% were males. Of all stomach cancers, 56% occurred in patients of 70 years or older.
  - The incidence rate of stomach cancer decreases over time, in both males and females. In older patients, this trend is clearly more pronounced, in particular for the 80+ years population (**Figure 3**, **Table 2**).
  - Stomach cancer preferentially affects males (male/female ratio: 1.4 in 2016). In the age group 80+ years, the risk in males is twofold higher in females (**Figure 1**).
  - Availability of information on stage in the 2010-2016 cohort is 77% and is the lowest for patients aged 80 years or older (69% in males, 63% in females) (**Figure 4**). Over time, a steep decrease of unknown stages is observed in the older population, in particular in the age group 80+ years (**Figure 5**).
    - Independent of the age group, the largest proportion of stomach cancers is diagnosed in stage IV: 34% overall (**Figure 4**).
    - Stage distribution in males and females is similar (**Figure 4**).
    - Following the introduction of TNM 7 in 2010, a re-distribution from stage I tumours to stages II and III is observed (**Figure 5**).

- **Mortality** (**Table 1**, **Figure 2**, **Figure 3**, **Table 2**):
  - Stomach cancer (ICD10 C16) is the 11th most important cause of cancer death in males and females. In the male age group 80+ years, stomach cancer is the 9th most frequent cause of cancer death. Note that, unlike the rest of the data on stomach cancer in this publication, death due to gastro-oesophageal junction carcinoma (i.e. ICD-10 C16.0) is included in the mortality data.
  - In 2015, 740 deaths were attributed to stomach cancer, of which 64% in males. 26% of cancer deaths occurred in the age group 70-79 years and 38% in the age group 80+ years.
  - In general the mortality rates are at least twofold higher in males (M/F ratio: 2.5 in all ages). In the age group 70-79 years, this ratio increases to a 3.2-fold higher mortality risk in males, whereas after the age of 80 years, the ratio falls back to 2.1.
  - The mortality rate of stomach cancer decreases over time and this decrease is most pronounced in the age group 80+ years.

- **Prevalence** (**Table 1**):
  - Of all 10,392 persons diagnosed with stomach cancer between 2007 and 2016, 3,831 were still alive at 31 December 2016 (i.e. 10-year prevalence) of which 27% were aged between 70 and 79 years, 24% between 80 and 89 years and 4% were older than 90 years.

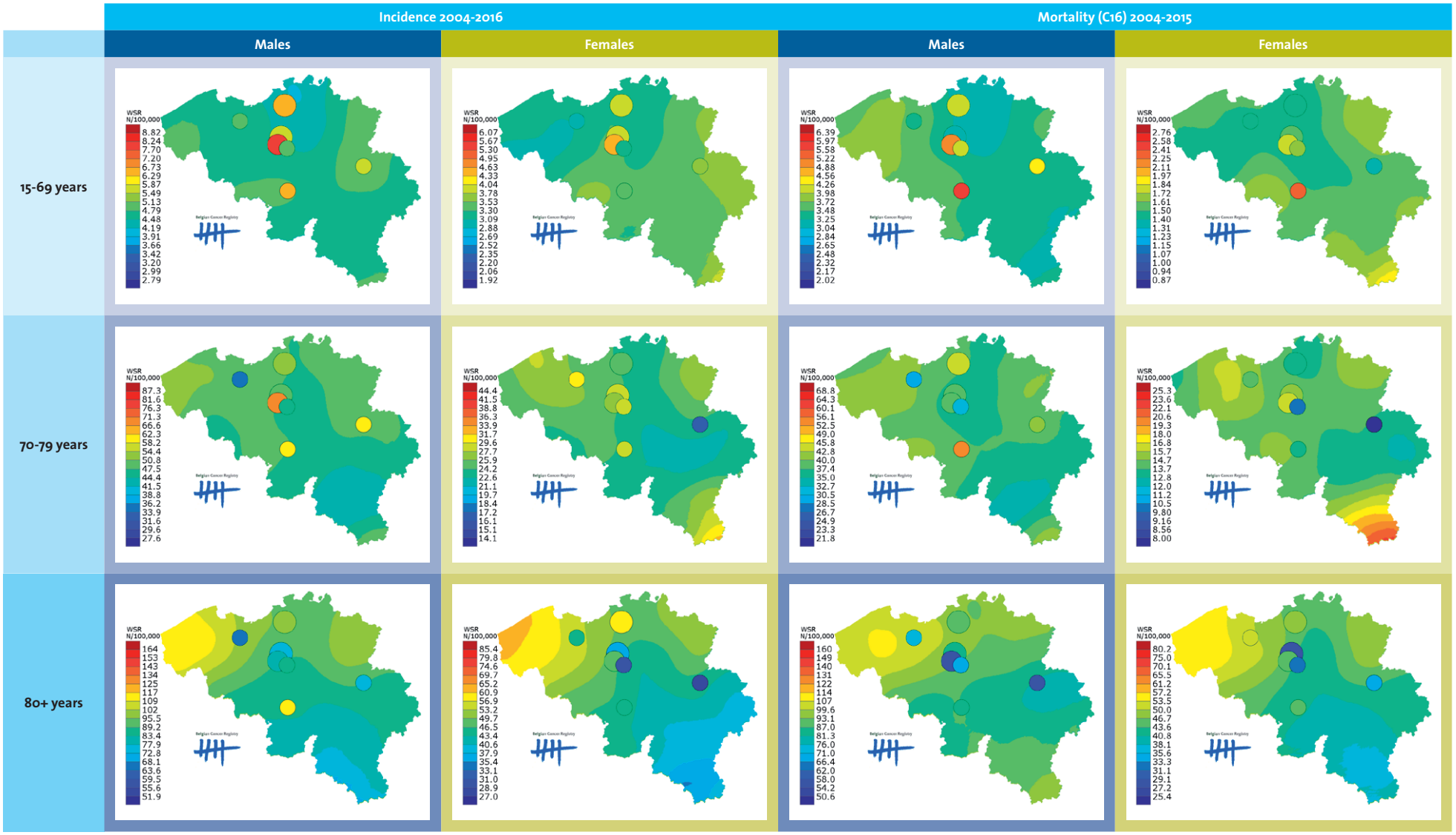
- **Survival**:
  - The 5-year relative survival proportion for the Belgian 2012-2016 cohort is higher in females than in males (46% vs. 40%). The survival difference between sexes being most explicit with a female advantage in the younger age group (i.e. 15-69 years old: 47% in males and 60% in females), and a small female disadvantage in the 80+ years population at 31% and 27% respectively (**Figure 6**, **Table 1**, **Table 3**).
  - An increase from 36% to 41% in the 5-year relative survival proportion is observed over time in Belgium (2004-2009 vs. 2010-2016). An increase is observed for all age groups and in both sexes with highest percentage progression observed in females aged between 15 and 69 years (from 49% to 58%) (**Figure 6**).
  - A 5-year conditional relative survival proportion (2004-2016) of 61% in both males and females of 80 years or older is observed. In the younger patients, 5-year conditional relative survival is slightly higher with a small advantage in females (**Table 4**).

Figure 1 Stomach cancer: Age-specific incidence rates (N/100,000) by sex, Belgium 2004-2016



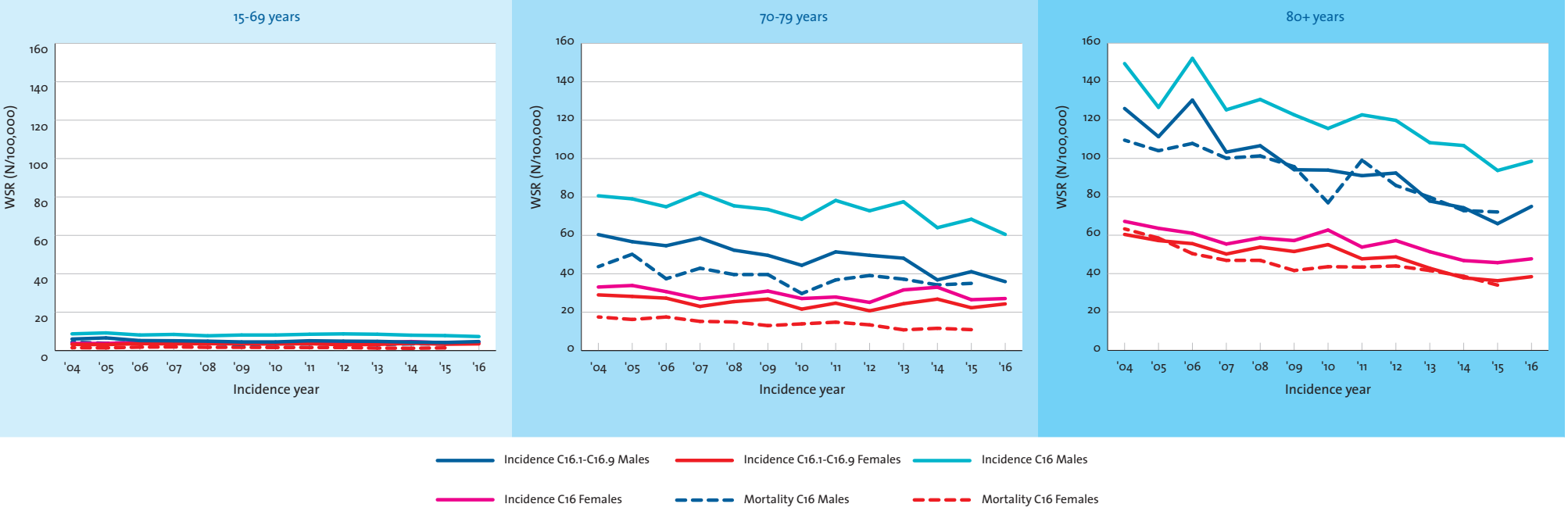
Source: Belgian Cancer Registry

Figure 2 Stomach cancer: Age-standardised incidence and mortality (WSR) by sex and age group, Belgium



Source: Belgian Cancer Registry

Figure 3 Stomach Cancer: Trends in age-standardised incidence (C16.1-C16.9 and C16) and mortality (C16) (WSR) by sex and age group, Belgium 2004-2016



Source: Belgian Cancer Registry

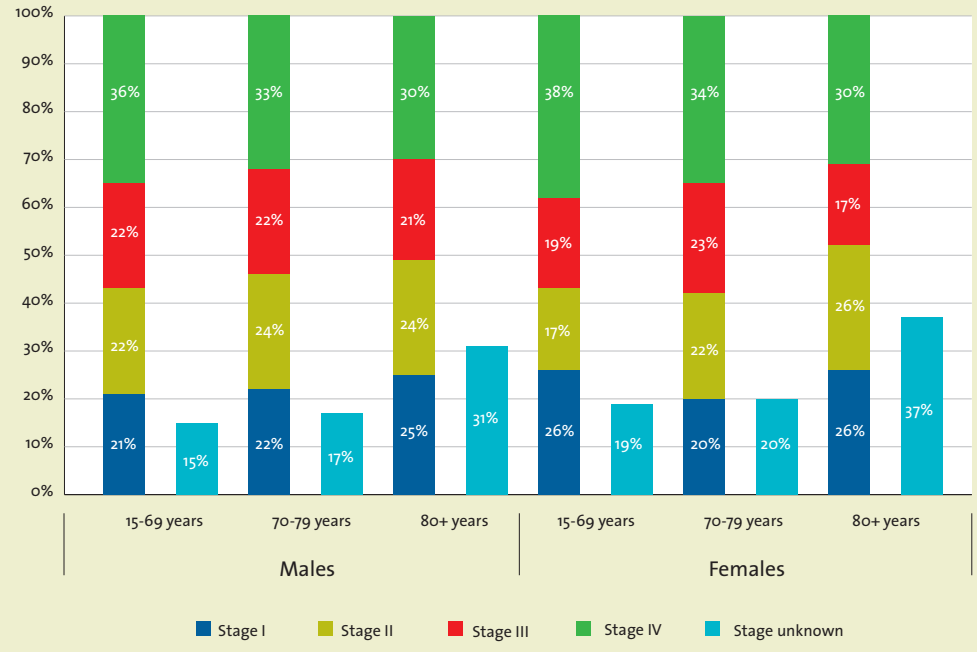
Table 2 Stomach cancer: AAPC (%) by sex and age group in Belgium

Stomach cancer	Males			Females		
Incidence	AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
15+ years	-3.2	[-4.1; -2.3]	2004-2016	-0.7	[-1.6; 0.2]	2004-2016
15-69 years	-2.8	[-3.9; -1.7]	2004-2016	0.3	[-0.9; 1.6]	2004-2016
	-6.6	[-10.1; -2.9]	2004-2008			
	-0.9	[-2.6; 0.9]	2008-2016			
70-79 years	-3.8	[-5.0; -2.5]	2004-2016	-1.4	[-2.8; -0.0]	2004-2016
				-3.6	[-6.6; -0.6]	2004-2010
				0.8	[-2.3; 4.0]	2010-2016
80+ years	-4.9	[-6.0; -3.8]	2004-2016	-3.9	[-4.8; -3.1]	2004-2016
				-1.9	[-3.9; 0.1]	2004-2010
				-5.9	[-7.8; -4.0]	2010-2016
Mortality	AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
15+ years	-2.6	[-3.3; -1.8]	2004-2015	-3.2	[-4.2; -2.3]	2004-2015
	-4.2	[-5.6; -2.7]	2004-2010	-1.9	[-3.5; -0.2]	2004-2011
	-0.6	[-2.4; 1.3]	2010-2015	-5.6	[-8.5; -2.6]	2011-2015
15-69 years	-2.4	[-3.6; -1.2]	2004-2015	-1.1	[-2.6; 0.6]	2004-2015
	-5.2	[-8.0; -2.4]	2004-2009	8.5	[1.6; 15.9]	2004-2007
	-0.0	[-2.4; 2.4]	2009-2015	-4.4	[-6.5; -2.3]	2007-2015
70-79 years	-2.4	[-4.3; -0.5]	2004-2015	-4.2	[-5.4; -2.9]	2004-2015
80+ years	-3.8	[-5.1; -2.5]	2004-2015	-5.2	[-5.9; -4.4]	2004-2015
				-7.6	[-9.1; -6.1]	2004-2009
				2.4	[-0.3; 5.1]	2009-2012
				-8.2	[-11.0; -5.4]	2012-2015

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

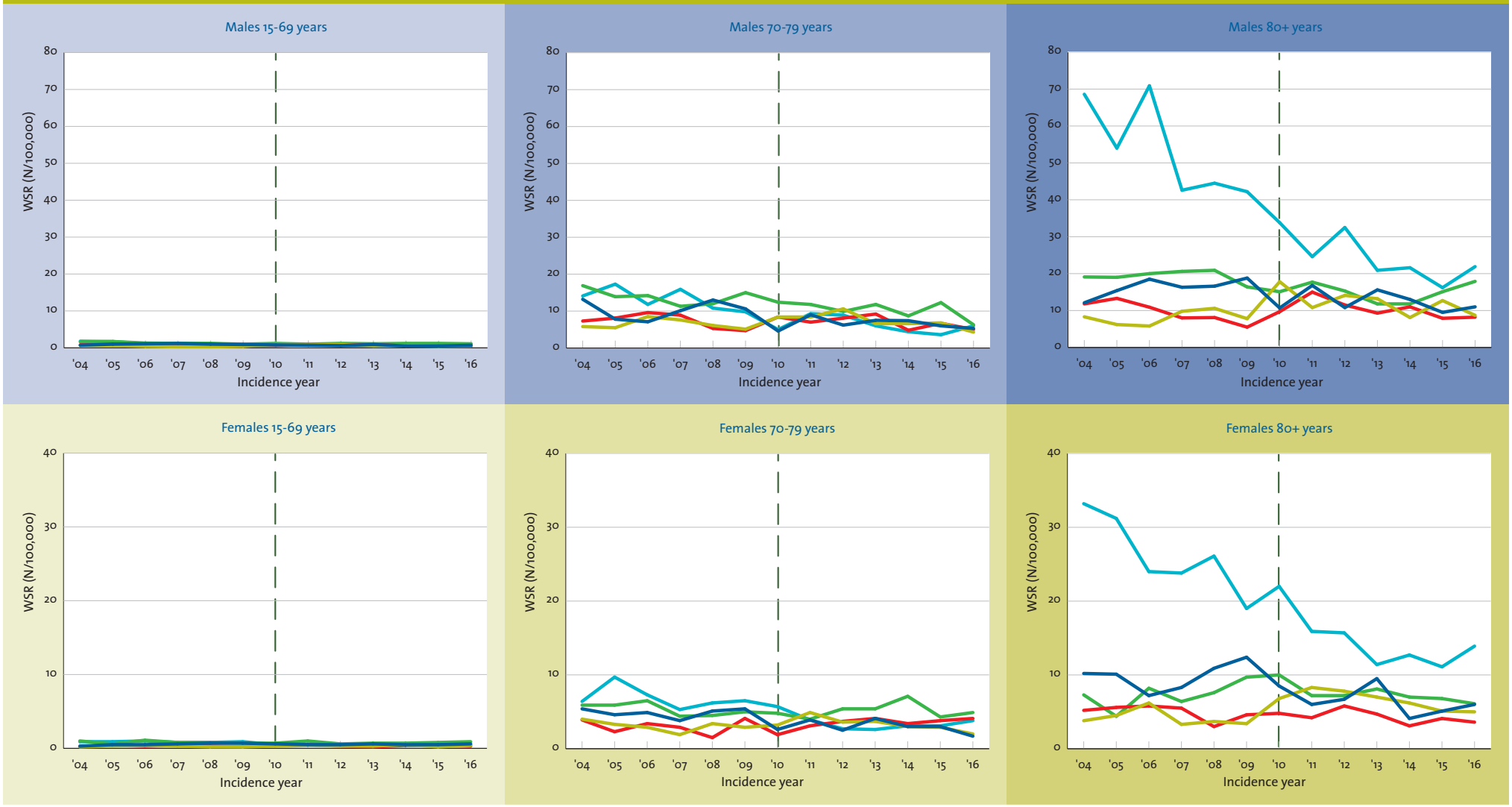
Source: Belgian Cancer Registry

Figure 4 Stomach cancer: Stage distribution by age group and sex, Belgium 2010-2016



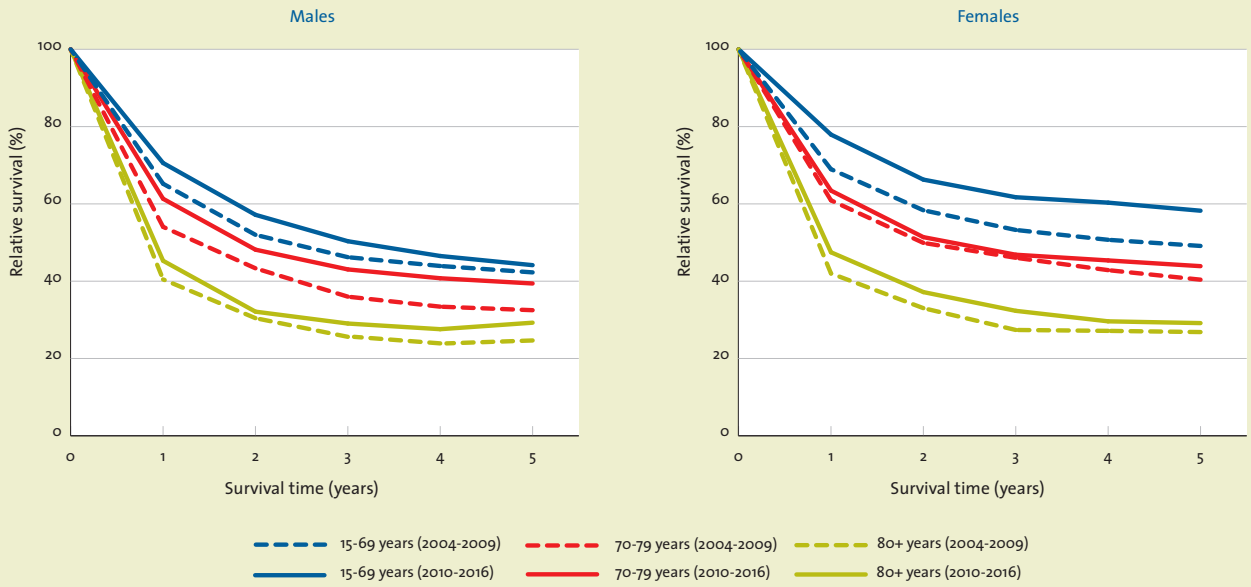
Source: Belgian Cancer Registry

Figure 5 Stomach cancer: Trends in age-standardised incidence (WSR) by stage, age group and sex, Belgium 2004-2016



Source: Belgian Cancer Registry

Figure 6 Stomach cancer: Relative survival by sex and age group, Belgium 2004-2009 (dashed line) versus 2010-2016 (full line)



Source: Belgian Cancer Registry

Table 3 Stomach cancer: Relative Survival by age group and sex (Belgium, 2004-2016)

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	3,166	68.1	[66.4; 69.7]	48.4	[46.6; 50.2]	43.5	[41.6; 45.4]	39.1	[36.9; 41.3]
	Females	2,181	74.0	[72.1; 75.8]	58.0	[55.8; 60.1]	54.1	[51.8; 56.3]	50.3	[47.7; 52.8]
70-79 years	Males	2,427	57.5	[55.4; 59.6]	39.3	[37.1; 41.5]	35.7	[33.3; 38.1]	31.1	[27.6; 34.7]
	Females	1,606	62.2	[59.7; 64.6]	46.5	[43.8; 49.1]	41.9	[39.0; 44.7]	39.4	[35.5; 43.5]
80+ years	Males	2,105	43.0	[40.7; 45.4]	27.4	[24.9; 29.9]	26.9	[23.9; 30.1]	20.0	[14.1; 27.4]
	Females	2,161	44.9	[42.6; 47.2]	30.0	[27.6; 32.5]	28.2	[25.4; 31.1]	27.1	[21.5; 33.5]

Source: Belgian Cancer Registry

Table 4 Stomach cancer: Conditional Relative Survival by age group and sex (Belgium, 2004-2016)
Unadjusted relative survival proportion to survive an additional year, conditional on surviving the first year since diagnosis, %

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	2,111	80.4	[78.6; 82.1]	66.8	[64.5; 68.9]	61.7	[59.2; 64.1]	56.0	[52.8; 59.2]
	Females	1,602	84.9	[83.0; 86.6]	75.6	[73.2; 77.8]	71.3	[68.7; 73.8]	67.4	[64.0; 70.5]
70-79 years	Males	1,329	79.3	[76.8; 81.7]	63.9	[60.7; 67.1]	60.3	[56.4; 64.1]	50.5	[44.0; 57.3]
	Females	970	81.5	[78.7; 84.0]	70.7	[67.2; 74.1]	66.2	[62.1; 70.2]	61.9	[55.2; 68.6]
80+ years	Males	791	72.8	[68.8; 76.6]	59.9	[54.4; 65.3]	61.0	[53.6; 68.6]	46.7	[30.3; 67.9]
	Females	868	78.4	[74.9; 81.7]	63.6	[58.7; 68.4]	60.8	[54.5; 67.2]	65.4	[50.3; 82.5]

Source: Belgian Cancer Registry

Keynotes

- The globally present clear decline of stomach cancer, also seen in Belgium, is mainly the result of improved primary prevention (i.e. better hygiene and food conservation, screening and treatment of Helicobacter Pylori infection, generally higher intake of fresh fruits and vegetables) [30].
- The observed decreased incidence is more present for the Belgian older population compared to the younger ages.
- The epidemiology of stomach cancer worldwide differs significantly, with important geographical, ethnic and socioeconomic differences [31]. The male predominance in stomach cancer has been associated with a protective effect of female reproductive hormones [32]. In Belgian females, in spite of their intrinsic lower risk for developing stomach cancer, in general the regression of incidence is less pronounced, particularly for the younger (i.e. <70 years old) female subgroup.

3.3.1.2 Bladder cancer (ICD-10: C67)

Table 1 Bladder cancer: Overview of incidence, mortality, prevalence and survival by sex and age group (Belgium)

Belgium	All ages together (15 years or older)			15-69 years			70-79 years			80+ years			80-89 years			90+ years		
Incidence, 2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	1,840	40.4	21.3	640	16.2		629	166.5		571	256.8		499	254.8		72	271.9	
Females	506	10.5	4.6	157	4.0		137	30.1		212	53.5		180	55.7		32	43.7	
Mortality, 2015	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	673	14.9	6.9	146	3.7		193	51.8		334	153.4		266	137.9		68	274.8	
Females	252	5.3	1.8	43	1.1		52	11.5		157	39.9		118	36.5		39	55.4	
Prevalence (5 years), 2012-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	5,772	125.9	65.6	2,017	50.9		2,067	528.0		1,688	741.7		1,467	735.1		221	788.7	
Females	1,386	28.8	12.5	454	11.5		393	84.2		539	134.7		453	139.9		86	112.3	
Prevalence (10 years), 2007-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	8,713	190.0	97.4	2,894	73.0		3,129	799.2		2,690	1,182.0		2,318	1,161.5		372	1,327.6	
Females	2,134	44.3	18.7	650	16.5		607	130.0		877	219.1		718	221.8		159	207.7	
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Males	9,301	57.8	[56.2; 59.4]	3,300	65.8	[63.7; 67.9]	3,090	58.4	[55.7; 61.0]	2,913	45.9	[42.1; 49.9]	2,576	46.5	[42.6; 50.5]	339	47.7	[30.9; 68.6]
Females	2,479	48.6	[45.8; 51.4]	738	61.3	[56.9; 65.3]	692	54.5	[49.4; 59.4]	1,049	33.5	[28.4; 38.9]	866	36.2	[30.8; 42.0]	187	15.3	[5.4; 33.5]

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

Source: Belgian Cancer Registry

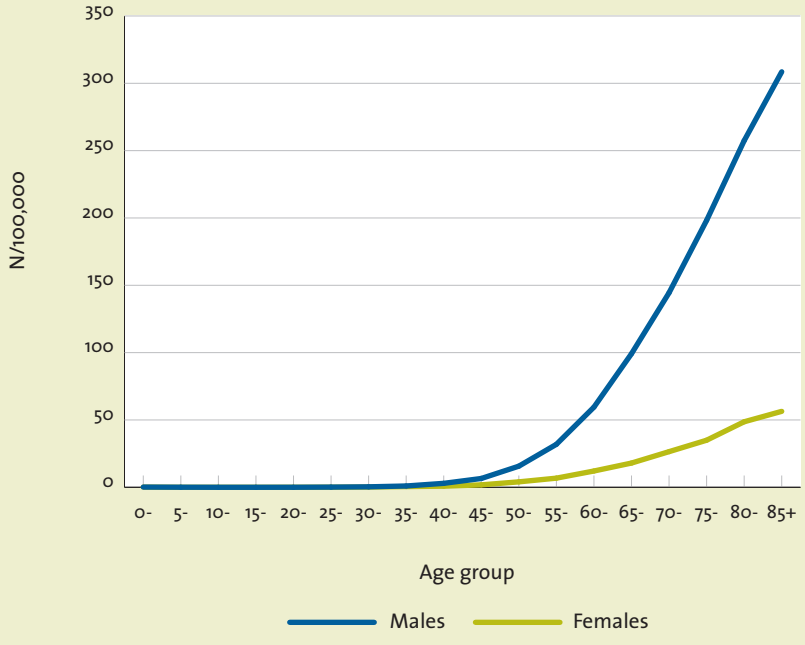
- **Incidence** (**Figure 1**, **Table 1**, **Figure 2**):
  - Bladder cancer is the 5th most frequent cancer in males and the 14th most frequent in females. In the age group 80+ years, it is the 4th most frequent cancer in males and the 7th most frequent cancer in females.
  - In 2016, there were 2,347 (all but one in patients 15 years or older) new diagnoses of bladder cancer, of whom 1,549 (66%) were older than 70 years old. 78% of the patients were males.
  - Over time, incidence rates remain rather stable (**Figure 3**, **Table 2**).
  - Bladder cancer predominantly affects males (male/female ratio = 4.7 in 2016). A different risk is observed with age between males and females (**Figure 1**, **Figure 3**, **Table 2**):
    - Age group 15-69 years: males have a higher risk than females (M/F ratio = 4.1)
    - Age group 70-79 years: males have a more than fivefold higher risk than females (M/F ratio = 5.6)
    - Age group 80+ years: males have an almost fivefold higher risk (M/F ratio = 4.8)
  - Females are more often diagnosed in an advanced stage (stage III + IV): 27% in females and 23% in males (**Figure 4**, **Figure 5**, **Figure 6**):
    - Especially younger females are more frequently diagnosed with stage IV bladder cancer (19% of stage IV in the age group 15-69 years).
    - An increase (**Table 2**) is observed from 2004-2016 for pT1 tumours in both sexes and among all age groups. The pT2 diagnoses initially show an increasing trend for older patients (i.e. 80+ years old), but since 2014 an opposing downward trend is observed. Tumours diagnosed as pT3 increase in females (among all age groups) but remain more stable in males. The rates for pT4 cases are low and no significant changes can be observed. However, these changes in stage distribution have to be interpreted with caution as there is a decrease in the percentage of unknown stages over time.
    - The Belgian Cancer Registry also collects information about non-invasive bladder tumours (pTa and pTis). The majority of cases are pTa, and similar to pT1, a significant increase can be observed for the pTa bladder tumours in both sexes and among all age groups.
    - Availability of information on the stage in 2010-2016 is 92%, regardless of age.

- **Mortality** (**Table 1**, **Figure 2**, **Figure 3**, **Table 2**):
  - Bladder cancer is the 6th most frequent cause of cancer death in males and the 12th most frequent in females. In the age group 80+ years, bladder cancer is the 4th most frequent cause of cancer death in males and the 9th most frequent in females.
  - In 2015, there were 925 deaths attributed to bladder cancer of which 73% were males. 26% of cancer deaths occurred in the age group 70-79 years and 53% in the age group 80+ years.
  - Over time, mortality rates remain rather stable.

- **Prevalence** (**Table 1**):
  - Of all 22,868 persons diagnosed with bladder cancer between 2007 and 2016, 10,847 were still alive at 31 December 2016 (i.e. 10-year prevalence). 34% was aged between 70 and 79 years, 28% between 80 and 89 years and 5% was older than 90 years.

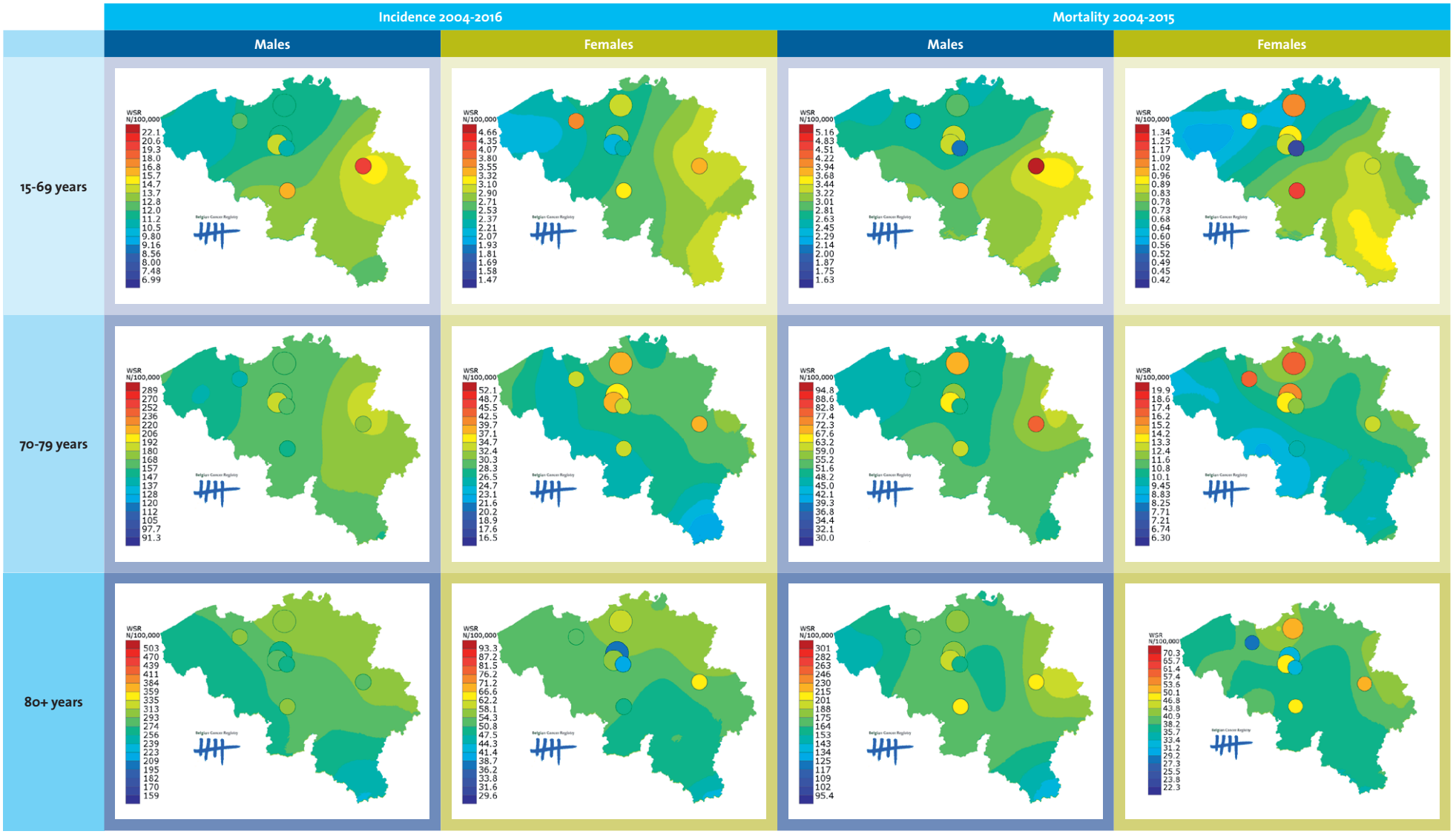
- **Survival**:
  - The 5-year relative survival proportion for the Belgian 2012-2016 cohort is 58% in males and 49% in females (**Table 1**). Males have a small survival advantage, however, the 10-year relative survival proportion for the 2004-2016 cohort is more similar between the sexes (**Table 3**).
  - The prognosis decreases with age in both sexes. The 5-year relative survival in the age group 15-69 years is 66% in males and 61% in females. In the age group 80+ years, the 5-year relative survival is respectively 46% and 33% (**Table 1**).
  - No major improvement is observed in the 5-year relative survival between the Belgian 2004-2009 cohort and 2010-2016 cohort. Moreover in the female age group 80+ years, survival is lower for the Belgian 2010-2016 cohort (**Figure 7**).
  - In contrast to relative survival, the 5- year conditional relative survival in the age group 80+ years is higher in females (64%) than in males (60%) (**Table 4**). Relative survival curves for patients aged 80 years or older show a faster decline in females than in males (1-year relative survival of 70% in male and 58% in female) (**Figure 7**) (**Table 3**), which could be related to the differences observed for the conditional relative survival.

Figure 1 Bladder cancer: Age-specific incidence rates (N/100,000) by sex, Belgium 2004-2016



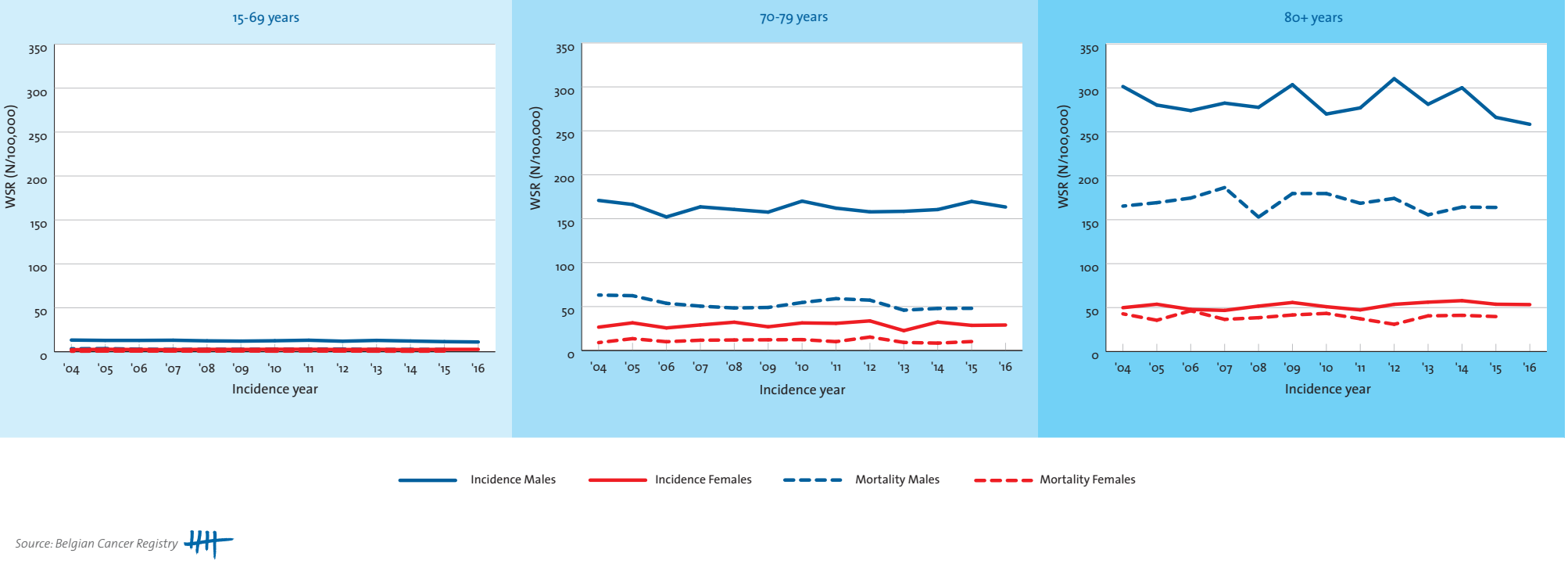
Source: Belgian Cancer Registry

Figure 2 Bladder cancer: Age-standardised incidence and mortality (WSR) by sex and age group, Belgium



Source: Belgian Cancer Registry

Figure 3 Bladder Cancer: Trends in age-standardised incidence and mortality (WSR) by sex and age group, Belgium 2004-2016



Source: Belgian Cancer Registry

Table 2 Bladder cancer: AAPC (%) by pT-category, stage and age group in Belgium

Bladder cancer		Males			Females		
Incidence		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	-0.8	[-1.2; -0.5]	2004-2016	0.5	[-0.4; 1.3]	2004-2016
		-0.4	[-0.7; 0.0]	2004-2014			
		-3.1	[-5.3; -0.8]	2014-2016			
	15-69 years	-1.0	[-1.6; -0.5]	2004-2016	0.4	[-0.7; 1.5]	2004-2016
	70-79 years	-0.0	[-0.6; 0.6]	2004-2016	0.2	[-1.7; 2.1]	2004-2016
	80+ years	-0.4	[-1.3; 0.5]	2004-2016	0.9	[-0.1; 1.9]	2004-2016
Mortality		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	-1.5	[-2.7; -0.3]	2004-2015	-0.5	[-1.9; 0.8]	2004-2015
		-1.0	[-2.7; 0.6]	2004-2012	2.2	[-1.1; 5.7]	2004-2009
		-2.8	[-7.6; 2.2]	2012-2015	-2.8	[-5.4; -0.2]	2009-2015
	15-69 years	-3.0	[-4.2; -1.8]	2004-2015	0.7	[-1.8; 3.2]	2004-2015
		-8.8	[-13.0; -4.3]	2004-2007	16.4	[0.5; 34.7]	2004-2006
		2.5	[-0.7; 5.8]	2007-2011	-2.5	[-5.2; 0.3]	2006-2015
		-3.9	[-7.2; -0.6]	2011-2015			
	70-79 years	-3.1	[-4.3; -1.9]	2004-2015	-1.1	[-4.2; 2.2]	2004-2015
		-7.5	[-10.8; -4.0]	2004-2008	3.3	[-3.2; 10.2]	2004-2010
		7.0	[2.3; 11.8]	2008-2011	-6.1	[-13.2; 1.7]	2010-2015
		-5.7	[-9.1; -2.2]	2011-2015			
	80+ years	-0.4	[-1.5; 0.7]	2004-2015	-0.5	[-2.5; 1.6]	2004-2015
Incidence by pT category		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
Non-invasive bladder tumour							
pTa (Non-invasive papillary carcinoma)	15+ years	3.4	[2.7; 4.1]	2004-2016	3.0	[1.6; 4.4]	2004-2016
		6.0	[3.8; 8.2]	2004-2008			
		0.3	[-1.6; 2.2]	2008-2012			
		4.1	[1.9; 6.3]	2012-2016			
	15-69 years	2.6	[1.8; 3.4]	2004-2016	2.7	[1.0; 4.4]	2004-2016
		4.2	[2.1; 6.5]	2004-2009			
		1.5	[0.1; 3.0]	2009-2016			
	70-79 years	4.1	[2.4; 5.8]	2004-2016	3.9	[2.1; 5.7]	2004-2016
		6.1	[-2.9; 15.9]	2004-2006			
		2.0	[0.1; 4.0]	2006-2014			
		10.7	[1.3; 20.9]	2014-2016			
	80+ years	4.3	[3.3; 5.3]	2004-2016	2.4	[0.0; 4.7]	2004-2016
		9.9	[5.3; 14.7]	2004-2007			
		2.5	[1.2; 3.8]	2007-2016			
pTis (Carcinoma in situ: "Flat tumour")	15+ years	2.7	[0.4; 5.1]	2004-2016	-2.3	[-6.4; 2.0]	2004-2016
					-26.1	[-35.9; -14.9]	2004-2008
					43.1	[21.2; 68.9]	2008-2011
					-2.7	[-12.7; 8.3]	2011-2016
	15-69 years	1.6	[-1.9; 5.3]	2004-2016	-1.6	[-6.7; 3.9]	2004-2016
					-25.3	[-36.9; -11.6]	2004-2008
					40.9	[21.0; 64.2]	2008-2012
					-9.3	[-23.4; 7.4]	2012-2016
	70-79 years	2.8	[-0.7; 6.3]	2004-2016	0.2	[-11.6; 13.6]	2004-2016
		-15.3	[-27.2; -1.6]	2004-2007			
		9.6	[4.9; 14.6]	2007-2016			
	80+ years	4.0	[1.3; 6.7]	2004-2016	-3.2	[-11.9; 6.4]	2004-2016
		8.2	[2.2; 14.6]	2004-2010			
		-0.1	[-5.6; 5.8]	2010-2016			
Invasive bladder tumour							
pT1 (Tumour invades subepithelial connective tissue)	15+ years	1.9	[1.5; 2.3]	2004-2016	3.8	[2.1; 5.5]	2004-2016
		6.4	[4.8; 8.1]	2004-2007	13.3	[5.3; 21.9]	2004-2007
		1.7	[1.0; 2.4]	2007-2013	0.8	[-1.4; 3.0]	2007-2016
		-2.2	[-3.7; -0.7]	2013-2016			
	15-69 years	1.6	[1.0; 2.2]	2004-2016	4.8	[2.5; 7.1]	2004-2016
		7.6	[4.9; 10.3]	2004-2007	26.3	[10.0; 45.1]	2004-2006
		1.2	[-0.1; 2.5]	2007-2012	0.9	[-1.4; 3.3]	2006-2016
		-2.1	[-3.9; -0.4]	2012-2016			
	70-79 years	2.1	[1.0; 3.2]	2004-2016	3.0	[0.7; 5.5]	2004-2016
		3.1	[1.7; 4.6]	2004-2013	7.0	[1.6; 12.7]	2004-2010
		-1.0	[-5.6; 3.7]	2013-2016	-0.8	[-5.8; 4.5]	2010-2016
	80+ years	2.3	[0.9; 3.7]	2004-2016	2.0	[0.5; 3.4]	2004-2016
pT2 (Tumour invades muscle)	15+ years	-1.5	[-2.4; -0.6]	2004-2016	0.1	[-2.2; 2.5]	2004-2016
		1.5	[0.5; 2.5]	2004-2014			
		-15.3	[-20.2; -10.1]	2014-2016			
	15-69 years	-0.8	[-2.3; 0.6]	2004-2016	0.5	[-2.6; 3.6]	2004-2016
	70-79 years	-1.1	[-2.3; 0.2]	2004-2016	-2.3	[-6.1; 1.7]	2004-2016
		2.0	[0.3; 3.7]	2004-2013	2.1	[-20.9; 31.7]	2004-2006
		-9.9	[-14.8; -4.6]	2013-2016	-3.1	[-7.2; 1.2]	2006-2016
	80+ years	-0.6	[-2.7; 1.4]	2004-2016	-0.5	[-2.3; 1.3]	2004-2016
		3.9	[1.7; 6.3]	2004-2014	6.1	[4.1; 8.2]	2004-2014
		-20.7	[-30.4; -9.6]	2014-2016	-27.9	[-35.7; -19.2]	2014-2016

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

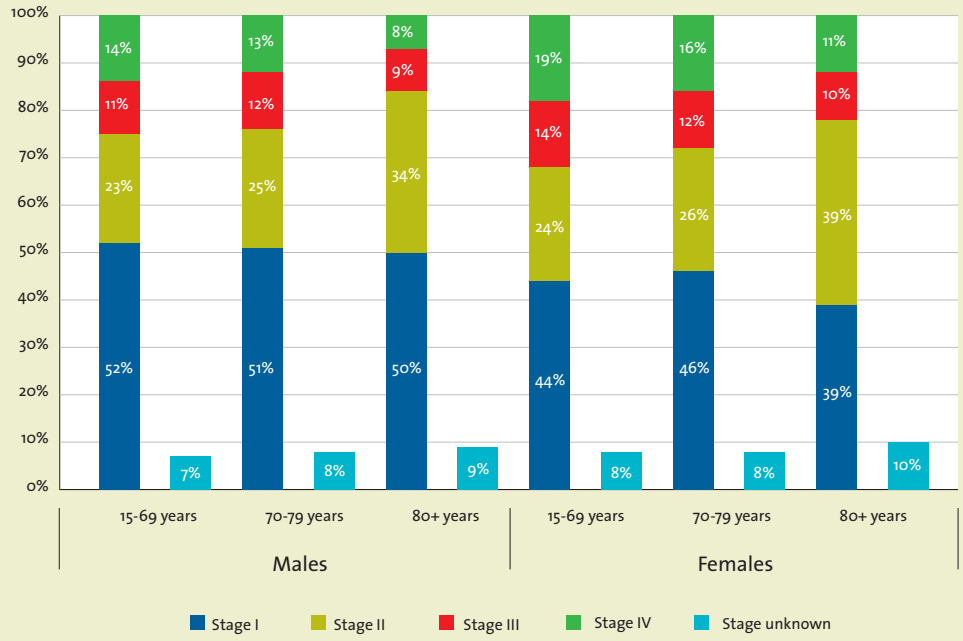
Source: Belgian Cancer Registry

pT3 (Tumour invades perivesical tissue)	15+ years	-2.5	[-4.2; -0.8]	2004-2016	3.0	[0.7; 5.4]	2004-2016
		0.3	[-1.5; 2.2]	2004-2014			
		-15.6	[-24.5; -5.8]	2014-2016			
	15-69 years	-4.3	[-6.1; -2.4]	2004-2016	2.2	[-1.2; 5.7]	2004-2016
		-0.8	[-2.9; 1.3]	2004-2014			
		-19.7	[-29.2; -8.9]	2014-2016			
	70-79 years	1.6	[-0.8; 4.1]	2004-2016	5.5	[2.3; 8.7]	2004-2016
	80+ years	-1.8	[-5.4; 2.0]	2004-2016	1.2	[-2.6; 5.2]	2004-2016
pT4 (Tumour directly invades surrounding tissue)	15+ years	-2.1	[-3.5; -0.7]	2004-2016	2.2	[-1.9; 6.6]	2004-2016
		-8.9	[-12.5; -5.2]	2004-2008			
		9.4	[6.7; 12.1]	2008-2014			
		-18.9	[-25.6; -11.5]	2014-2016			
	15-69 years	-2.4	[-4.9; 0.2]	2004-2016	0.9	[-5.1; 7.2]	2004-2016
		-9.3	[-15.1; -3.0]	2004-2009			
		27.3	[14.9; 41.1]	2009-2012			
		-12.4	[-19.7; -4.4]	2012-2016			
	70-79 years	1.5	[-1.9; 5.1]	2004-2016	2.9	[-6.0; 12.6]	2004-2016
	80+ years	0.5	[-4.5; 5.7]	2004-2016	4.4	[-7.0; 17.2]	2004-2016
pTx (Primary tumour cannot be assessed)	15+ years	-11.6	[-13.3; -9.9]	2004-2016	-10.0	[-12.3; -7.6]	2004-2016
	15-69 years	-12.6	[-14.4; -10.8]	2004-2016	-10.7	[-13.8; -7.6]	2004-2016
	70-79 years	-8.9	[-10.7; -7.1]	2004-2016	-7.8	[-10.3; -5.3]	2004-2016
		-13.5	[-15.3; -11.7]	2004-2014	-3.5	[-11.4; 5.0]	2004-2008
		18.4	[4.5; 34.2]	2014-2016	-18.4	[-24.5; -11.9]	2008-2012
					-0.6	[-8.7; 8.3]	2012-2016
	80+ years	-10.5	[-13.3; -7.6]	2004-2016	-6.5	[-9.5; -3.3]	2004-2016
		-15.2	[-30.8; 3.9]	2004-2006	-12.5	[-16.9; -7.9]	2004-2012
		-9.5	[-12.6; -6.4]	2006-2016	6.8	[-4.4; 19.4]	2012-2016
Incidence by stage		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
Stage I	15+ years	1.8	[1.3; 2.3]	2004-2016	2.9	[1.4; 4.4]	2004-2016
		6.3	[4.2; 8.6]	2004-2007	6.5	[2.3; 10.9]	2004-2009
		1.6	[0.6; 2.5]	2007-2013	0.4	[-2.3; 3.2]	2009-2016
		-2.1	[-4.1; -0.1]	2013-2016			
	15-69 years	1.7	[1.2; 2.2]	2004-2016	4.0	[2.0; 5.9]	2004-2016
		10.5	[7.6; 13.6]	2004-2006	19.0	[5.4; 34.3]	2004-2006
		1.7	[0.9; 2.4]	2006-2012	1.2	[-0.8; 3.3]	2006-2016
		-2.4	[-3.6; -1.1]	2012-2016			
	70-79 years	2.1	[1.0; 3.1]	2004-2016	3.1	[0.9; 5.4]	2004-2016
		3.0	[1.4; 4.7]	2004-2012	7.1	[2.0; 12.5]	2004-2010
		0.2	[-3.3; 3.7]	2012-2016	-0.7	[-5.5; 4.3]	2010-2016
	80+ years	2.1	[0.8; 3.4]	2004-2016	1.8	[0.4; 3.1]	2004-2016
Stage II	15+ years	-1.6	[-2.5; -0.7]	2004-2016	-0.8	[-3.0; 1.4]	2004-2016
		0.8	[-0.2; 1.8]	2004-2014			
		-12.7	[-17.6; -7.4]	2014-2016			
	15-69 years	-1.3	[-2.7; 0.0]	2004-2016	-1.3	[-4.4; 2.0]	2004-2016
	70-79 years	-1.2	[-2.6; 0.2]	2004-2016	-2.7	[-6.7; 1.5]	2004-2016
		0.9	[-0.9; 2.8]	2004-2013	0.6	[-23.3; 32.0]	2004-2006
		-7.3	[-12.9; -1.4]	2013-2016	-3.3	[-7.6; 1.2]	2006-2016
	80+ years	1.0	[-1.9; 4.1]	2004-2016	2.0	[-0.5; 4.6]	2004-2016
		1.4	[-16.2; 22.6]	2004-2006	4.4	[-1.2; 10.3]	2004-2010
		1.0	[-2.2; 4.3]	2006-2016	-0.4	[-5.7; 5.3]	2010-2016
Stage III	15+ years	-2.7	[-5.0; -0.3]	2004-2016	1.8	[-1.4; 5.1]	2004-2016
		-11.8	[-24.2; 2.8]	2004-2006			
		-0.7	[-3.3; 1.8]	2006-2016			
	15-69 years	-4.9	[-6.3; -3.4]	2004-2016	2.6	[-2.6; 8.1]	2004-2016
		-7.1	[-10.7; -3.4]	2004-2009			
		13.8	[7.1; 20.8]	2009-2012			
		-14.3	[-18.6; -9.8]	2012-2016			
	70-79 years	-0.7	[-3.3; 1.9]	2004-2016	1.2	[-3.8; 6.5]	2004-2016
	80+ years	-1.7	[-5.8; 2.6]	2004-2016	-0.4	[-3.3; 2.7]	2004-2016
Stage IV	15+ years	1.5	[-0.4; 3.3]	2004-2016	3.6	[1.2; 6.0]	2004-2016
	15-69 years	0.1	[-2.4; 2.7]	2004-2016	2.7	[-0.5; 6.0]	2004-2016
	70-79 years	4.1	[2.4; 5.7]	2004-2016	4.9	[0.5; 9.4]	2004-2016
	80+ years	1.8	[-1.7; 5.5]	2004-2016	5.7	[0.7; 10.9]	2004-2016
Stage unknown	15+ years	-11.9	[-16.3; -7.2]	2004-2016	-9.2	[-14.5; -3.6]	2004-2016
		-20.5	[-42.8; 10.5]	2004-2006	-8.6	[-37.9; 34.5]	2004-2006
		-10.0	[-14.9; -4.9]	2006-2016	-9.3	[-15.0; -3.3]	2006-2016
	15-69 years	-9.4	[-12.2; -6.6]	2004-2016	-10.1	[-14.9; -4.9]	2004-2016
		-14.9	[-17.7; -12.0]	2004-2014			
		23.7	[1.5; 50.6]	2014-2016			
	70-79 years	-6.2	[-9.6; -2.7]	2004-2016	-10.8	[-15.7; -5.6]	2004-2016
		-16.1	[-19.3; -12.7]	2004-2014			
		63.5	[29.2; 106.9]	2014-2016			
	80+ years	-10.5	[-15.1; -5.7]	2004-2016	-1.6	[-5.3; 2.4]	2004-2016
		-13.5	[-38.4; 21.6]	2004-2006	-13.2	[-16.8; -9.5]	2004-2014
		-9.9	[-14.9; -4.6]	2006-2016	84.9	[43.8; 137.6]	2014-2016

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

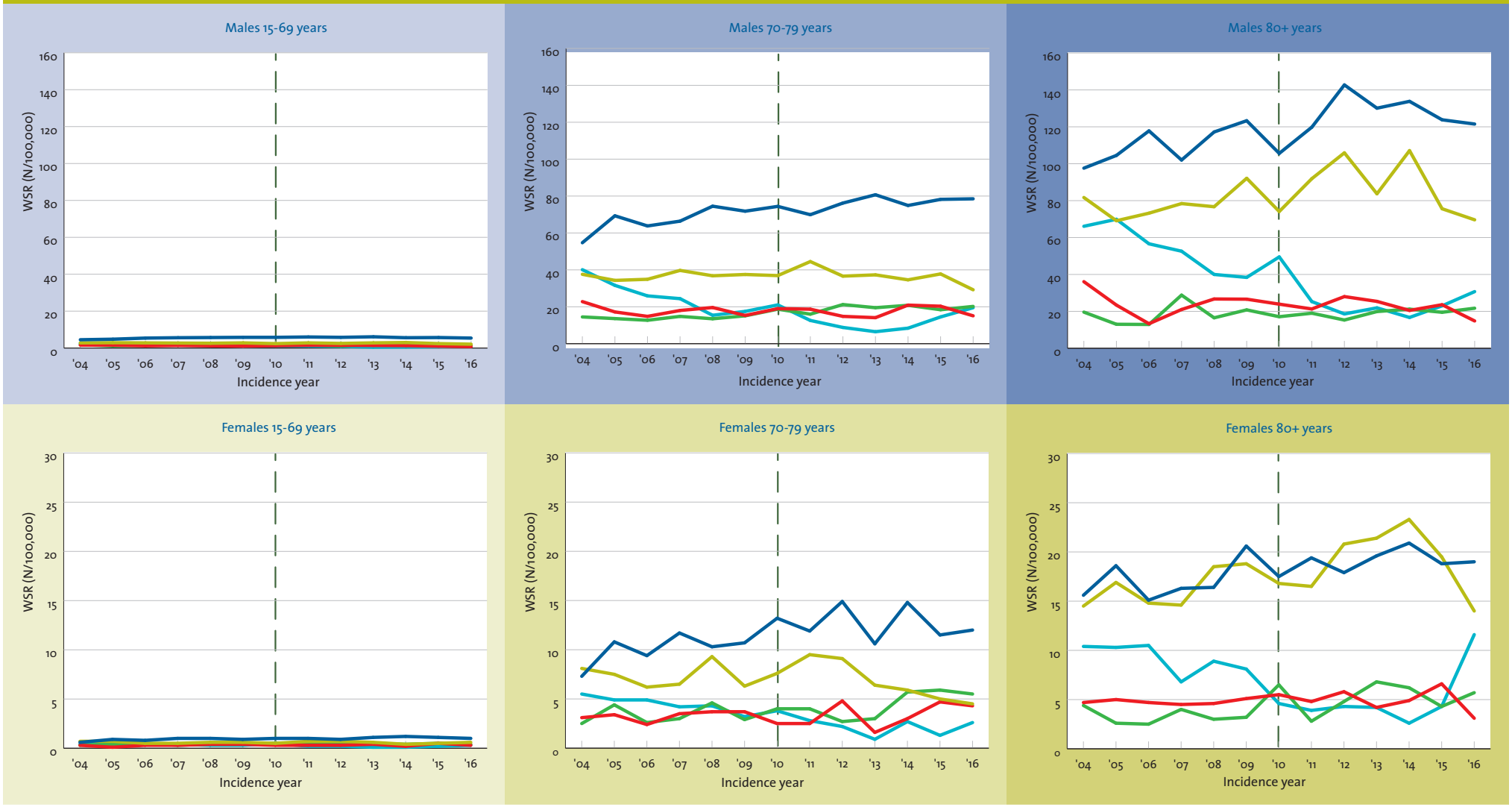
Source: Belgian Cancer Registry

Figure 4 Bladder cancer: Stage distribution by age group and sex, Belgium 2010-2016



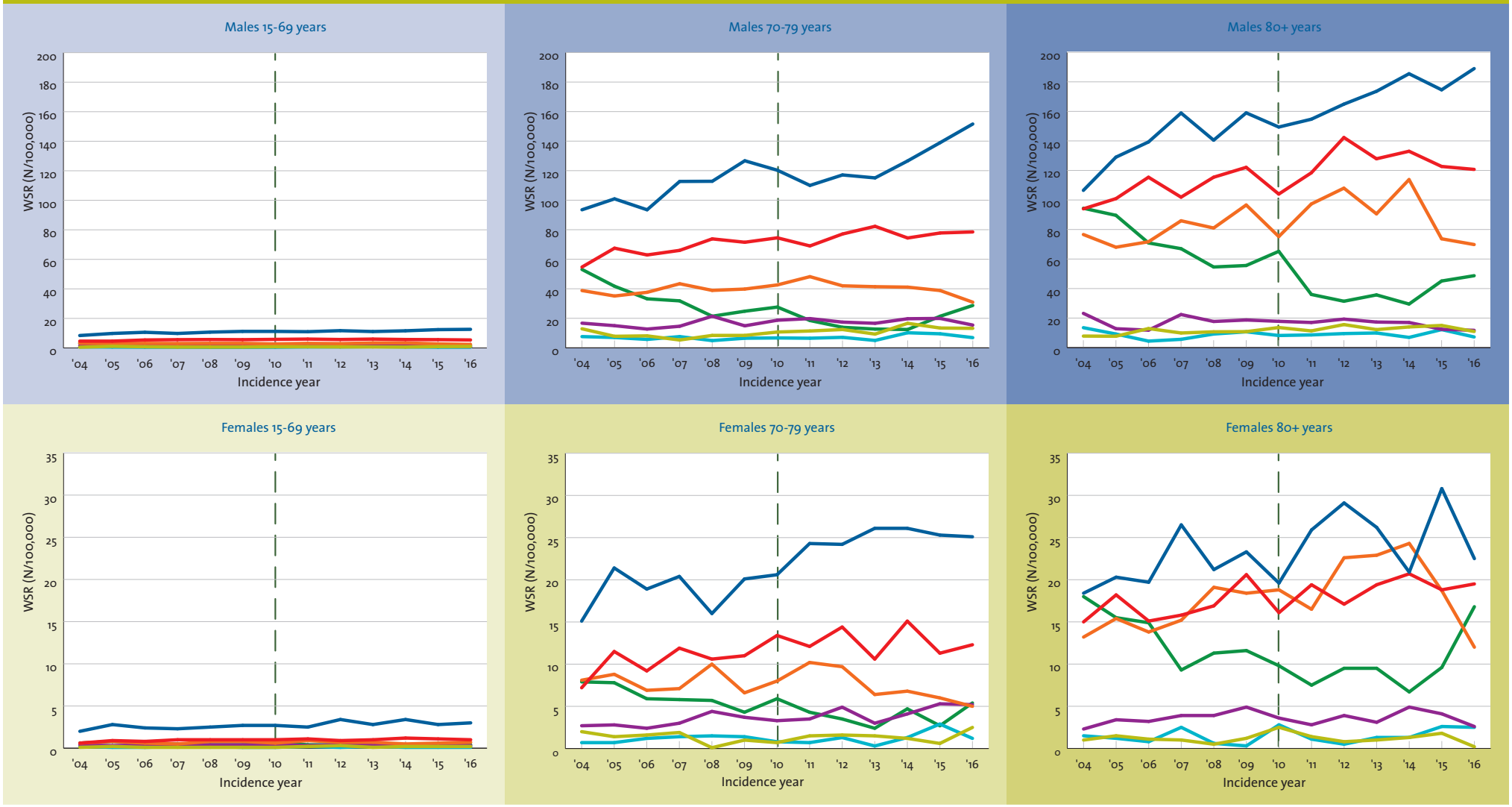
Source: Belgian Cancer Registry

Figure 5 Bladder cancer: Trends in age-standardised incidence (WSR) by stage, age group and sex, Belgium 2004-2016



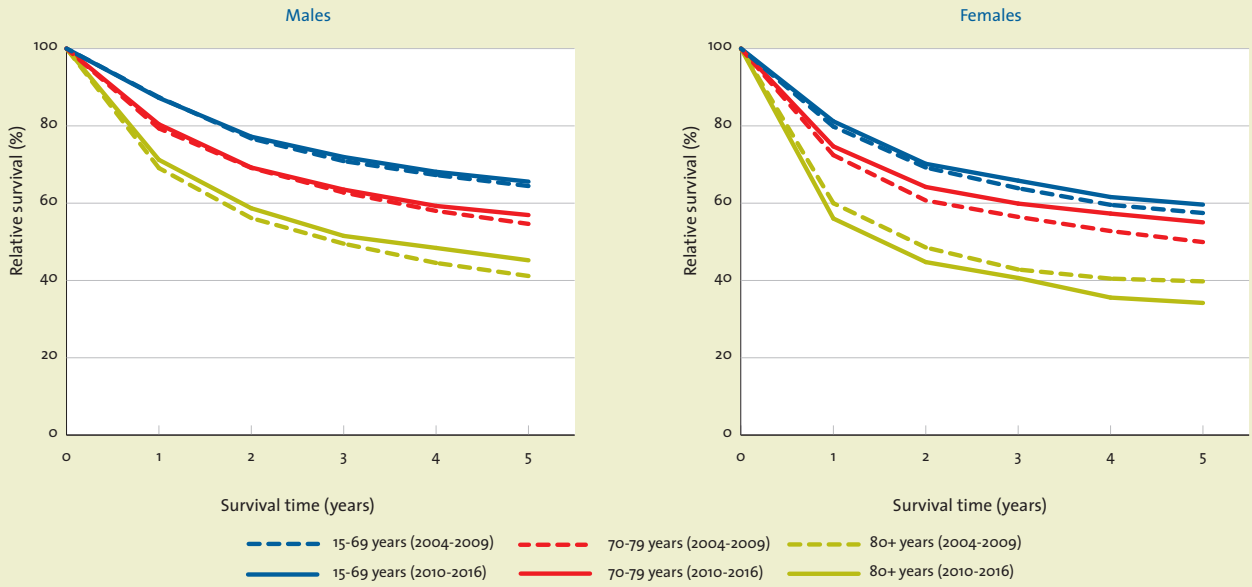
Source: Belgian Cancer Registry

Figure 6 Bladder cancer: Trends in age-standardised incidence (WSR) by pT-category, age group and sex, Belgium 2004-2016



Source: Belgian Cancer Registry

Figure 7 Bladder cancer: Relative survival by sex and age group, Belgium 2004-2009 (dashed line) versus 2010-2016 (full line)



Source: Belgian Cancer Registry

Table 3 Bladder cancer: Relative Survival by age group and sex (Belgium, 2004-2016)

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	8,195	87.3	[86.5; 88.1]	71.5	[70.4; 72.5]	65.0	[63.8; 66.2]	57.5	[55.9; 59.1]
	Females	1,779	80.6	[78.7; 82.4]	65.0	[62.6; 67.2]	58.6	[56.1; 61.1]	54.0	[51.0; 57.0]
70-79 years	Males	8,122	79.9	[79.0; 80.9]	63.2	[61.9; 64.4]	55.7	[54.2; 57.1]	47.3	[44.9; 49.7]
	Females	1,863	73.7	[71.5; 75.7]	58.3	[55.8; 60.8]	52.5	[49.7; 55.2]	47.2	[43.2; 51.2]
80+ years	Males	6,503	70.4	[69.0; 71.7]	50.7	[49.0; 52.5]	43.4	[41.2; 45.7]	38.6	[33.5; 44.1]
	Females	2,361	57.6	[55.4; 59.9]	41.5	[38.9; 44.1]	36.8	[33.7; 39.9]	33.9	[28.0; 40.5]

Source: Belgian Cancer Registry

Table 4 Table 4 Bladder cancer: Conditional Relative Survival by age group and sex (Belgium, 2004-2016)
Unadjusted relative survival proportion to survive an additional year, conditional on surviving the first year since diagnosis, %

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	7,032	88.2	[87.3; 88.9]	77.6	[76.4; 78.7]	72.2	[70.9; 73.5]	63.7	[61.7; 65.6]
	Females	1,415	86.6	[84.6; 88.3]	75.3	[72.7; 77.7]	71.5	[68.7; 74.2]	64.9	[61.1; 68.6]
70-79 years	Males	6,202	86.6	[85.5; 87.5]	73.4	[71.9; 74.8]	66.2	[64.4; 68.1]	55.6	[52.2; 58.9]
	Females	1,336	84.9	[82.7; 87.0]	74.8	[71.9; 77.6]	69.2	[65.7; 72.6]	64.6	[58.7; 70.5]
80+ years	Males	4,009	81.9	[80.3; 83.5]	66.3	[63.8; 68.8]	59.6	[56.2; 63.1]	57.5	[48.5; 67.3]
	Females	1,224	80.3	[77.4; 83.0]	65.5	[61.3; 69.7]	64.4	[58.9; 70.0]	62.8	[50.2; 76.8]

Source: Belgian Cancer Registry

Keynotes

- Bladder cancer is a typical malignancy of the older population, with an important male predominance (**Figure 1**). With age, the duration of possible exposure to environmental carcinogens increase, which can partially explain the impact of age on the burden of bladder cancer [33-35].
- Belgian bladder cancer maps reveal regional variation in incidence and mortality of bladder cancer. It is well known that chemical carcinogenesis plays an important role in the burden of bladder cancer, most profoundly cigarette smoking (**Figure 2**) [33-34].
- In females younger than 70 years old, 19% of the cases are diagnosed in stage IV (advanced disease). An established hypothesis is the common ignorance and/or misapprehension of initial symptoms like irritative voiding and gross hematuria among females [35].
- 5-year relative survival for the older population (i.e. 80+ years old) is significantly higher in males than in females (respectively 46% and 33%). A substantial larger proportion of female older patients is diagnosed with muscle-invasive bladder cancer, which implies extensive surgical treatment with an important risk for postoperative complications and mortality at 90 days following radical surgery, but even when adjusting for stage, outcome in females remains inferior [36]. Diverse types of explanations, genetic, anatomical, hormonal, have been proposed. Furthermore, it has been suggested that inequalities in healthcare between males and females might play a role in the different outcomes [35-36].

3.3.1.3 Head and Neck cancer (ICD-10: C00-C14; C30-C32)

Table 1 Head and Neck cancer: Overview of incidence, mortality, prevalence and survival by sex and age group (Belgium)

Belgium	All ages together (15 years or older)			15-69 years			70-79 years			80+ years			80-89 years			90+ years		
Incidence, 2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	2,001	43.9	30.1	1,436	36.3		398	105.3		167	75.1		155	79.1		12	45.3	
Females	688	14.3	9.2	432	11.0		144	31.6		112	28.3		89	27.6		23	31.4	
Mortality, 2015	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	600	13.2	8.4	366	9.3		132	35.4		102	46.9		92	47.7		10	40.4	
Females	203	4.3	2.3	96	2.4		48	10.6		59	15.0		45	13.9		14	19.9	
Prevalence (5 years), 2012-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	6,044	131.8	88.1	4,223	106.5		1,280	326.9		541	237.7		488	244.5		53	189.1	
Females	2,268	47.1	30.9	1,488	37.7		483	103.5		297	74.2		248	76.6		49	64.0	
Prevalence (10 years), 2007-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	9,327	203.4	133.0	6,164	155.4		2,197	561.2		966	424.5		873	437.5		93	331.9	
Females	3,566	74.0	47.8	2,286	57.9		761	163.0		519	129.7		436	134.7		83	108.4	
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Males	9,602	51.3	[49.9;52.6]	6,981	51.9	[50.4;53.4]	1,809	51.1	[47.6;54.6]	822	47.6	[40.3;55.3]	743	47.7	[40.3;55.6]	79	51.5	[21.8;95.9]
Females	3,360	59.4	[57.2;61.6]	2,242	61.3	[58.9;63.7]	631	56.1	[50.8;61.2]	489	56.1	[47.0;65.5]	398	56.1	[46.5;65.9]	92	64.4	[36.9;98.1]

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

Source: Belgian Cancer Registry

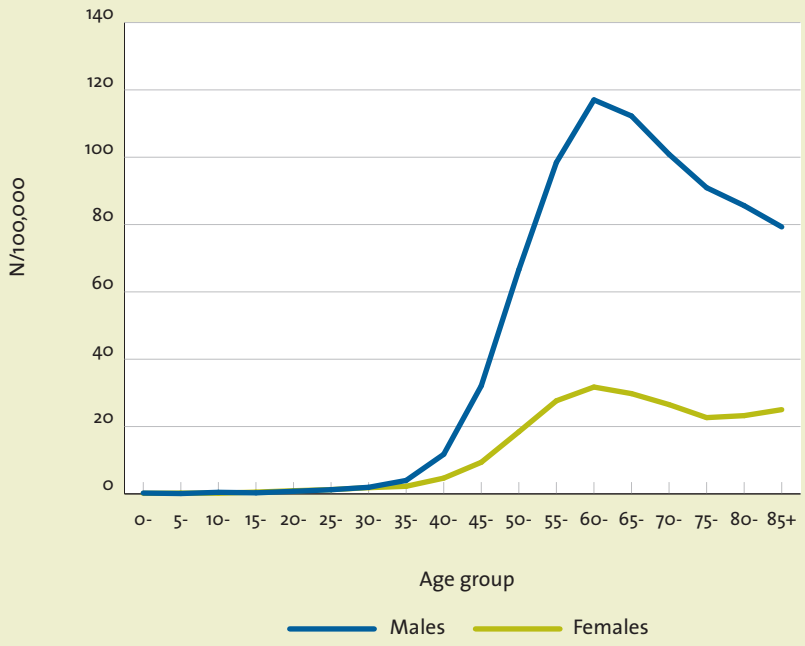
- **Incidence** (**Figure 1**, **Table 1**, **Figure 2**):
  - Head and neck cancer is the 4th most frequent cancer in males and the 12th most frequent in females. In the age group 80+ years, it is the 12th most frequent cancer in males and 16th most frequent in females.
  - In 2016, there were 2,694 new diagnoses of head and neck cancer in Belgium of whom 2,689 in patients aged 15 years or older. 74% were males. The male/female ratio is consistent throughout all age groups: M/F-ratio for the age group 15-69 years is 3.3, M/F-ratio for the age group 70-79 years is 3.3 and M/F-ratio for the age group 80+ years is 2.6.
  - For all head and neck cancer subtypes together, incidence rates between 2004 and 2016 have decreased in males, and discretely increased in females. Analyses by age group are concordant with this general observation, with exception of male patients aged 70-79 years. In females, the overall increasing trend over time is especially seen in patients older than 70 years (**Figure 3**, **Table 2**).
  - The incidence rates for head and neck cancer substantially differ according to the tumour localisation (**Table 3**, **Figure 4**):
    - The incidence rates for oropharyngeal cancer, i.e. the most common subtype of head and neck cancer, are rising, explaining at least part of the observed general increase in head and neck cancer incidence. The increase in females is seen for all age categories, in males, an increase in oropharyngeal cancer incidence is especially seen for the age group 70-79 years.
    - From the age of 70 years old, in males cancer of the larynx is the most common subtype of head and neck cancer, while cancer of the oral cavity is the most common subtype in females.
    - In males, a general decrease (among all age groups) is observed over time for cancer of the larynx, while in females from the age of 70 years old rates remain more stable.
    - In contrast to males, cancers of the oral cavity seem to occur more frequently over time in female patients of 70 years or older.
  - Among cases with a known stage, more than half of all head and neck cancers are diagnosed in (locally) advanced stages (stage III or IV), in both males and females, among all age groups (**Figure 5**).
    - Availability of information on stage is relatively good, with a decrease of stage availability with increasing age: 11% of unknown stage for age category 15-69 years, about 13% of unknown stage for patients aged 70-79 years old and 19% of unknown stage for the oldest age group.
    - Over time, stage availability improved for all age categories (**Figure 6**).

- **Mortality** (**Table 1**, **Figure 2**, **Figure 3**, **Table 2**):
  - Head and neck cancer is the 7th most important cause of cancer death in males, and is ranked 15th in females. In patients of 80 years or older, it is ranked 14th in males and 18th in females.
  - In 2015, 803 deaths due to head and neck cancer were counted in Belgium; 58% of them were aged between 15 and 69 years old. Similar to incidences, deaths from head and neck cancer occur 3 times more frequently in males than in females.
  - While mortality rates are decreasing over time in males, they remain stable in females.

- **Prevalence** (**Table 1**):
  - Of all the 26,104 persons diagnosed with head and neck cancer between 2007 and 2016, 12,893 were still alive at 31 December 2016 (i.e. 10-year prevalence) of which 23% was aged between 70 and 79 years, 10% between 80 and 89 years and 1% was older than 90 years.

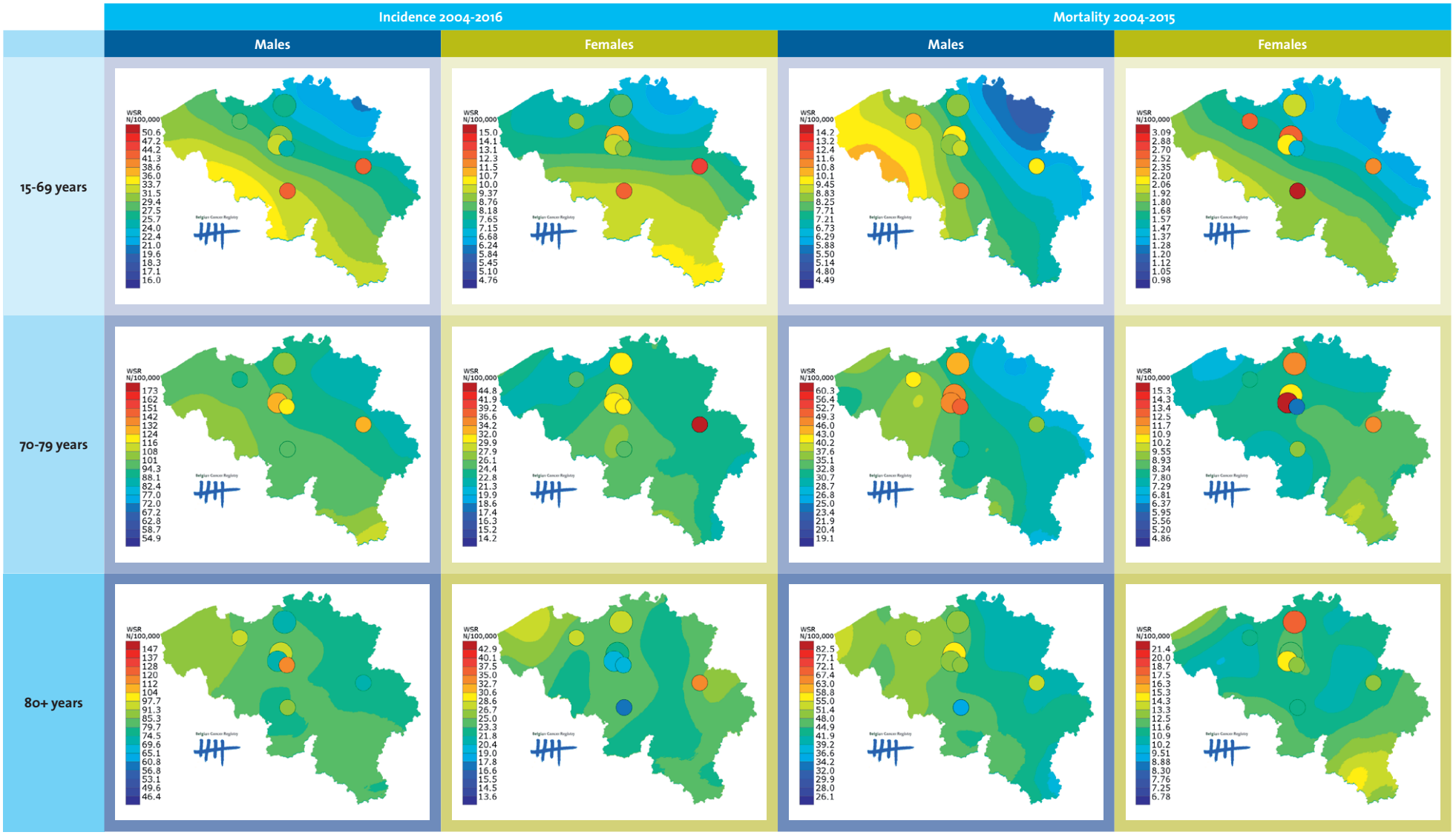
- **Survival**:
  - The 5-year relative survival proportion for the Belgian 2012-2016 cohort is higher in females than in males (59% vs. 51%). In females, the 5-year relative survival is higher for younger patients compared to older patients (61% for patients aged 15-69 years old, 56% for 70-79 years old and 56% for patients aged 80 years or older). This age-dependent decrease in relative survival is less pronounced in male patients, with 52% 5-year relative survival for the youngest and 48% for the oldest age category. The survival advantage in females decreases with age at diagnosis and no significant difference in 5-year relative survival is observed between both sexes from 70 years old or older (**Table 4**).
  - No clear difference in relative survival is observed over time for head and neck cancer, except for female patients aged 80 years or older. For this group of patients, a clear increase in the relative survival is seen over time in Belgium (2004-2009 compared to 2010-2016) (**Figure 7**).
  - In contrast to relative survival, 5-year conditional relative survival is higher for the age group 80+ years than for younger patients (**Table 5**).

Figure 1 Head and Neck cancer: Age-specific incidence rates (N/100,000) by sex, Belgium 2004-2016



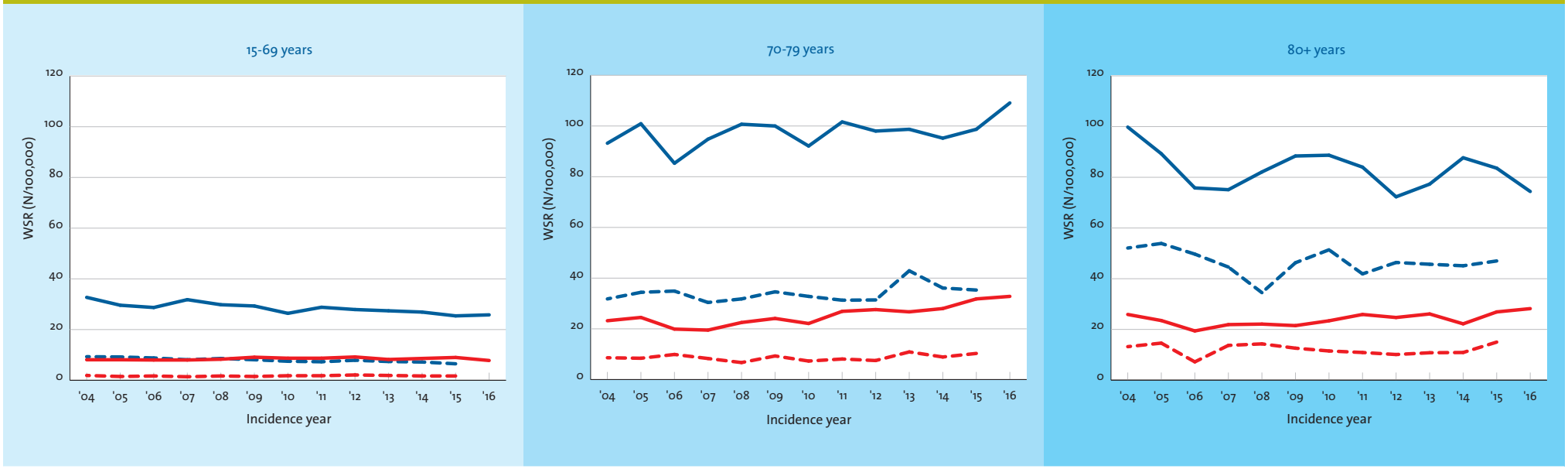
Source: Belgian Cancer Registry

Figure 2 Head and Neck cancer: Age-standardised incidence and mortality (WSR) by sex and age group, Belgium



Source: Belgian Cancer Registry

Figure 3 Head and Neck Cancer: Trends in age-standardised incidence and mortality (WSR) by sex and age group, Belgium 2004-2016



Source: Belgian Cancer Registry

Table 2 Head and Neck cancer: AAPC (%) by sex, localisation and age group in Belgium

Head and Neck cancer		Males			Females		
Incidence		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	-1.3	[-1.9; -0.7]	2004-2016	0.8	[0.1; 1.6]	2004-2016
	15-69 years	-1.7	[-2.3; -1.0]	2004-2016	0.2	[-0.6; 0.9]	2004-2016
					1.5	[0.3; 2.7]	2004-2012
					-2.4	[-4.8; 0.1]	2012-2016
	70-79 years	0.7	[-0.1; 1.6]	2004-2016	2.4	[1.1; 3.6]	2004-2016
					-9.5	[-16.3; -2.2]	2004-2006
					4.9	[3.6; 6.3]	2006-2016
	80+ years	-2.2	[-3.6; -0.7]	2004-2016	1.5	[-0.1; 3.0]	2004-2016
		-13.2	[-21.1; -4.4]	2004-2006			
		3.0	[-1.0; 7.3]	2006-2010			
		-1.7	[-4.3; 1.0]	2010-2016			
Mortality		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	-2.1	[-2.7; -1.4]	2004-2015	0.8	[-0.5; 2.1]	2004-2015
	15-69 years	-2.8	[-3.5; -2.1]	2004-2015	0.9	[-1.0; 2.9]	2004-2015
	70-79 years	1.1	[-0.6; 2.8]	2004-2015	1.2	[-1.3; 3.7]	2004-2015
					-2.6	[-7.3; 2.3]	2004-2010
					5.9	[-0.3; 12.5]	2010-2015
	80+ years	-0.8	[-3.0; 1.4]	2004-2015	-0.3	[-4.2; 3.7]	2004-2015
Incidence by tumour localisation		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
Oral cavity	15+ years	-2.2	[-2.8; -1.6]	2004-2016	0.5	[-1.0; 2.0]	2004-2016
		-3.1	[-4.4; -1.8]	2004-2010			
		-1.2	[-2.5; 0.2]	2010-2016			
	15-69 years	-2.6	[-3.1; -2.0]	2004-2016	-0.2	[-1.9; 1.6]	2004-2016
	70-79 years	0.6	[-1.2; 2.5]	2004-2016	4.0	[1.2; 7.0]	2004-2016
	80+ years	-0.6	[-3.8; 2.7]	2004-2016	2.8	[0.5; 5.3]	2004-2016
Salivary glands	15+ years	0.9	[-1.1; 2.9]	2004-2016	0.0	[-2.0; 2.1]	2004-2016
	15-69 years	1.3	[-0.8; 3.4]	2004-2016	-0.3	[-3.0; 2.5]	2004-2016
	70-79 years	-0.5	[-6.8; 6.2]	2004-2016	2.0	[-2.8; 7.1]	2004-2016
		-18.7	[-46.6; 23.7]	2004-2006	-8.2	[-14.8; -1.0]	2004-2012
		3.6	[-3.4; 11.2]	2006-2016	25.9	[7.0; 48.2]	2012-2016
	80+ years	-3.6	[-5.5; -1.6]	2004-2016	1.0	[-3.1; 5.2]	2004-2016
		-13.7	[-21.1; -5.5]	2004-2007			
		0.1	[-2.5; 2.8]	2007-2016			
Oropharynx	15+ years	1.2	[0.0; 2.3]	2004-2016	3.7	[2.5; 4.8]	2004-2016
					7.5	[3.5; 11.6]	2004-2008
					1.8	[0.1; 3.6]	2008-2016
	15-69 years	0.7	[-0.5; 1.8]	2004-2016	3.5	[2.3; 4.7]	2004-2016
					8.3	[4.2; 12.6]	2004-2008
					1.2	[-0.6; 3.0]	2008-2016
	70-79 years	6.3	[4.3; 8.4]	2004-2016	5.5	[1.6; 9.6]	2004-2016
		13.0	[5.8; 20.6]	2004-2008			
		3.1	[0.1; 6.3]	2008-2016			
	80+ years	2.0	[-0.1; 4.2]	2004-2016	4.8	[0.4; 9.4]	2004-2016
Nasopharynx	15+ years	1.7	[-0.7; 4.2]	2004-2016	7.0	[2.9; 11.2]	2004-2016
	15-69 years	2.1	[-0.4; 4.7]	2004-2016	8.0	[3.1; 13.3]	2004-2016
	70-79 years	0.9	[-3.7; 5.7]	2004-2016	-	-	2004-2016
	80+ years	-	-	2004-2016	-	-	2004-2016
Hypopharynx	15+ years	0.4	[-1.4; 2.1]	2004-2016	1.5	[-0.7; 3.7]	2004-2016
					4.1	[0.0; 8.4]	2004-2011
					-2.2	[-7.7; 3.7]	2011-2016
	15-69 years	-0.5	[-2.4; 1.5]	2004-2016	1.3	[-0.9; 3.7]	2004-2016
	70-79 years	5.7	[2.3; 9.2]	2004-2016	1.9	[-3.4; 7.5]	2004-2016
		0.0	[-8.4; 9.2]	2004-2009	11.7	[2.8; 21.4]	2004-2012
		9.9	[3.4; 16.7]	2009-2016	-15.1	[-29.2; 1.6]	2012-2016
	80+ years	5.4	[-1.2; 12.5]	2004-2016	-	-	2004-2016
		16.5	[1.0; 34.5]	2004-2010			
		-4.6	[-17.4; 10.1]	2010-2016			
Larynx	15+ years	-3.6	[-4.6; -2.5]	2004-2016	-2.0	[-3.9; -0.1]	2004-2016
					1.1	[-2.5; 4.9]	2004-2011
					-6.3	[-11.1; -1.1]	2011-2016
	15-69 years	-4.0	[-5.2; -2.9]	2004-2016	-3.0	[-4.7; -1.2]	2004-2016
					1.5	[-1.8; 4.9]	2004-2011
					-8.8	[-13.1; -4.4]	2011-2016
	70-79 years	-1.9	[-3.6; -0.2]	2004-2016	3.2	[-2.0; 8.7]	2004-2016
	80+ years	-1.7	[-3.2; -0.2]	2004-2016	0.7	[-5.3; 7.0]	2004-2016
					-6.6	[-15.1; 2.7]	2004-2012
					17.0	[-4.7; 43.8]	2012-2016

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

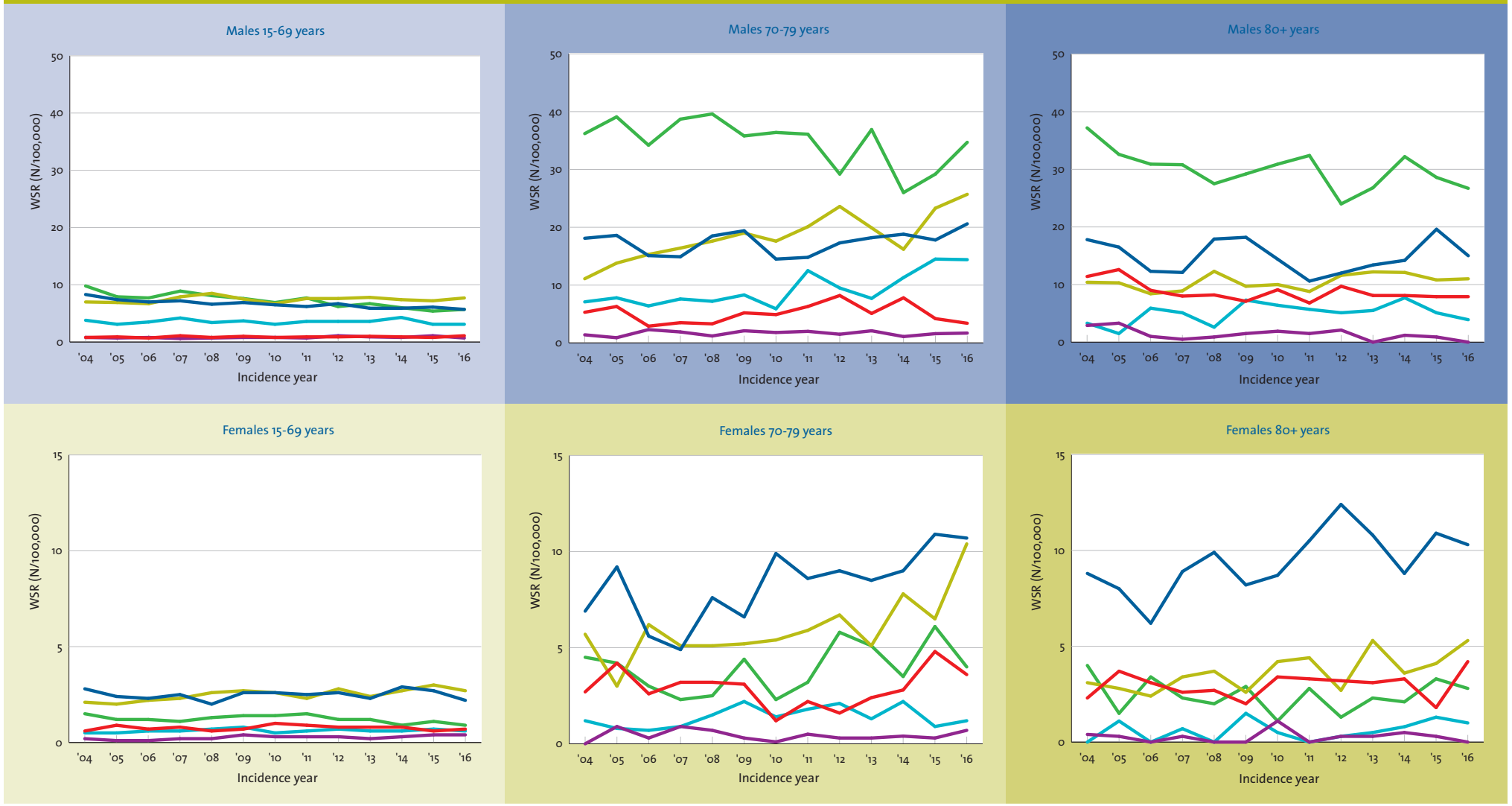
Source: Belgian Cancer Registry

Table 3 Head and Neck cancer: incidence by primary site, sex and age group, Belgium 2004-2016

		15-69 years						70-79 years						80+ years					
		Total		Males		Females		Total		Males		Females		Total		Males		Females	
Label	ICD-10	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Head and Neck	C00-C14;C30-C32	24,038	100	18,535	100	5,503	100	6,175	100	4,662	100	1,513	100	3,063	100.0	1,967	100.0	1,096	100.0
Lip	C00	344	1	269	1	75	1	244	4	178	4	66	4	215	7.0	120	6.1	95	8.7
Oral cavity	C02-C050;C06	5,943	25	4,297	23	1,646	30	1,333	22	832	18	501	33	778	25.4	350	17.8	428	39.1
Tongue	C02	2,399	10	1,693	9	706	13	529	9	343	7	186	12	275	9.0	139	7.1	136	12.4
Gum	C03	500	2	310	2	190	3	211	3	108	2	103	7	160	5.2	59	3.0	101	9.2
Floor of mouth	C04	2,162	9	1,671	9	491	9	339	5	253	5	86	6	120	3.9	64	3,3	56	5.1
Hard palate	C050	77	0	44	0	33	1	27	0	13	0	14	1	32	1.0	13	0.7	19	1.7
Mouth, NOS	C06	805	3	579	3	226	4	227	4	115	2	112	7	191	6,2	75	3,8	116	10.6
Pharynx	C01;C051-C059;C09-C13	9,925	41	7,709	42	2,216	40	1,830	30	1,374	29	456	30	621	20.3	409	20.8	212	19.3
Oropharynx	C01;C051-C059;C09-C10	6,552	27	4,889	26	1,663	30	1,222	20	873	19	349	23	427	13.9	255	13.0	172	15.7
Base of tongue	C01	1,351	6	1,041	6	310	6	273	4	224	5	49	3	115	3.8	75	3.8	40	3.6
Soft palate, uvula and palate NOS	C051-C059	950	4	654	4	296	5	167	3	104	2	63	4	60	2.0	30	1.5	30	2.7
Tonsil	C09	2,519	10	1,839	10	680	12	471	8	317	7	154	10	169	5.5	95	4.8	74	6.8
Oropharynx, other and NOS	C10	1,732	7	1,355	7	377	7	311	5	228	5	83	5	83	2.7	55	2.8	28	2.6
Nasopharynx	C11	621	3	477	3	144	3	102	2	77	2	25	2	39	1.3	27	1.4	12	1.1
Hypopharynx	C12-C13	2,752	11	2,343	13	409	7	506	8	424	9	82	5	155	5.1	127	6.5	28	2.6
Pyriformis sinus	C12	1,862	8	1,594	9	268	5	330	5	278	6	52	3	86	2.8	73	3.7	13	1.2
Hypopharynx, other and NOS	C13	890	4	749	4	141	3	176	3	146	3	30	2	69	2.3	54	2.7	15	1.4
Larynx	C32	5,576	23	4,762	26	814	15	1,897	31	1,669	36	228	15	837	27.3	725	36.9	112	10.2
Glottis	C320	2,947	12	2,629	14	318	6	1,182	19	1,064	23	118	8	575	18.8	509	25.9	66	6.0
Supraglottis	C321	1,776	7	1,399	8	377	7	440	7	374	8	66	4	150	4.9	122	6,2	28	2.6
Larynx, other and NOS	C322-C329	853	4	734	4	119	2	275	4	231	5	44	3	112	3.7	94	4,8	18	1.6
Nasal cavity and paranasal sinuses	C30-C31	938	4	697	4	241	4	379	6	310	7	69	5	258	8.4	159	8.1	99	9.0
Nasal cavity and middle ear	C30	331	1	227	1	104	2	152	2	116	2	36	2	115	3.8	67	3.4	48	4.4
Accessory sinuses	C31	607	3	470	3	137	2	227	4	194	4	33	2	143	4.7	92	4.7	51	4.7
Salivary glands	C07-C08	998	4	555	3	443	8	426	7	252	5	174	12	329	10.7	193	9.8	136	12.4
Parotid gland	C07	746	3	424	2	322	6	339	5	213	5	126	8	265	8.7	160	8.1	105	9.6
Salivary glands, NOS	C08	252	1	131	1	121	2	87	1	39	1	48	3	64	2.1	33	1.7	31	2.8
Lip, oral cavity and pharynx, NOS	C14	314	1	246	1	68	1	66	1	47	1	19	1	25	0.8	11	0.6	14	1.3

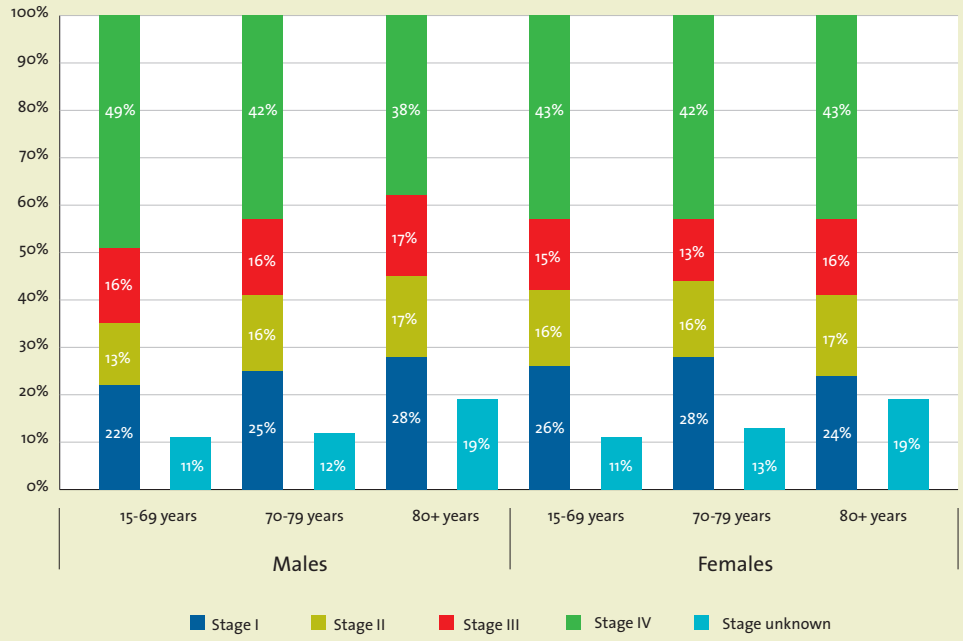
Source: Belgian Cancer Registry

Figure 4 Head and Neck cancer: Trends in age-standardised incidence (WSR) by localisation, age group and sex, Belgium 2004-2016



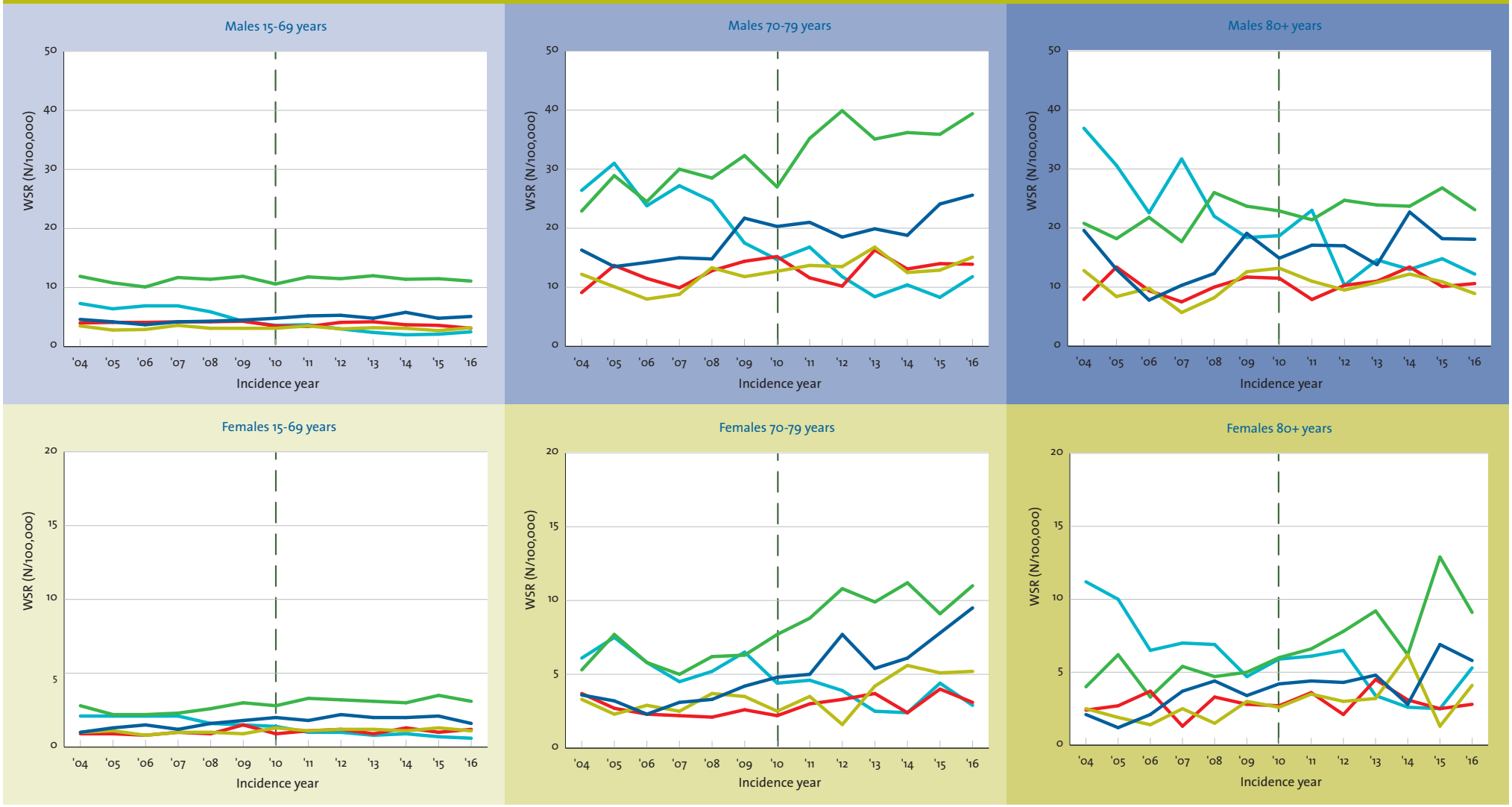
Source: Belgian Cancer Registry

Figure 5 Head and Neck cancer: Stage distribution by age group and sex, Belgium 2010-2016



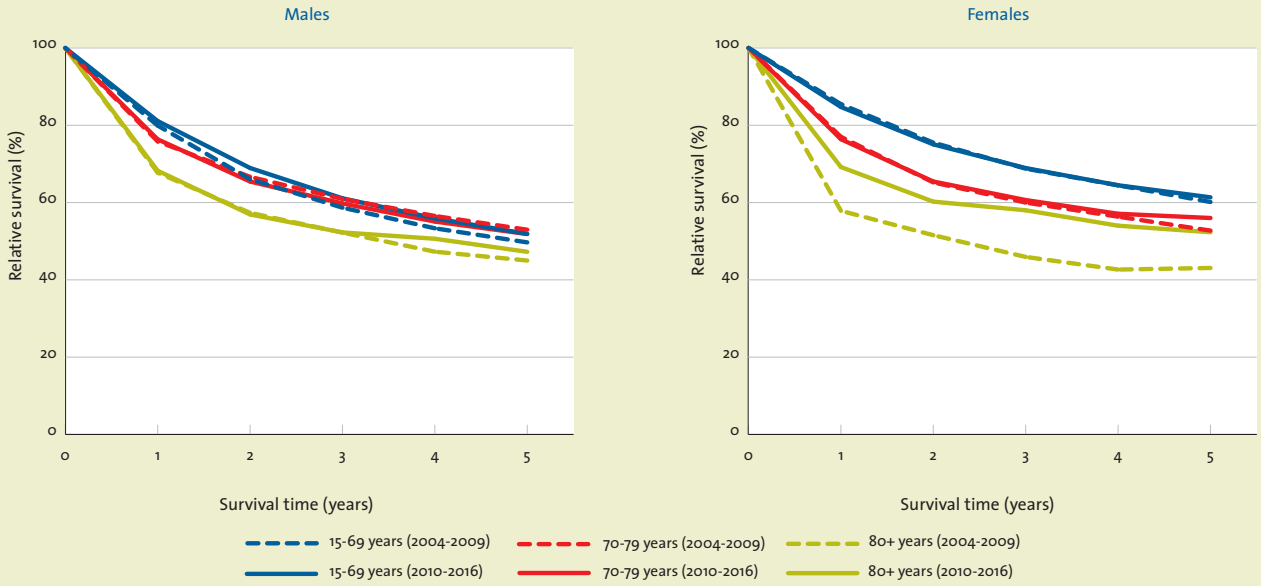
Source: Belgian Cancer Registry

Figure 6 Head and Neck cancer: Trends in age-standardised incidence (WSR) by stage, age group and sex, Belgium 2004-2016



Source: Belgian Cancer Registry

Figure 7 Head and Neck cancer: Relative survival by sex and age group, Belgium 2004-2009 (dashed line) versus 2010-2016 (full line)



Source: Belgian Cancer Registry

Table 4 Head and Neck cancer: Relative Survival by age group and sex (Belgium, 2004-2016)

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	17,804	80.7	[80.1; 81.3]	60.2	[59.5; 61.0]	51.1	[50.3; 51.9]	37.4	[36.4; 38.4]
	Females	5,328	85.1	[84.1; 86.0]	69.0	[67.7; 70.3]	60.8	[59.4; 62.3]	47.8	[46.0; 49.6]
70-79 years	Males	4,609	76.2	[74.8; 77.5]	60.4	[58.7; 62.1]	52.4	[50.5; 54.3]	39.3	[36.4; 42.3]
	Females	1,494	76.7	[74.3; 78.8]	60.4	[57.5; 63.1]	54.2	[51.0; 57.3]	42.4	[37.8; 47.1]
80+ years	Males	1,950	68.0	[65.5; 70.5]	52.2	[49.0; 55.4]	46.1	[42.1; 50.3]	38.9	[30.2; 49.2]
	Females	1,082	64.9	[61.5; 68.1]	53.2	[49.1; 57.3]	49.0	[43.9; 54.2]	43.2	[32.7; 55.4]

Source: Belgian Cancer Registry

Table 5 Head and Neck cancer: Conditional Relative Survival by age group and sex (Belgium, 2004-2016)
Unadjusted relative survival proportion to survive an additional year, conditional on surviving the first year since diagnosis, %

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	14,170	84.1	[83.4; 84.7]	68.1	[67.3; 69.0]	59.0	[58.0; 59.9]	43.7	[42.4; 45.0]
	Females	4,498	88.6	[87.6; 89.5]	75.9	[74.5; 77.3]	67.5	[65.9; 69.1]	53.7	[51.5; 55.8]
70-79 years	Males	3,359	86.7	[85.3; 88.0]	73.3	[71.3; 75.3]	65.0	[62.5; 67.4]	48.2	[44.0; 52.6]
	Females	1,117	85.3	[82.9; 87.4]	74.0	[70.8; 77.1]	68.0	[64.1; 71.7]	53.3	[46.7; 59.9]
80+ years	Males	1,172	83.9	[80.9; 86.7]	71.9	[67.3; 76.5]	62.9	[56.6; 69.3]	51.9	[36.6; 70.6]
	Females	630	87.8	[83.9; 91.1]	76.3	[70.3; 82.1]	77.0	[68.7; 85.1]	67.9	[48.2; 90.8]

Source: Belgian Cancer Registry

Keynotes

- Head and neck cancers occur three times more frequent in males than in females, regardless of the age category.
- In contrast to males, incidence of head and neck cancer is increasing in females. This increase mainly concerns cancers of the oral cavity and oropharynx diagnosed for patients of 70 years and older.
- The observed increase in incidence in females is expected to continue in the future. This can be partly explained by ageing of the population, but the increased risk behaviour of females (smoking/alcohol consumption) over time also plays an important role.
- The increasing incidence of oropharyngeal cancer may have a positive impact on head and neck cancer mortality in the future, as increasingly more oropharyngeal cancers are related with HPV infections, entailing a better prognosis.
- In contrast to other cancer types, stage IV disease in head and neck cancer does not equal metastatic disease. A distinction is made between stage IVA/B (locally advanced) and stage IVC (metastatic patients). The treatment options are different between those two patients groups, making the stage determination really important for treatment choice.
- Given the explicit relation with risk behaviour (smoking, alcohol, sexual behaviour for HPV-related cancers) for this cancer type, attention must go to primary prevention of this often lethal disease.

3.3.1.4 Malignant Melanoma (ICD-10: C43)

Table 1 Malignant Melanoma: Overview of incidence, mortality, prevalence and survival by sex and age group (Belgium)

Belgium	All ages together (15 years or older)			15-69 years		70-79 years		80+ years		80-89 years		90+ years	
Incidence, 2016	N	CR	WSR	N	CR	N	CR	N	CR	N	CR	N	CR
Males	1,283	28.1	20.1	845	21.3	268	70.9	170	76.5	153	78.1	17	64.2
Females	1,784	37.2	29.2	1,298	32.9	240	52.7	246	62.1	202	62.5	44	60.0
Mortality, 2015	N	CR	WSR	N	CR	N	CR	N	CR	N	CR	N	CR
Males	169	3.7	2.2	83	2.1	35	9.4	51	23.4	43	22.3	8	32.3
Females	157	3.3	1.8	72	1.8	29	6.4	56	14.2	44	13.6	12	17.0
Prevalence (5 years), 2012-2016	N	CR	WSR	N	CR	N	CR	N	CR	N	CR	N	CR
Males	5,022	109.5	77.6	3,297	83.1	1,035	264.4	690	303.2	630	315.7	60	214.1
Females	7,419	154.0	119.9	5,415	137.1	1,084	232.2	920	229.8	759	234.5	161	210.3
Prevalence (10 years), 2007-2016	N	CR	WSR	N	CR	N	CR	N	CR	N	CR	N	CR
Males	7,684	167.6	117.9	5,022	126.6	1,573	401.8	1,089	478.5	978	490.1	111	396.1
Females	11,930	247.7	191.3	8,671	219.6	1,721	368.7	1,538	384.2	1,251	386.4	287	374.9
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Males	5,728	91.2	[89.7;92.7]	3,848	92.3	[91.0;93.5]	1,177	90.7	[86.3;94.6]	709	85.9	[76.1;95.5]	629	88.7	[78.7;98.4]	80	52.5	[16,9;110,2]
Females	7,987	95.0	[94.0;96.0]	5,885	96.8	[96.1;97.4]	1,140	94.1	[90.5;97.3]	965	82.7	[75.1;90.0]	801	87.5	[79.7;94.9]	167	50.0	[29.2;76.4]

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

Source: Belgian Cancer Registry

- **Incidence** (**Figure 1**, **Table 1**, **Figure 2**):
  - Malignant melanoma is the 6th most frequent cancer in males and the 4th most frequent in females. In the age group 80+ years, it is the 10th most frequent cancer in males and the 6th most frequent in females.
  - In 2016, there were 3,069 new diagnoses of malignant melanoma in Belgium, of whom 3,067 in patients aged 15 years or older. 58% were females.
  - Malignant melanoma affects rather younger patients, especially younger females: 70% of the patients is aged between 15 and 69 years, 17% is aged between 70 and 79 years, 12% is aged between 80 and 89 years and 2% is older than 90 years.
  - Over time, between 2004 and 2016, incidence rates are increasing annually with 5%, in both males and females (**Figure 3**). The annual increase is the highest for patients aged between 70 to 79, in both males (8%) and females (6%).
  - Malignant melanoma preferentially affects females (male/female ratio: 0.7 in 2016). Considering age specific incidence rates, differences are observed between males and females. After 60 years of age the incidence rate in males is higher than in females (**Figure 1**, **Figure 3**, **Table 1**):
    - Age group 15-69 years: incidence rate is higher in females (M/F ratio = 0.6)
    - Age group 70-79 years: incidence rate is higher in males (M/F ratio = 1.3)
    - Age group 80+ years: incidence rate is higher in males (M/F ratio = 1.2)
  - Among malignant melanoma with a known stage, about 92% is diagnosed in a prognostic favourable stage (i.e. stage I or II). Advanced stage (i.e. stage III or IV) represents 8% of the diagnoses. There are however age-and sex-dependent differences.
    - Availability of information on stage is high, about 90%. A small decrease of known stages is observed with age (**Figure 4**).
    - Stage I cancers are more frequent among the younger patients (i.e. 15-69 years old). With age, the stage II cancers become more frequent whereas the advanced stages (III and IV) remain more equally distributed in all age groups (**Figure 4**).
    - Over time there is an important increase of stage I for all age groups and a more moderate increase of stages II and III. The proportion of unknown stages decreases from 2013 onwards due to a specific data cleaning action at the Belgian Cancer Registry (**Figure 5**, **Table 2**).
  - Availability of information on topography increases over time (from 76% in 2004 to 96% in 2016), due to the improvement of the cancer registration via the clinical and pathological network and due to data cleaning actions at the Belgian Cancer Registry (**Figure 6**).
    - Up until the age of 79 years, most malignant melanoma in males develop on the trunk. For the age group 80+ years,

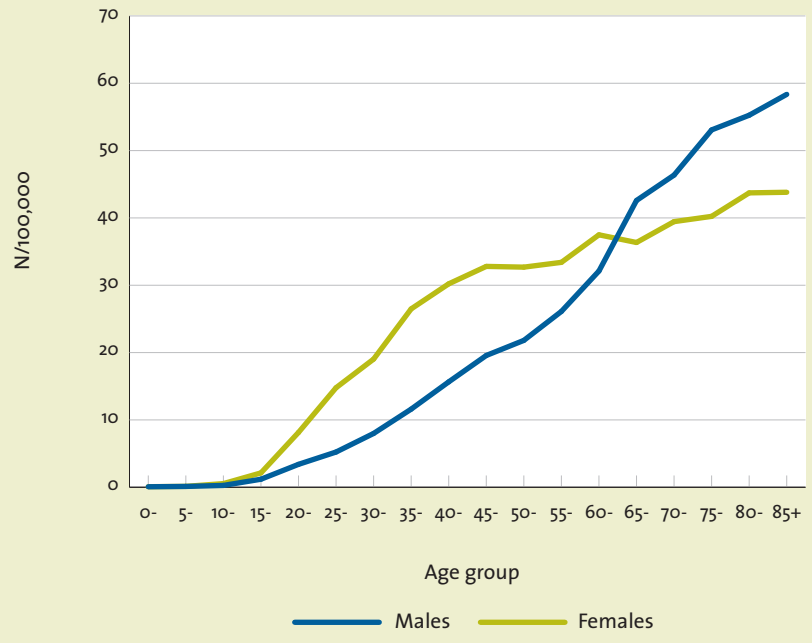
most malignant melanoma are situated in the head region. In females, the majority of cases are located on the lower limbs (for all age groups). With age, an increase of malignant melanoma in the head region is observed in females, reaching the same incidence rate as malignant melanoma of lower limbs, for the age group 80+ years (**Figure 6**).

- **Mortality** (**Table 1**, **Figure 2**, **Figure 3**, **Table 2**):
  - Malignant Melanoma is the 18th most important cause of cancer death in males and the 20th most important in females. In patients of 80 years or older, it is ranked 18th in males and 19th in females.
  - In 2015, 326 deaths due to malignant melanoma were counted in Belgium; 48% of these deaths were younger than 70 years old. However, the mortality rate is higher in the age groups 70+ years.
  - Over time, between 2004 and 2015, mortality rates remained rather stable.

- **Prevalence** (**Table 1**):
  - Of all 23,870 patients diagnosed with malignant melanoma between 2007 and 2016, 19,614 were still alive at December 31st, 2016 (i.e. 10-year prevalence) of which 70% was aged between 15 and 69 years, 17% between 70 and 79 years, 11% between 80 and 89 years and 2.0% were older than 90 years.

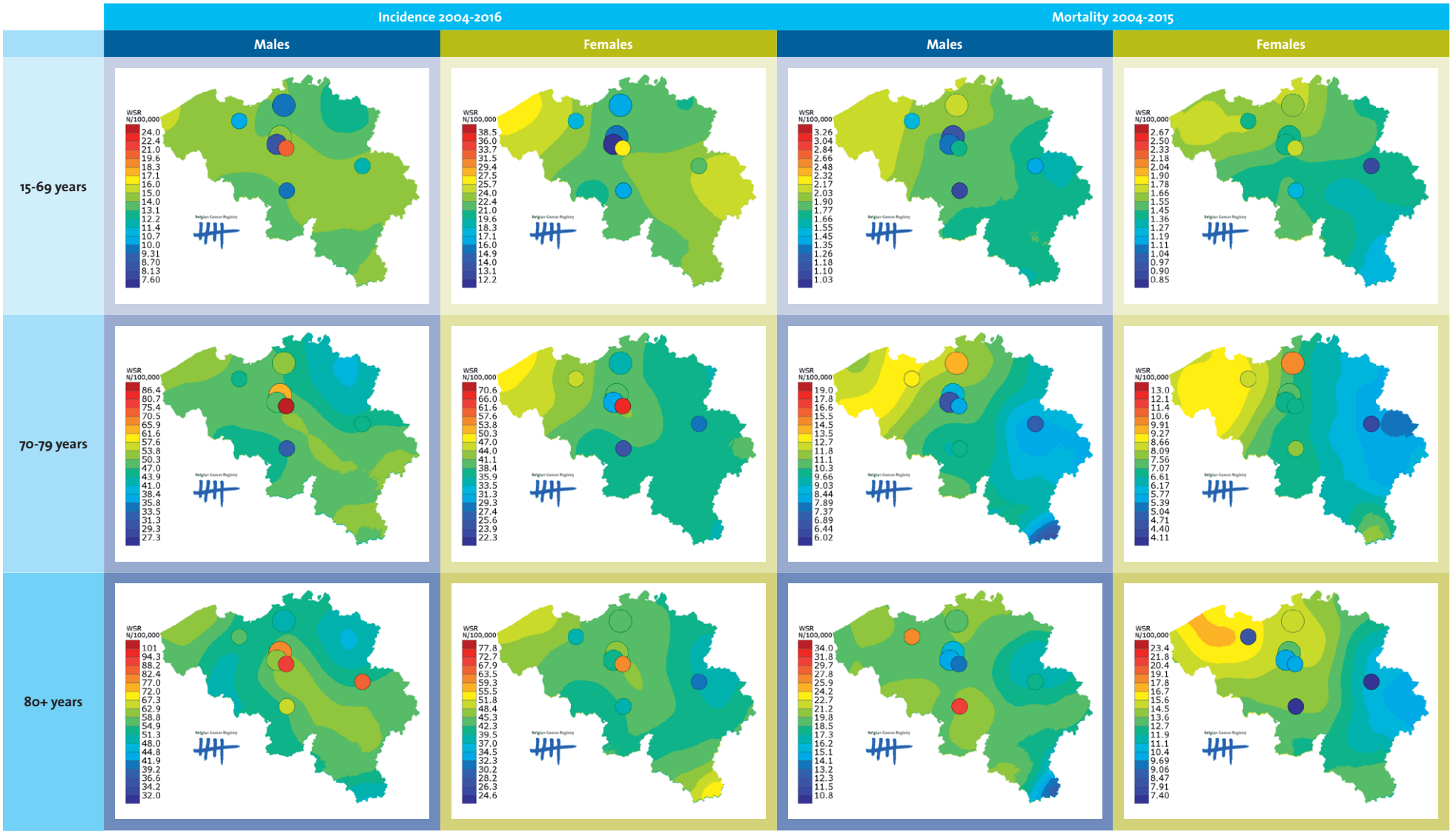
- **Survival**:
  - The 5-year relative survival proportion for the Belgian 2012-2016 cohort is about 91% in males and 95% in females. In both sexes, a slight age-dependent survival gradient is noted, with the best survival for patients of 15-69 years old (5-year relative survival: 92% in males and 97% in females), and the worst survival for patients of 80 years or older (5-year relative survival: 86% in males and 83% in females). In patients older than 90 years, survival drops to 52% in males and 50% in females (**Table 1**).
  - An increase of 3 to 8% in the 5-year relative survival proportion for malignant melanoma is observed over time in Belgium (2004-2009 vs. 2010-2016) (**Figure 7**). This increase is observed for all age groups and in both sexes with highest percentage progression observed in males of 15-69 years old (6%), males of 80 years or older (6%), and in females aged between 70 and 79 years (7%).
  - A 5-year conditional relative survival of 91% in males and 88% in females of 80 years or older is observed. The 5-year conditional relative survival is quite similar, around 90%, among the different age groups and sexes, with a small survival advantage in younger females between 15 and 69 years old (95%) (**Table 4**).

Figure 1 Malignant Melanoma: Age-specific incidence rates (N/100,000) by sex, Belgium 2004-2016



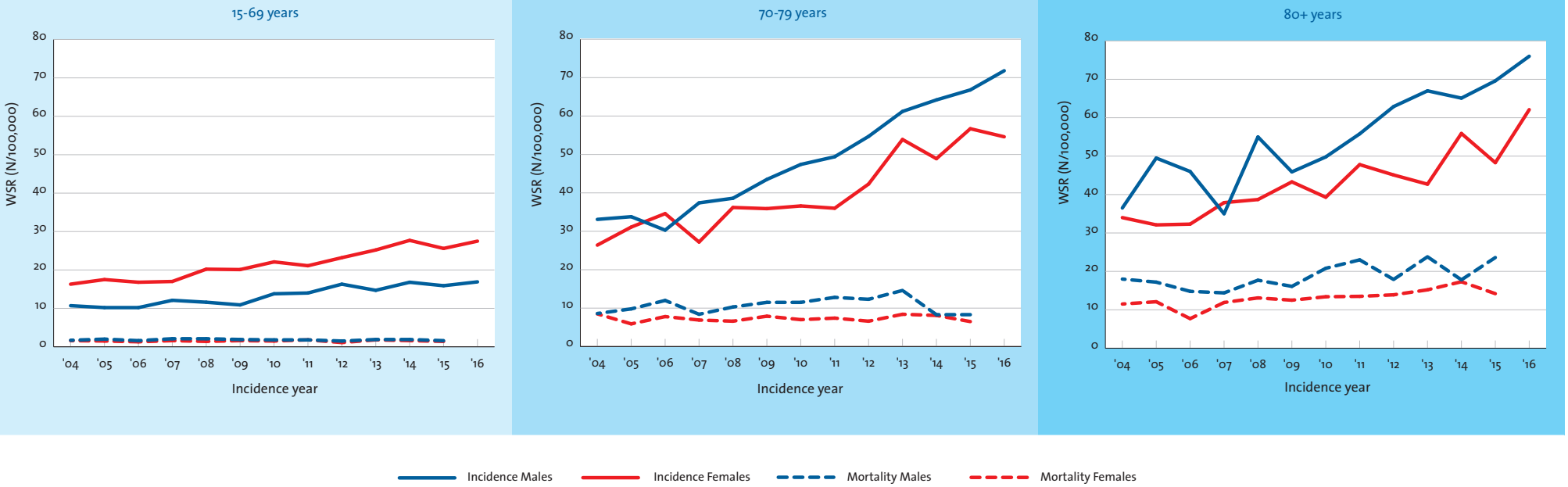
Source: Belgian Cancer Registry

Figure 2 Malignant Melanoma: Age-standardised incidence and mortality (WSR) by sex and age group, Belgium



Source: Belgian Cancer Registry

Figure 3 Malignant Melanoma: Trends in age-standardised incidence and mortality (WSR) by sex and age group, Belgium 2004-2016



Source: Belgian Cancer Registry

Table 2 Malignant melanoma : AAPC (%) by sex, localisation, stage and age group in Belgium

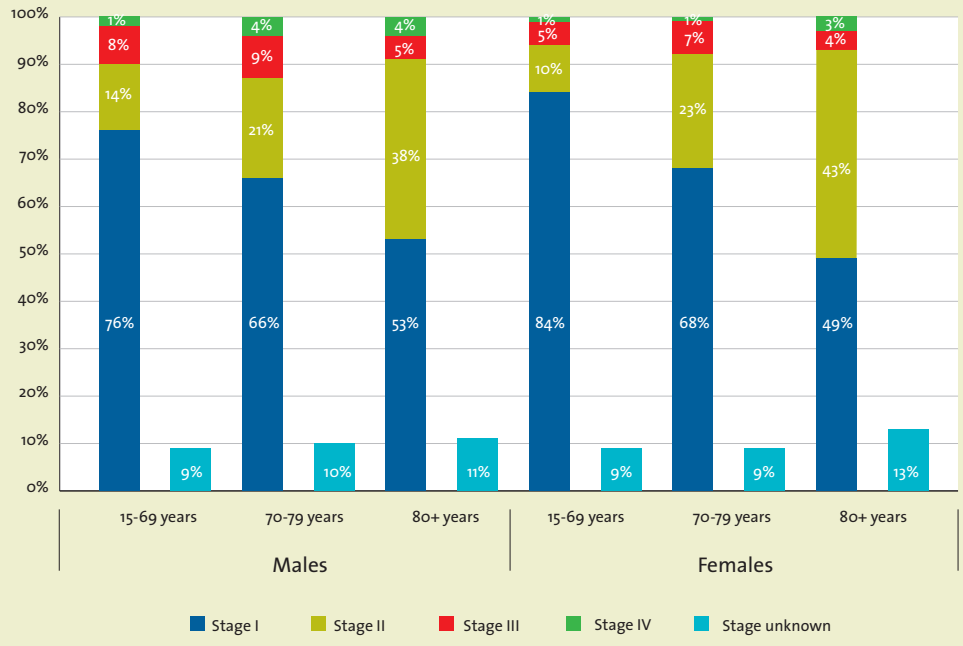
Malignant melanoma		Males			Females		
Incidence		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	5.1	[4.1; 6.2]	2004-2016	4.9	[4.1; 5.7]	2004-2016
	15-69 years	4.7	[3.5; 6.0]	2004-2016	4.8	[4.0; 5.6]	2004-2016
	70-79 years	7.6	[6.6; 8.6]	2004-2016	6.3	[4.6; 8.0]	2004-2016
	80+ years	5.6	[3.6; 7.6]	2004-2016	4.8	[3.4; 6.3]	2004-2016
Mortality		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	-0.1	[-1.5; 1.3]	2004-2015	0.2	[-1.9; 2.5]	2004-2015
		2.3	[-1.2; 5.8]	2004-2009			
		-2.0	[-4.7; 0.7]	2009-2015			
	15-69 years	-1.0	[-2.9; 1.0]	2004-2015	-0.2	[-2.8; 2.5]	2004-2015
	70-79 years	1.7	[-2.5; 6.2]	2004-2015	0.1	[-2.1; 2.4]	2004-2015
		14.2	[-11.2; 46.7]	2004-2006			
		-0.8	[-5.5; 4.0]	2006-2015			
	80+ years	3.1	[0.5; 5.8]	2004-2015	4.0	[1.3; 6.8]	2004-2015
Incidence by stage		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
Stage I	15+ years	9.2	[7.7; 10.8]	2004-2016	8.1	[6.2; 9.9]	2004-2016
	15-69 years	8.6	[7.0; 10.2]	2004-2016	7.9	[6.0; 9.7]	2004-2016
	70-79 years	13.3	[11.3; 15.4]	2004-2016	10.6	[7.8; 13.4]	2004-2016
					5.7	[0.9; 10.7]	2004-2011
					17.9	[10.2; 26.1]	2011-2016
	80+ years	11.2	[8.3; 14.1]	2004-2016	11.0	[9.1; 13.0]	2004-2016
Stage II	15+ years	3.5	[2.1; 4.9]	2004-2016	4.1	[1.8; 6.5]	2004-2016
	15-69 years	3.2	[1.4; 4.9]	2004-2016	3.6	[1.0; 6.3]	2004-2016
	70-79 years	4.0	[1.7; 6.4]	2004-2016	5.2	[0.7; 9.9]	2004-2016
	80+ years	4.6	[1.9; 7.4]	2004-2016	6.5	[4.5; 8.5]	2004-2016
					1.9	[-2.2; 6.2]	2004-2010
					11.3	[6.8; 15.9]	2010-2016
Stage III	15+ years	5.4	[3.5; 7.4]	2004-2016	7.3	[4.8; 9.8]	2004-2016
	15-69 years	4.0	[1.7; 6.2]	2004-2016	6.4	[3.8; 9.0]	2004-2016
		-2.4	[-9.3; 5.0]	2004-2008			
		7.3	[3.7; 11.0]	2008-2016			
	70-79 years	12.8	[6.7; 19.2]	2004-2016	20.8	[12.0; 30.2]	2004-2016
	80+ years	5.6	[-0.5; 12.0]	2004-2016	2.8	[-4.9; 11.1]	2004-2016
Stage IV	15+ years	-0.5	[-3.7; 2.8]	2004-2016	-4.1	[-8.1; 0.2]	2004-2016
	15-69 years	-1.2	[-5.2; 3.0]	2004-2016	-3.8	[-8.5; 1.1]	2004-2016
	70-79 years	2.1	[-7.7; 12.9]	2004-2016	-11.3	[-18.4; -3.6]	2004-2016
	80+ years	-	-	2004-2016	-	-	2004-2016
Stage unknown	15+ years	-12.2	[-22.0; -1.2]	2004-2016	-13.7	[-23.8; -2.1]	2004-2016
		9.5	[-48.8; 134.2]	2004-2006	2.2	[-54.3; 128.5]	2004-2006
		-16.0	[-26.1; -4.6]	2006-2016	-16.5	[-27.1; -4.4]	2006-2016
	15-69 years	-12.9	[-23.0; -1.5]	2004-2016	-13.9	[-24.1; -2.2]	2004-2016
		13.3	[-48.6; 149.7]	2004-2006	0.6	[-55.4; 127.1]	2004-2006
		-17.4	[-27.6; -5.6]	2006-2016	-16.5	[-27.2; -4.3]	2006-2016
	70-79 years	-10.3	[-18.3; -1.4]	2004-2016	-17.4	[-24.0; -10.2]	2004-2016
					0.2	[-14.2; 17.1]	2004-2011
					-37.0	[-49.7; -21.0]	2011-2016
	80+ years	-10.7	[-19.0; -1.6]	2004-2016	-11.9	[-20.5; -2.4]	2004-2016
Incidence by tumour localisation		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
Head	15+ years	4.2	[2.5; 6.0]	2004-2016	4.9	[2.9; 6.8]	2004-2016
		6.6	[4.3; 8.9]	2004-2013			
		-2.6	[-9.5; 4.9]	2013-2016			
	15-69 years	4.8	[2.9; 6.7]	2004-2016	4.4	[1.7; 7.1]	2004-2016
		8.6	[5.6; 11.7]	2004-2012			
		-2.4	[-8.2; 3.7]	2012-2016			
	70-79 years	4.7	[1.6; 8.0]	2004-2016	6.1	[3.0; 9.3]	2004-2016
	80+ years	3.2	[2.1; 4.3]	2004-2016	6.1	[3.0; 9.4]	2004-2016
Trunk	15+ years	7.9	[6.4; 9.3]	2004-2016	7.1	[5.8; 8.5]	2004-2016
					9.1	[7.6; 10.6]	2004-2014
					-2.2	[-10.0; 6.2]	2014-2016
	15-69 years	7.4	[5.8; 9.0]	2004-2016	6.8	[5.5; 8.1]	2004-2016
					8.9	[7.5; 10.4]	2004-2014
					-3.1	[-10.5; 4.8]	2014-2016
	70-79 years	10.2	[8.0; 12.4]	2004-2016	13.4	[10.2; 16.6]	2004-2016
	80+ years	14.2	[9.2; 19.3]	2004-2016	10.6	[6.3; 15.1]	2004-2016

Upper limbs	15+ years	6.9	[5.3; 8.5]	2004-2016	7.7	[6.4; 9.0]	2004-2016
		1.4	[-4.7; 7.8]	2004-2007	10.2	[8.5; 12.0]	2004-2013
		14.1	[10.4; 17.8]	2007-2012	0.4	[-4.9; 5.9]	2013-2016
		2.5	[-2.0; 7.1]	2012-2016			
	15-69 years	5.7	[4.2; 7.3]	2004-2016	7.6	[6.3; 8.9]	2004-2016
		-1.0	[-6.9; 5.2]	2004-2007	10.4	[8.7; 12.1]	2004-2013
		14.6	[11.0; 18.4]	2007-2012	-0.3	[-5.4; 5.2]	2013-2016
		0.5	[-3.8; 5.0]	2012-2016			
	70-79 years	13.7	[10.0; 17.6]	2004-2016	8.2	[4.8; 11.7]	2004-2016
	80+ years	10.1	[4.3; 16.1]	2004-2016	8.4	[4.5; 12.5]	2004-2016
Lower limbs	15+ years	5.4	[3.5; 7.4]	2004-2016	5.7	[4.6; 6.7]	2004-2016
	15-69 years	4.8	[2.6; 7.1]	2004-2016	5.6	[4.3; 6.9]	2004-2016
	70-79 years	9.9	[4.4; 15.7]	2004-2016	6.6	[3.8; 9.5]	2004-2016
	80+ years	10.2	[2.8; 18.2]	2004-2016	6.4	[3.8; 9.0]	2004-2016
		38.3	[9.3; 75.0]	2004-2008			
		-1.6	[-11.8; 9.7]	2008-2016			
Unspecified	15+ years	-8.4	[-10.6; -6.1]	2004-2016	-14.8	[-16.7; -12.9]	2004-2016
		-14.6	[-18.4; -10.6]	2004-2011	-25.0	[-30.5; -19.1]	2004-2008
		1.0	[-5.5; 7.9]	2011-2016	-9.2	[-12.3; -5.9]	2008-2016
	15-69 years	-10.5	[-12.6; -8.3]	2004-2016	-15.7	[-17.9; -13.4]	2004-2016
		-16.7	[-21.1; -12.2]	2004-2010	-24.9	[-31.4; -17.7]	2004-2008
		-3.7	[-8.7; 1.6]	2010-2016	-10.7	[-14.4; -6.9]	2008-2016
	70-79 years	-0.8	[-6.9; 5.8]	2004-2016	-5.5	[-10.8; 0.2]	2004-2016
		-8.4	[-18.7; 3.1]	2004-2011	-18.9	[-27.2; -9.7]	2004-2011
		11.1	[-6.5; 32.0]	2011-2016	17.1	[0.1; 37.0]	2011-2016
	80+ years	-2.1	[-14.0; 11.5]	2004-2016	-12.4	[-15.2; -9.4]	2004-2016
					-19.3	[-26.1; -11.8]	2004-2009
					-7.1	[-12.6; -1.2]	2009-2016

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

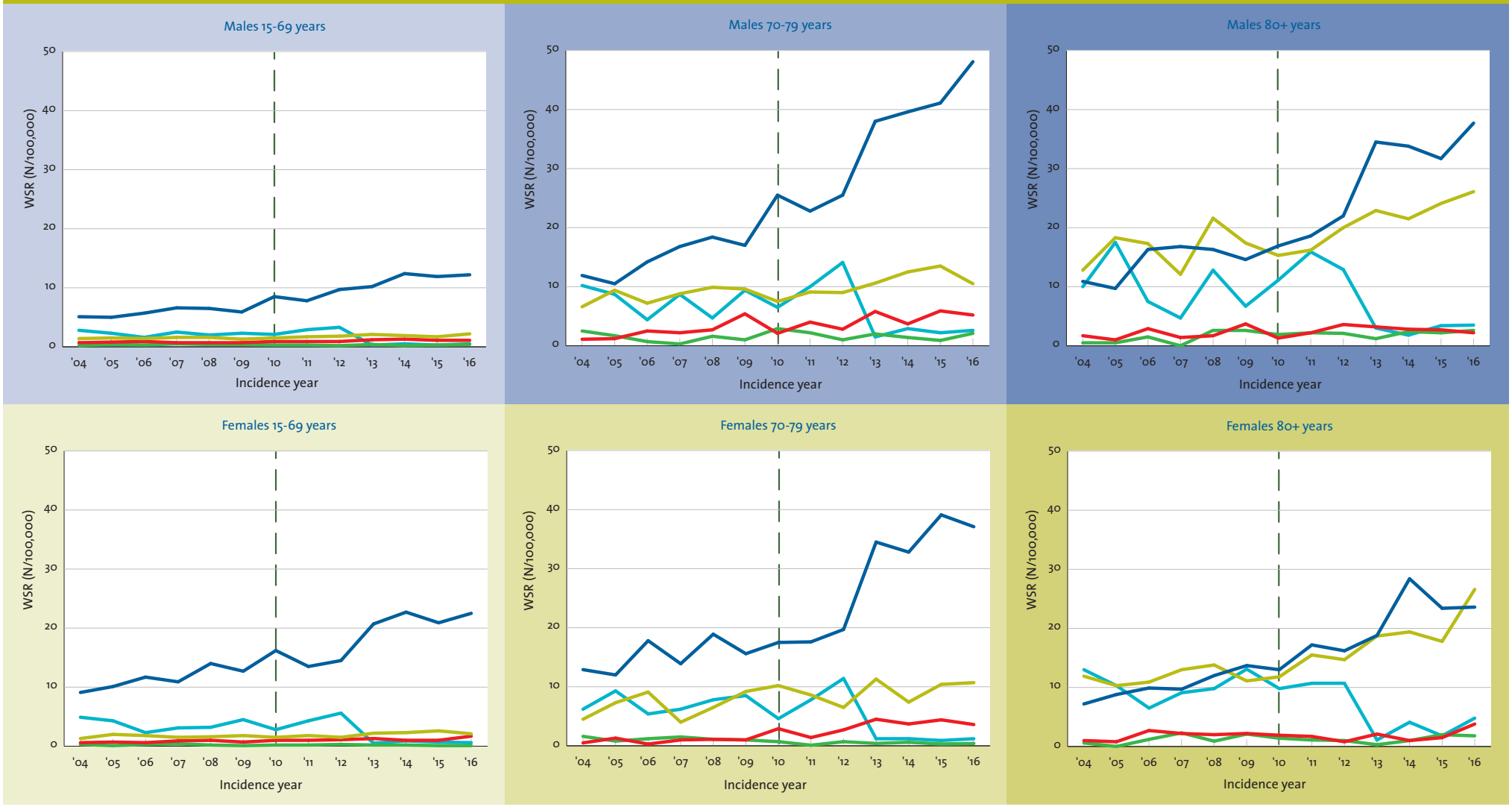
Source: Belgian Cancer Registry

Figure 4 **Malignant Melanoma: Stage distribution by age group and sex, Belgium 2010-2016**



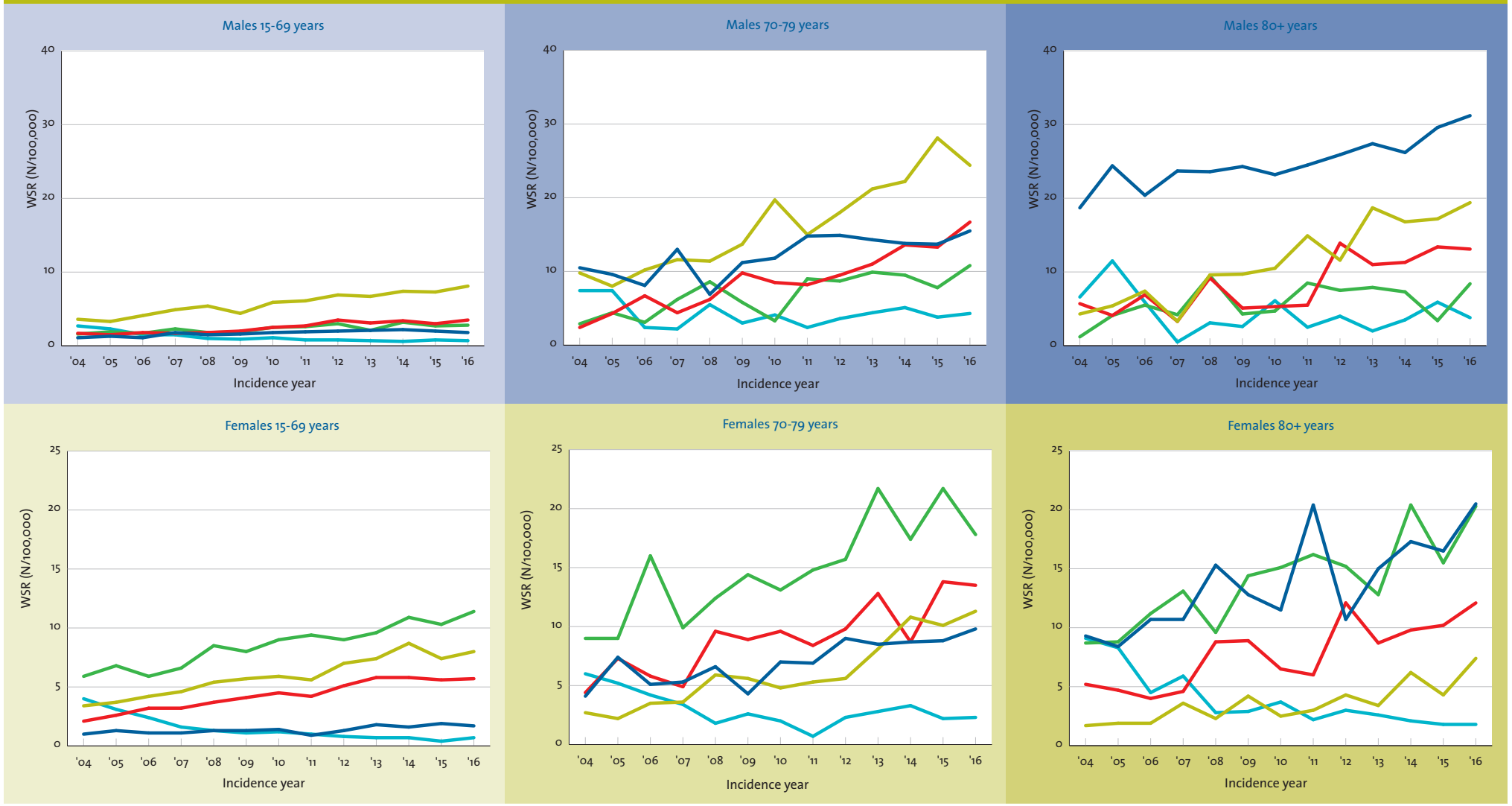
Source: Belgian Cancer Registry

Figure 5 Malignant Melanoma: Trends in age-standardised incidence (WSR) by stage, age group and sex, Belgium 2004-2016



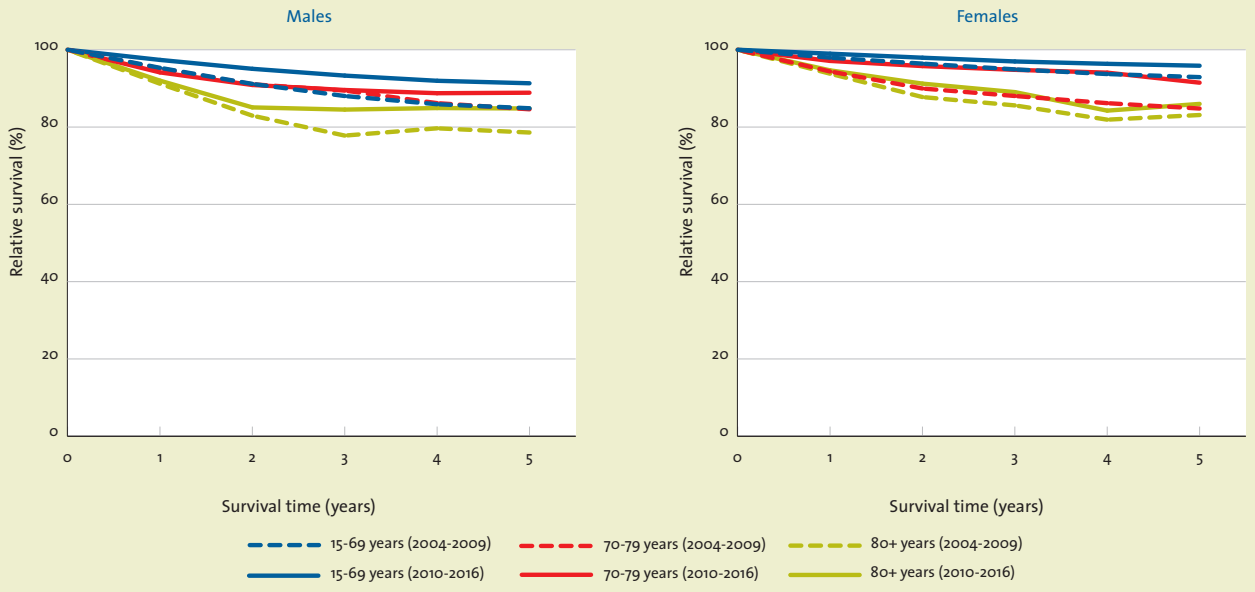
Source: Belgian Cancer Registry

Figure 6 Malignant Melanoma: Trends in age-standardised incidence (WSR) by localisation, age group and sex, Belgium 2004-2016



Source: Belgian Cancer Registry

Figure 7 Malignant melanoma: Relative survival by sex and age group, Belgium 2004-2009 (dashed line) versus 2010-2016 (full line)



Source: Belgian Cancer Registry

Table 3 Malignant melanoma: Relative Survival by age group and sex (Belgium, 2004-2016)

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	7,876	96.6	[96.2; 97.1]	91.3	[90.6; 92.0]	88.8	[87.8; 89.6]	86.5	[85.1; 87.8]
	Females	12,127	98.6	[98.4; 98.8]	96.2	[95.8; 96.6]	94.6	[94.1; 95.1]	93.0	[92.2; 93.7]
70-79 years	Males	2,334	94.5	[93.2; 95.6]	89.5	[87.5; 91.4]	86.9	[84.1; 89.5]	87.3	[81.3; 93.1]
	Females	2,409	96.0	[95.0; 97.0]	92.1	[90.4; 93.6]	88.8	[86.6; 90.9]	88.3	[83.9; 92.6]
80+ years	Males	1,303	91.7	[89.1; 94.0]	82.1	[77.8; 86.2]	82.6	[76.4; 88.7]	87.1	[68.5; 107.9]
	Females	1,955	94.4	[92.5; 96.0]	87.7	[84.6; 90.7]	84.8	[80.4; 89.1]	86.4	[75.1; 98.3]

Source: Belgian Cancer Registry

Table 4 Malignant melanoma: Conditional Relative Survival by age group and sex (Belgium, 2004-2016)
Unadjusted relative survival proportion to survive an additional year, conditional on surviving the first year since diagnosis, %

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	7,518	96.9	[96.4; 97.3]	92.7	[92.0; 93.4]	91.1	[90.2; 92.0]	89.1	[87.5; 90.5]
	Females	11,897	98.8	[98.5; 99.0]	96.7	[96.2; 97.0]	95.3	[94.8; 95.8]	93.8	[92.9; 94.6]
70-79 years	Males	2,112	96.3	[94.9; 97.4]	92.7	[90.5; 94.8]	91.4	[88.2; 94.4]	95.0	[87.5; 102.4]
	Females	2,256	97.3	[96.3; 98.2]	94.5	[92.7; 96.1]	91.3	[88.8; 93.6]	91.2	[85.7; 96.4]
80+ years	Males	1,047	92.0	[89.1; 94.7]	90.5	[85.4; 95.4]	90.7	[82.8; 98.6]	101.4	[75.0; 131.5]
	Females	1,662	95.3	[93.3; 97.1]	88.3	[84.7; 91.8]	87.8	[82.5; 93.0]	88.7	[73.5; 105.0]

Source: Belgian Cancer Registry

Keynotes.

- Malignant melanoma is a cancer for which the long-established major risk factors are natural and artificial (sunbeds) UV exposures. Primary prevention against malignant melanoma is therefore recommended. Since 1999 a prevention campaign, Euromelanoma, was established by six Belgian dermatologists (T. Maselis, M. van Daele, C. Pirard, V. del Marmol, B. Richert, and K. de Boulle). This Euromelanoma campaign quickly became a European action to educate the public about the risks of the sun and encourage them to react quickly to any suspicious injury. It is now the most important preventive action carried out simultaneously in 33 countries. [37].
- The observed shift with age of diagnosis in stage I to diagnosis in stage II suggests that prevention should focus more on people of 70 years or older. This prevention is important because the prognosis of stage I patients is excellent, whereas the prognosis becomes worse with increasing stage. This worse prognosis is already observed for diagnosis from stage II onwards.
- Both the increasing cancer risk and the ageing and growing population drive the projected increase in the number of diagnosed malignant melanoma in males and in females, respectively to 1,888 and 2,468 in 2025 [15]. The increase in incidence of malignant melanoma is observed worldwide and is an important topic in cancer prevention and research projects funded by the European Union.
- As explained in chapter 2 'Availability and quality of incidence data in the older population', small malignant melanoma may escape from the clinical network of cancer registration because they are often treated in private practices, for which cancer registration is not required. The registration of these cases to the Belgian Cancer Registry is therefore solely based on the pathological network, which may slightly increase the risk of incompleteness and lower specificity of the information for melanoma at early stages of the disease in our database.

3.3.1.5 Thyroid cancer (ICD-10: C73)

Table 1 Thyroid cancer: Overview of incidence, mortality, prevalence and survival by sex and age group (Belgium)

Belgium	All ages together (15 years or older)			15-69 years			70-79 years			80+ years			80-89 years			90+ years		
Incidence, 2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	266	5.8	4.7	211	5.3		41	10.9		14	6.3		13	6.6		1	3.8	
Females	774	16.1	14.7	657	16.7		77	16.9		40	10.1		31	9.6		9	12.3	
Mortality, 2015	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	29	0.6	0.3	8	0.2		16	4.3		5	2.3		5	2.6		-	-	
Females	46	1.0	0.4	14	0.4		13	2.9		19	4.8		15	4.6		4	5.7	
Prevalence (5 years), 2012-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	1,163	25.4	20.6	938	23.6		179	45.7		46	20.2		39	19.5		7	25.0	
Females	3,455	71.7	64.5	2,954	74.8		358	76.7		143	35.7		126	38.9		17	22.2	
Prevalence (10 years), 2007-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	1,996	43.5	34.7	1,582	39.9		318	81.2		96	42.2		84	42.1		12	42.8	
Females	6,081	126.3	109.7	5,075	128.5		697	149.3		309	77.2		275	84.9		34	44.4	
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Males	1,298	92.5	[89.8;94.8]	1,058	96.7	[94.6;98.4]	179	74.1	[61.3;84.9]	61	56.4	[27.9;89.0]	58	53.0	[25.7;84.3]	3	-	-
Females	3,667	96.6	[95.6;97.6]	3,156	98.6	[97.8;99.3]	348	86.7	[79.8;92.5]	163	80.2	[65.4;94.1]	143	82.6	[67.3;96.6]	20	75.4	[19,5;157,0]

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

Source: Belgian Cancer Registry

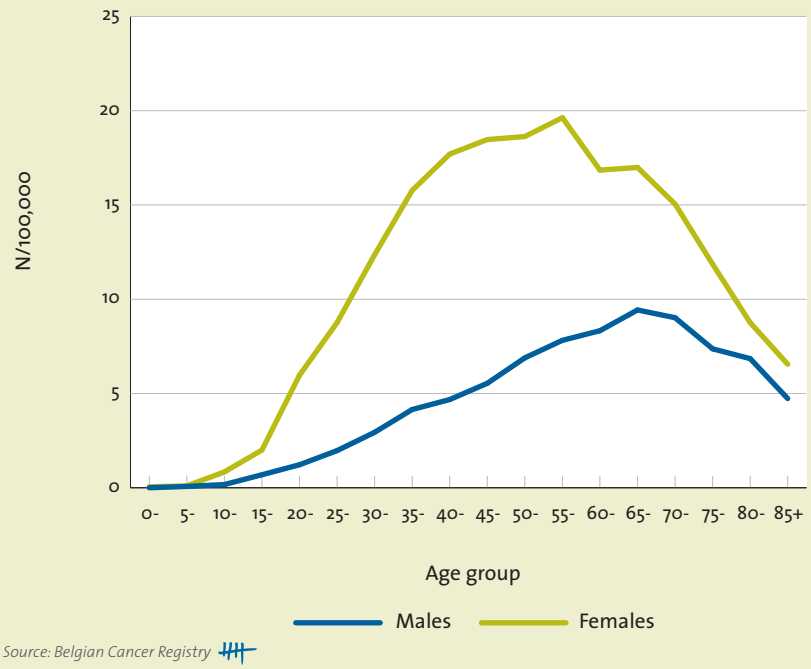
- **Incidence** (**Figure 1**, **Table 1**, **Figure 2**):
  - Thyroid cancer is the 19th most frequent cancer in males and the 8th most frequent in females. In the age group 80+ years, it is the 28th most frequent cancer in males and the 24th in females.
  - In 2016, there were 1,042 new diagnoses of thyroid cancer in Belgium; of whom 1,040 in patients aged 15 years or older. 74% were females.
  - Thyroid cancer occurs more frequently in younger patients, especially younger females. 83% of the patients is aged between 15 and 69 years old, 11% is aged between 70 and 79 years, 4.2% is aged between 80 and 89 years old and 1.0% is older than 90 years.
  - In both sexes, higher age-standardised incidence rates are observed in the Walloon Region and Brussels-Capital Region when compared to the Flemish Region (1.4 and 1.7 fold higher respectively) (see chapter 5. Appendix).
  - The incidence rate is increasing over time, especially for the younger age groups (i.e. younger than 80 years old), in both sexes (**Figure 3**).
  - Thyroid cancer preferentially affects females (male/female ratio: 0.3 in 2016). A different male/female ratio is observed per age group (**Figure 1**, **Figure 3**, **Table 2**):
    - Age group 15-69 years: females have an almost threefold higher risk than males (M/F ratio = 0.3).
    - Age group 70-79 years: females have an almost twofold higher risk than males (M/F ratio = 0.6).
    - Age group 80+ years: females have a twofold higher risk than males (M/F ratio = 0.6).
  - In younger patients (i.e. 15-69 years), thyroid cancer is more often diagnosed at an earlier stage (I or II) compared to older patients (i.e. 70-79 years and 80+ years), both in males (73% versus 49% and 21%) and females (88% versus 60% and 29%) (**Figure 4**).
    - The past few years, an increase of stage I tumours is observed in the age groups 15-69 years and 70-79 years, in both males and females (**Figure 5**).
    - In line with many patients being operated for this disease, availability of information on stage is quite high, about 90% (**Figure 4**).
  - The incidence rate of papillary carcinoma is increasing over time (**Figure 6**).
    - Papillary carcinoma, the most frequently diagnosed subtype (81% of all thyroid tumours in 2016), is often diagnosed in a prognostic favourable stage, especially in younger patients (i.e. 15-69 years: 64% of male patients and 81% of female patients is diagnosed at stage I or II) (**Figure 7**).
    - Anaplastic carcinoma is mostly diagnosed in patients of 70 years or older (68%). Those are stage IV tumours by definition.

- **Mortality** (**Table 1**, **Figure 2**, **Figure 3**, **Table 2**, **Figure 4**):
  - Thyroid cancer the 26th most important cause of cancer death in females and the 27th in males. In the male age group 70-79 years, thyroid cancer is the 22nd most frequent cause of cancer death.
  - In 2015, 75 deaths due to thyroid cancer were counted in Belgium (all older than 15 years); more than 61% were females.
  - 29% of those deaths occurred in patients between 15 and 69 years old, 39% in patients between 70 and 79 years old and 32% in patients older than 80 years.
  - The mortality rate is lower in younger patients (i.e. 15-79 years). This could be explained by the diagnosis in early stages in younger patients while in older patients (i.e. 70+ years) diagnoses are made at more advanced stages.
  - Only in younger males (i.e. 15-69 years), a decrease in mortality over time is observed. In the other age groups and in females, no significant changes in mortality over time are observed.

- **Prevalence** (**Table 1**):
  - Of all persons diagnosed with thyroid cancer between 2007 and 2016, 8,077 were still alive at 31 December 2016 (i.e. 10-year prevalence) of which 13% was aged between 70 and 79 years, 4.4% between 80 and 89 years and 0.6% was older than 90 years.

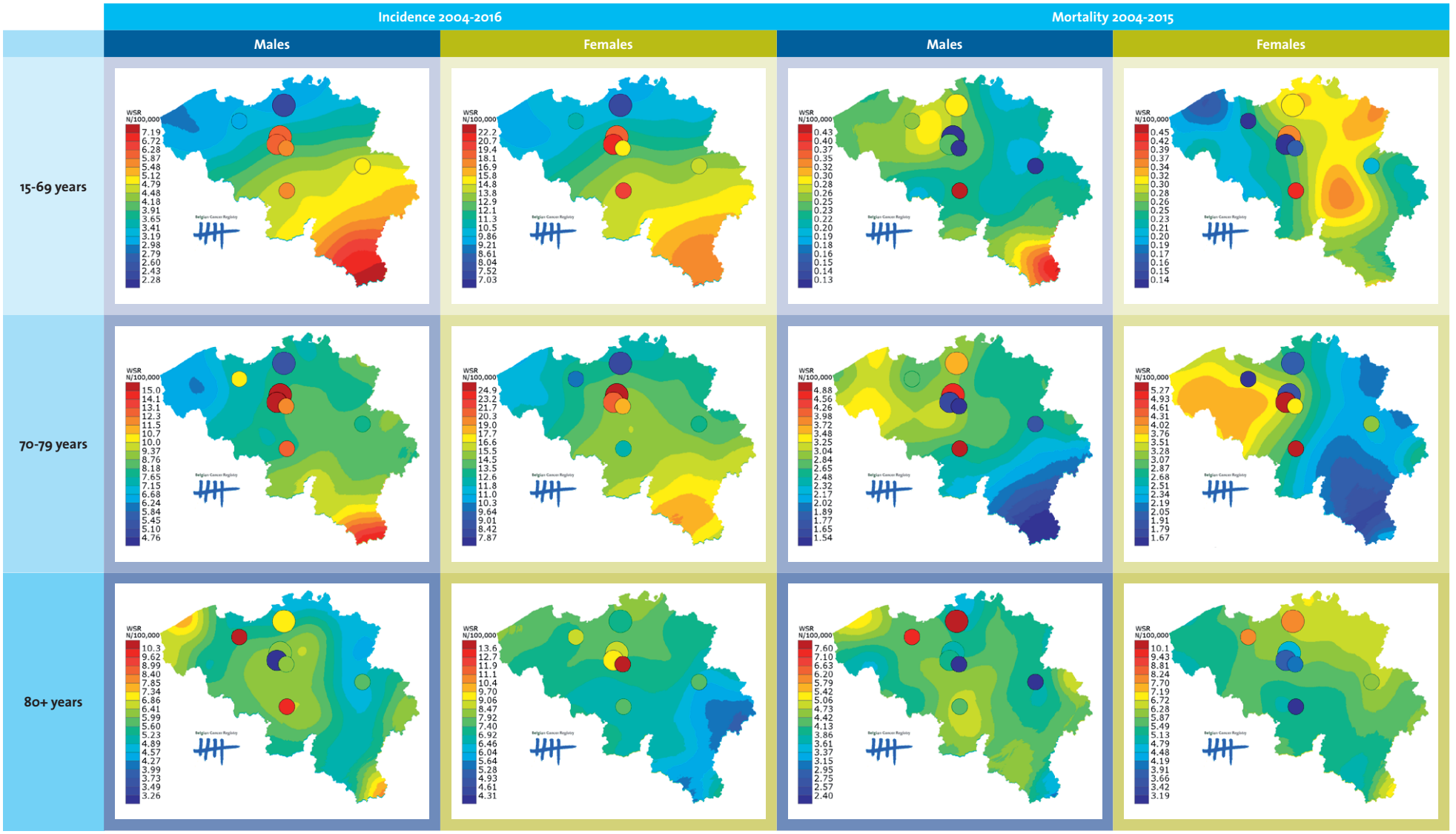
- **Survival**:
  - The 5-year relative survival proportion for the Belgian 2012-2016 cohort is 92% in males and 97% in females. In both sexes, an age-dependent survival gradient is noted, with the best survival for patients of 15-69 years old (5-year relative survival: 97% in males and 99% in females) and the worst survival for patients of 80 years or older (5-years survival: 56% in males and 80% in females) (**Table 1**).
  - An increase in the relative survival proportion for thyroid cancer is observed over time in Belgium (2004-2016) (**Figure 8**). In males, the gain in survival is more pronounced in the age group 80+ years. In females, both age groups 70-79 years and 80+ years show a gain in survival.
  - From about 5 to 10 years after diagnosis, females have a survival advantage in comparison with males. This difference is more pronounced in the older population (i.e. 80+ years) and results in a 10-year relative survival proportion of 52% in males and 81% in females (**Table 3**).
  - We observe a 5-year conditional relative survival proportion (2004-2016) of 83% in males and 109% in females of 80 years or older. This survival advantage in females was also observed in females aged 70-79 years old. (**Table 4**). Note that relative survival can exceed 100%, indicating that survival in this group of cancer patients is higher than survival in the matched group from the general population. This phenomenon can occur when information on death is missed, by chance in small-size populations, if patients have a healthier lifestyle or are more consistently treated for concomitant diseases than the reference population.

Figure 1 Thyroid cancer: Age-specific incidence rates (N/100,000) by sex, Belgium 2004-2016



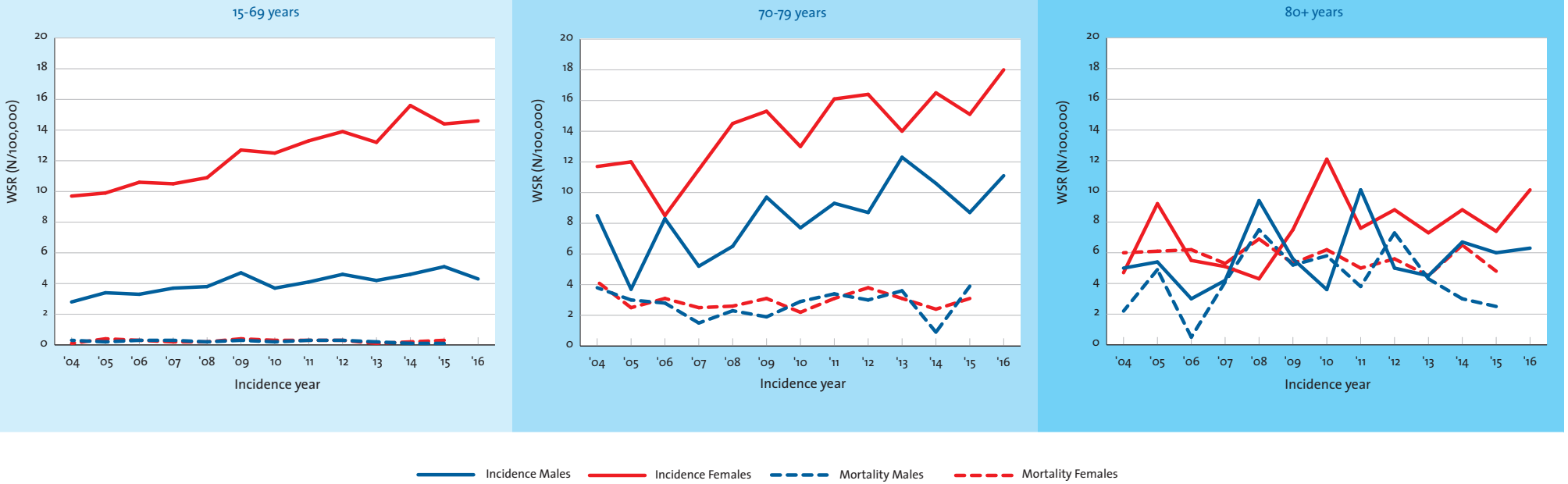
Source: Belgian Cancer Registry

Figure 2 Thyroid cancer: Age-standardised incidence and mortality (WSR) by sex and age group, Belgium



Source: Belgian Cancer Registry

Figure 3 Thyroid cancer: Trends in age-standardised incidence and mortality (WSR) by sex and age group, Belgium 2004-2016



Source: Belgian Cancer Registry

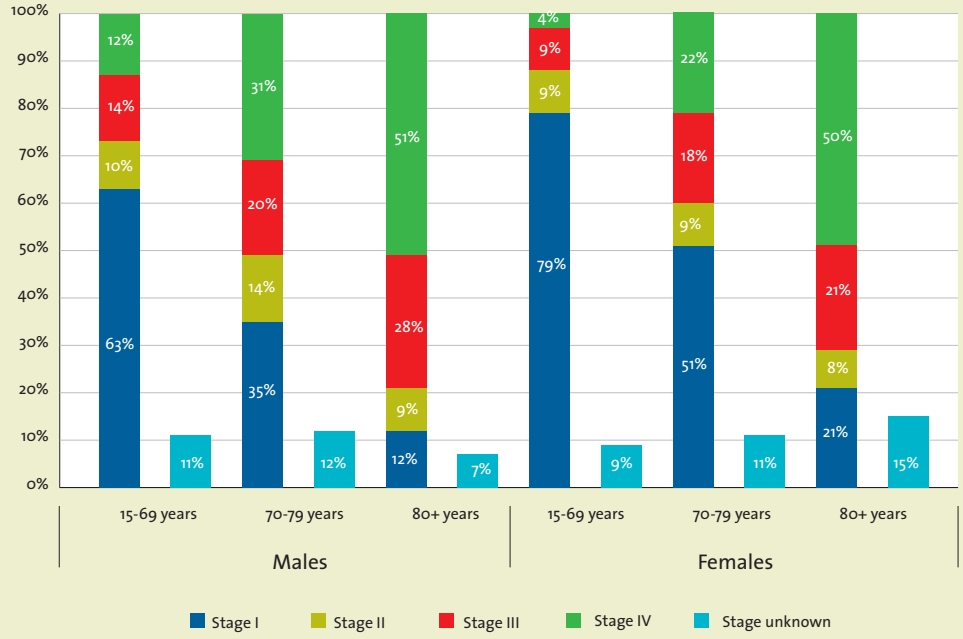
Table 2 Thyroid cancer: AAPC (%) by sex, histology and age group in Belgium

Thyroid cancer		Males			Females		
Incidence		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	3.8	[2.4; 5.1]	2004-2016	4.0	[3.2; 4.8]	2004-2016
	15-69 years	3.7	[2.1; 5.2]	2004-2016	4.0	[3.2; 4.8]	2004-2016
	70-79 years	5.7	[1.4; 10.1]	2004-2016	4.1	[1.8; 6.4]	2004-2016
	80+ years	2.5	[-2.9; 8.3]	2004-2016	4.4	[-0.1; 9.2]	2004-2016
Mortality		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	-3.9	[-7.7; 0.1]	2004-2015	-0.7	[-3.7; 2.4]	2004-2015
		2.1	[-3.4; 8.0]	2004-2012			
		-18.3	[-30.6; -3.7]	2012-2015			
	15-69 years	-3.1	[-7.9; 2.0]	2004-2015	0.1	[-6.2; 6.8]	2004-2015
		10.8	[-5.5; 29.9]	2004-2008			
		-10.2	[-17.6; -2.2]	2008-2015			
	70-79 years	-1.1	[-9.0; 7.5]	2004-2015	-0.5	[-4.0; 3.1]	2004-2015
	80+ years	4.5	[-9.1; 20.1]	2004-2015	-1.6	[-3.8; 0.6]	2004-2015
Incidence by histology		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
Papillary carcinoma	15+ years	5.1	[3.5; 6.8]	2004-2016	4.8	[3.8; 5.8]	2004-2016
	15-69 years	4.8	[3.2; 6.5]	2004-2016	4.7	[3.7; 5.7]	2004-2016
	70-79 years	10.0	[5.2; 15.1]	2004-2016	7.1	[4.7; 9.6]	2004-2016
	80+ years	-	-	2004-2016	8.6	[3.0; 14.6]	2004-2016
Follicular carcinoma	15+ years	1.0	[-1.2; 3.1]	2004-2016	1.0	[-1.6; 3.8]	2004-2016
	15-69 years	1.3	[-1.5; 4.3]	2004-2016	1.0	[-1.8; 3.9]	2004-2016
	70-79 years	0.5	[-8.3; 10.1]	2004-2016	1.3	[-5.5; 8.6]	2004-2016
	80+ years	-	-	2004-2016	-		2004-2016
Medullary carcinoma	15+ years	-0.4	[-4.1; 3.4]	2004-2016	-3.6	[-8.7; 1.8]	2004-2016
		14.1	[0.4; 29.6]	2004-2008			
		-7.0	[-12.3; -1.3]	2008-2016			
	15-69 years	-1.9	[-6.9; 3.3]	2004-2016	-3.6	[-9.1; 2.3]	2004-2016
	70-79 years	-	-	2004-2016	-	-	2004-2016
	80+ years	-	-	2004-2016	-	-	2004-2016
Anaplastic carcinoma	15+ years	-1.6	[-8.8; 6.1]	2004-2016	-5.4	[-11.5; 1.1]	2004-2016
	15-69 years	-2.1	[-9.2; 5.6]	2004-2016	-4.8	[-12.3; 3.4]	2004-2016
	70-79 years	-2.6	[-10.1; 5.5]	2004-2016	-7.6	[-19.9; 6.7]	2004-2016
	80+ years	-	-	2004-2016	-5.1	[-10.3; 0.5]	2004-2016
Carcinoma, other and NOS	15+ years	2.0	[-9.5; 15.1]	2004-2016	0.0	[-6.9; 7.5]	2004-2016
	15-69 years	2.4	[-11.6; 18.7]	2004-2016	-0.6	[-7.9; 7.4]	2004-2016
	70-79 years	-	-	2004-2016	-	-	2004-2016
	80+ years	-	-	2004-2016	-	-	2004-2016
Incidence by stage		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
Stage I	15+ years	9.9	[6.8; 13.1]	2004-2016	8.3	[6.3; 10.4]	2004-2016
					5.3	[-5.8; 17.7]	2004-2006
					14.4	[10.8; 18.1]	2006-2012
					1.3	[-3.7; 6.6]	2012-2016
	15-69 years	9.5	[6.3; 12.9]	2004-2016	9.4	[7.9; 10.9]	2004-2016
					13.5	[10.6; 16.4]	2004-2011
					3.9	[0.1; 7.8]	2011-2016
	70-79 years	19.2	[13.7; 24.8]	2004-2016	12.9	[4.3; 22.2]	2004-2016
					25.8	[11.2; 42.3]	2004-2012
					-9.2	[-30.4; 18.6]	2012-2016
	80+ years	-		2004-2016	-	-	2004-2016
Stage II	15+ years	6.5	[1.8; 11.5]	2004-2016	7.2	[5.3; 9.2]	2004-2016
	15-69 years	4.9	[0.1; 9.9]	2004-2016	7.4	[5.7; 9.0]	2004-2016
	70-79 years	-	-	2004-2016	4.5	[-6.3; 16.5]	2004-2016
	80+ years	-	-	2004-2016			2004-2016
Stage III	15+ years	5.3	[0.2; 10.7]	2004-2016	5.7	[3.0; 8.4]	2004-2016
		5.8	[0.3; 11.6]	2004-2014			
		3.0	[-25.1; 41.6]	2014-2016			
	15-69 years	9.6	[5.2; 14.1]	2004-2016	5.4	[2.2; 8.6]	2004-2016
		45.0	[21.0; 73.7]	2004-2007			
		-0.2	[-5.4; 5.3]	2007-2016			
	70-79 years	1.8	[-4.5; 8.6]	2004-2016	5.3	[-1.2; 12.2]	2004-2016
					-11.0	[-28.2; 10.2]	2004-2008
					14.6	[3.8; 26.5]	2008-2016
	80+ years	-	-	2004-2016	-	-	2004-2016
Stage IV	15+ years	2.4	[-0.6; 5.5]	2004-2016	-3.2	[-5.8; -0.5]	2004-2016
					-2.8	[-9.3; 4.1]	2004-2009
					11.5	[0.2; 24.0]	2009-2012
					-13.4	[-20.9; -5.2]	2012-2016
	15-69 years	2.9	[-0.9; 6.8]	2004-2016	-2.7	[-6.6; 1.4]	2004-2016
	70-79 years	1.2	[-4.1; 6.7]	2004-2016	0.7	[-3.7; 5.4]	2004-2016
	80+ years	-0.1	[-10.9; 12.0]	2004-2016	1.3	[-3.4; 6.3]	2004-2016
					9.6	[0.2; 19.8]	2004-2011
					-9.2	[-20.2; 3.4]	2011-2016
Stage unknown	15+ years	-11.6	[-14.5; -8.6]	2004-2016	-14.1	[-16.2; -11.9]	2004-2016
	15-69 years	-11.7	[-14.9; -8.4]	2004-2016	-14.5	[-16.7; -12.3]	2004-2016
	70-79 years	-7.5	[-16.4; 2.2]	2004-2016	-10.4	[-16.0; -4.4]	2004-2016
	80+ years	-	-	2004-2016	-1.3	[-10.2; 8.4]	2004-2016

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

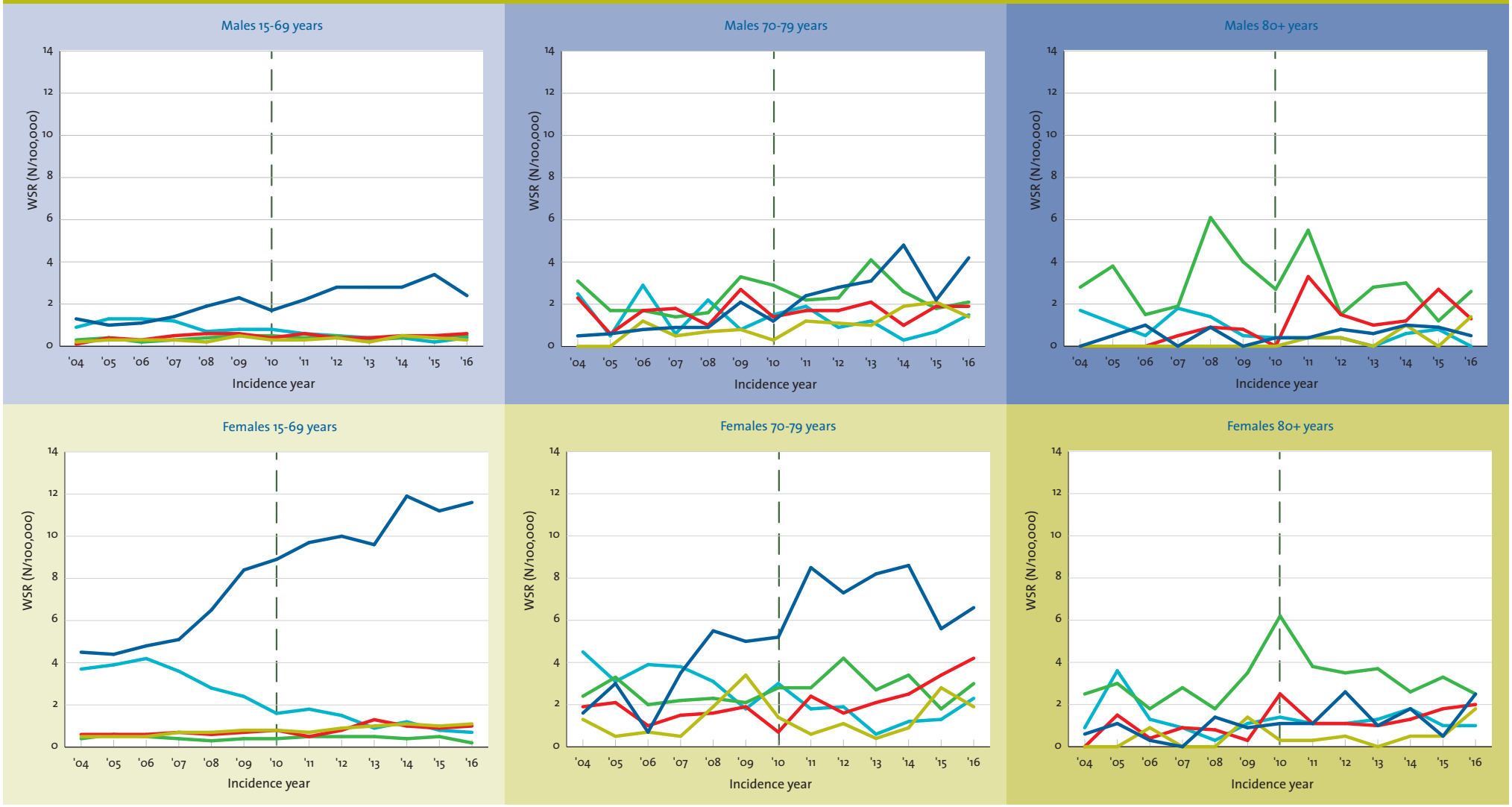
Source: Belgian Cancer Registry

Figure 4 Thyroid cancer: Stage distribution by age group and sex, Belgium 2010-2016



Source: Belgian Cancer Registry

Figure 5 Thyroid cancer: Trends in age-standardised incidence (WSR) by stage, age group and sex, Belgium 2004-2016



Source: Belgian Cancer Registry

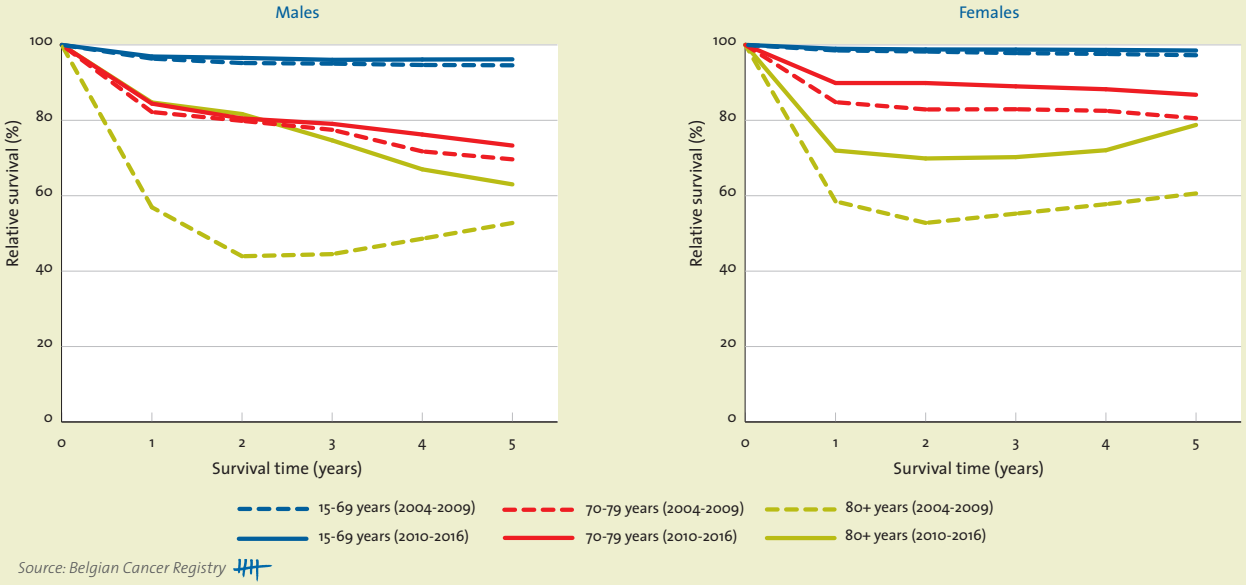
Figure 6 Thyroid cancer: Stage distribution by histology, age group and sex, Belgium 2010-2016

Source: Belgian Cancer Registry

Figure 7 Thyroid cancer: Stage distribution by histology, age group and sex, Belgium 2010-2016

Source: Belgian Cancer Registry

Figure 8 Thyroid cancer: Relative survival by sex and age group, Belgium 2004-2009 (dashed line) versus 2010-2016 (full line)



Source: Belgian Cancer Registry

Table 3 Thyroid cancer: Relative Survival by age group and sex (Belgium, 2004-2016)

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	2,332	96.7	[95.8; 97.4]	95.6	[94.5; 96.6]	95.5	[94.2; 96.6]	93.1	[90.8; 95.2]
	Females	6,935	98.8	[98.5; 99.1]	98.4	[98.0; 98.7]	98.0	[97.4; 98.4]	97.5	[96.6; 98.2]
70-79 years	Males	394	83.6	[79.1; 87.3]	78.4	[72.8; 83.4]	71.6	[64.6; 78.2]	65.1	[52.4; 77.9]
	Females	820	87.8	[85.1; 90.1]	86.5	[83.3; 89.3]	84.1	[80.2; 87.7]	86.7	[79.8; 93.3]
80+ years	Males	141	74.8	[65.3; 82.8]	64.0	[51.4; 76.1]	61.5	[45.2; 78.5]	52.1	[20.1; 102.7]
	Females	349	67.6	[61.7; 72.9]	65.4	[58.1; 72.3]	72.6	[63.4; 81.7]	81.2	[57.4; 107.8]

Source: Belgian Cancer Registry

Table 4 Thyroid cancer: Conditional Relative Survival by age group and sex (Belgium, 2004-2016)
Unadjusted relative survival proportion to survive an additional year, conditional on surviving the first year since diagnosis, %

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	2,230	99.3	[98.7; 99.7]	98.8	[97.8; 99.5]	98.6	[97.4; 99.7]	96.0	[93.4; 98.2]
	Females	6,804	99.8	[99.6; 99.9]	99.4	[99.1; 99.7]	99.0	[98.5; 99.4]	98.6	[97.7; 99.4]
70-79 years	Males	316	96.0	[92.2; 98.7]	88.7	[82.4; 94.0]	84.6	[76.2; 92.1]	77.9	[60.6; 95.2]
	Females	703	99.1	[97.4; 100.2]	97.9	[94.9; 100.2]	96.0	[91.9; 99.6]	101.0	[91.9; 109.1]
80+ years	Males	93	91.0	[79.8; 98.9]	82.2	[64.5; 97.8]	83.1	[58.9; 106.9]	86.6	[32.5; 165.9]
	Females	215	95.1	[89.1; 99.4]	99.9	[90.5; 107.7]	109.4	[95.5; 121.5]	137.6	[92.2; 185.1]

Source: Belgian Cancer Registry

Keynotes

- Most thyroid cancers are diagnosed at an early stage, i.e. stage I. More detailed exploration of those cancers showed that this group is largely represented by very small (≤ 1cm) papillary tumours [38].
- Geographical differences in the incidence of thyroid cancer have been observed in the Belgian population. When studied in detail, again, mostly the very small papillary thyroid cancers are more frequently diagnosed in the Walloon Region and Brussels-Capital Region in comparison to the Flemish Region. In alignment with international studies [39-40], these observations have been related with geographical variations in clinical management. For example, more surgical approaches for thyroid diseases in the south of Belgium may induce overdiagnosis of small, indolent thyroid cancer [38;41].
- The yearly number of new thyroid cancer diagnoses is projected to rise with about 39% from 2014 to 2025. This projected rise is slightly higher in males (44%) than in females (37%) [15]. Whether this evolution is related to a real increased risk or rather the result of enhanced detection of subclinical disease, is difficult to discern.
- Older patients (i.e. 70+ years) with thyroid cancer are mostly diagnosed with aggressive thyroid cancers, which clearly has an impact on their survival. Therefore, special attention to the support, follow-up and treatment of this older population is of great importance.

3.3.1.6 Cervical cancer (ICD-10: C53)

Table 1 Cervical cancer: Overview of incidence, mortality, prevalence and survival in females by age group (Belgium)

Belgium	All ages together (15 years or older)			15-69 years			70-79 years			80+ years			80-89 years			90+ years		
Incidence, 2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Females	640	13.3	11.4	517	13.1		82	18.0		41	10.3		35	10.8		6	8.2	
Mortality, 2015	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Females	161	3.4	2.1	97	2.5		30	6.6		34	8.6		30	9.3		4	5.7	
Prevalence (5-years), 2012-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Females	2,512	52.2	45.6	2,106	53.3		263	56.3		143	35.7		122	37.7		21	27.4	
Prevalence (10-years), 2007-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Females	4,366	90.6	77.7	3,669	92.9		439	94.0		258	64.5		224	69.2		34	44.4	
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Females	3,232	69.5 [67.5; 71.5]		2.600	75.4 [73.4; 77.3]		379	51.6 [44.8; 58.2]		253	29,9 [20.7; 40.6]		223	32,4 [22.8; 43.3]		30	-	-

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

Source: Belgian Cancer Registry

- **Incidence** (**Figure 1**, **Table 1**, **Figure 2**, **Figure 3**, **Table 2**, **Figure 4**, **Figure 5**):
  - Cervical cancer is the 13th most frequent cancer in females.
  - In 2016, there were 640 new diagnoses of cervical cancer in Belgium, all of them in patients 15 years or older (**Table 1**). Cervical cancer preferentially affects females younger than 70 years of age: 81% of cervical cancers occur in the age group 15-69 years, 13% in the age group 70-79 years and 6% in the age group 80+ years. Consequently, for the youngest age group (i.e. 15-69 years), it is the 7th most frequent cancer. It drops to the 18th rank for the age group 70-79 years and falls even further to the 23th rank for the age group 80+ years.
  - The incidence remains stable over time for the period 2004-2016 (**Figure 3**, **Table 2**).
  - Among cases with known stage, 56% of the tumours diagnosed in the age group 15-69 years are detected as stage I. When comparing the oldest age groups (i.e. 70-79 years and 80+ years), there is a gradually decrease in stage I tumours and an increase in stage IV tumours with increasing age. For the age group 80+ years, all stages are equally represented (**Figure 4**).

Screening

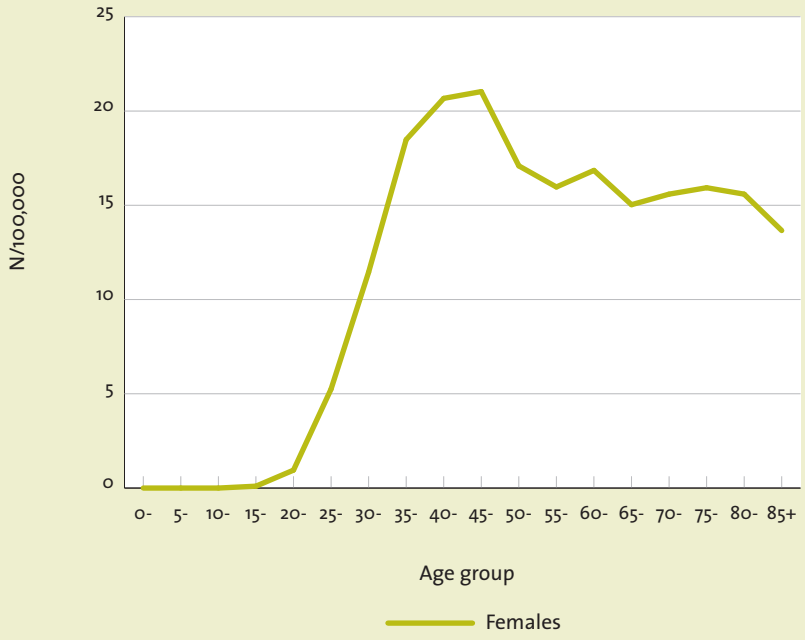
    - Regarding the screening age group (i.e. 25-64 years), 58% of the tumours were diagnosed as stage I. However, in the age group 65-69 years, there is a sharp drop in the percentage of stage I tumours to 34%. In addition, the percentage of stage II tumours is more than twofold higher, a rise from 12% to 26% (**Figure 4**).
    - For 17% of the cancer cases in the age group 15-69 years, the stage is unknown. This percentage gradually increases with age up to 36% for the age group 80+ years (**Figure 4**).
    - Over time, the incidence of in situ tumours significantly increased in all age groups, except for the 80+ years. The increase is highest in the age group 15-69 years. In age group 15-69 years, a significant increase of stage II tumours can be also observed. There is a significant increase of stage IV tumours and a decrease of tumours with an unknown stage (**Table 2**, **Figure 5**).

- **Mortality** (**Table 1**, **Figure 2**, **Figure 3**, **Table 2**):
  - Cervical cancer is the 19th most important cause of cancer death in females. In the age group 80+ years, cervical cancer mortality is ranked 22nd.
  - In 2015, 161 deaths due to cervical cancer were counted in Belgium. 60% of these deaths are in the age group 15-69 years, 19% in the age group 70-79 years and 21% in the age group 80+ years. However, the mortality rate is highest in the age group 80+ years.
  - Mortality rate remains stable over time (2004-2015) among all age groups.
  - The mortality for cervical cancer as shown in **Table 1** (N = 161 for 2015) might be an underestimation since for 154 death certificates ICD-10 C55 (Uterus, NOS) is mentioned as cause of death. This number is relative high compared to the incidence: only 8 tumors were diagnoses as ICD-10 C55 in 2015.

- **Prevalence** (**Table 1**):
  - Of all 6,384 females diagnosed with cervical cancer between 2007 and 2016, 4,366 were still alive at 31 December 2016 (i.e. 10-year prevalence) of which 10% was aged between 70 and 79 years, 6% between 80 and 89 years and 1% was older than 90 years.

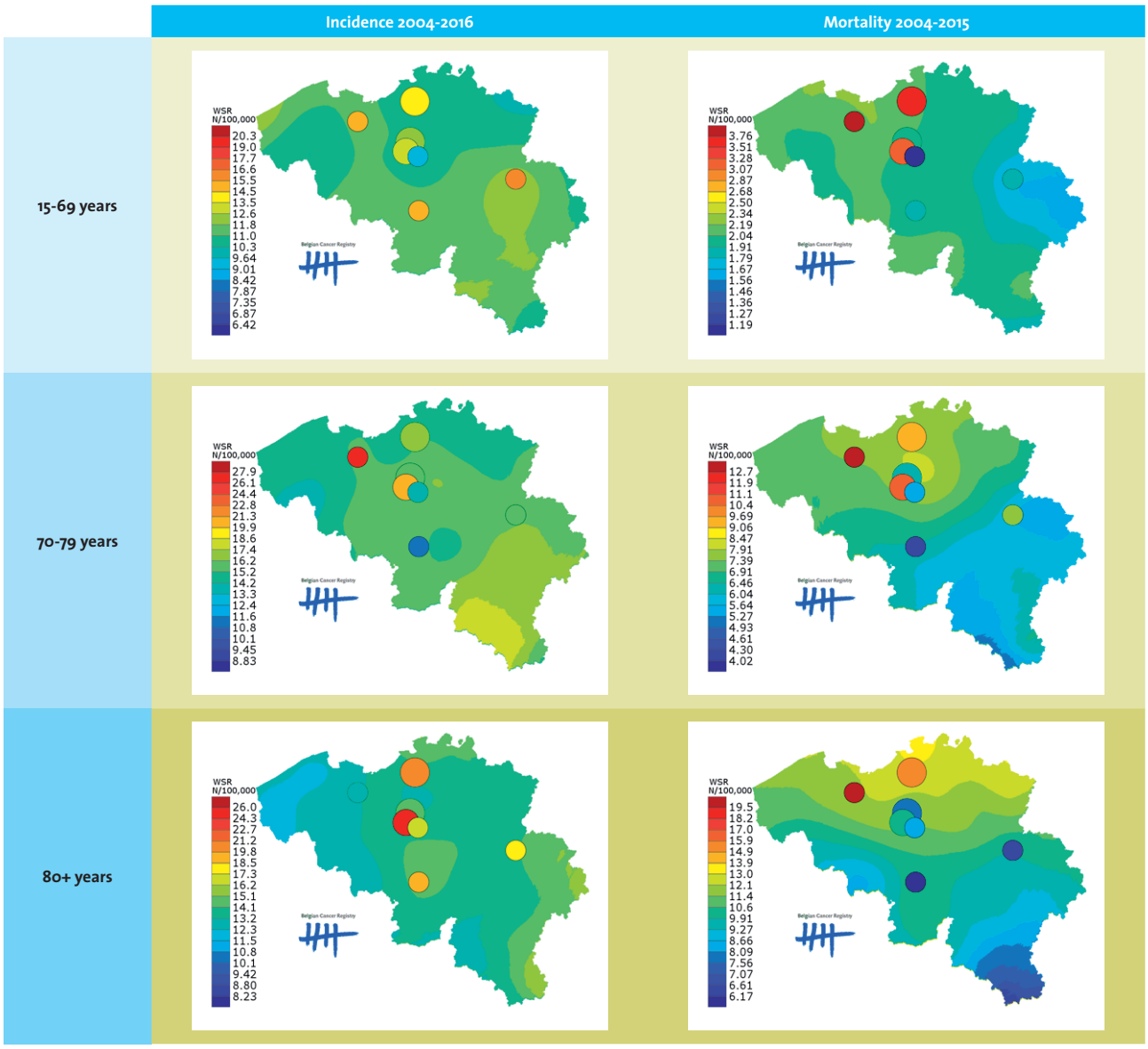
- **Survival** (**Table 1**, **Figure 6**, **Table 3**, **Table 4**):
  - The 5-year relative survival proportion for the Belgian 2012-2016 cohort is 70%. An age-dependent gradient is noted, with the best survival of 75% for patients of 15-69 years old, 52% for patients of 70-79 years old, and the worst survival of 30% for patients of 80+ years old. In this oldest age group, the low survival proportion could be partially explained by the more important proportion of advanced stages (i.e. stage III or IV) in the age group 80+ years (**Table 1**).
  - Relative survival in cervical cancer remains stable over time (**Figure 6**).
  - We also observed a similar age-dependent gradient in the 5-year conditional relative survival (2004-2016), which is 80% in the age group 15-69 years, 61% in the age group 70-79 years and 49% in the age group 80+ years (**Table 4**).

Figure 1 Cervical cancer: Age-specific incidence rates (N/100,000) in females, Belgium 2004-2016



Source: Belgian Cancer Registry

Figure 2 Cervical cancer: Age-standardised incidence and mortality (WSR) by age group, Belgium



Source: Belgian Cancer Registry

Figure 3 Cervical cancer: Trends in age-standardised incidence and mortality (WSR) by age group, Belgium 2004-2016

Source: Belgian Cancer Registry

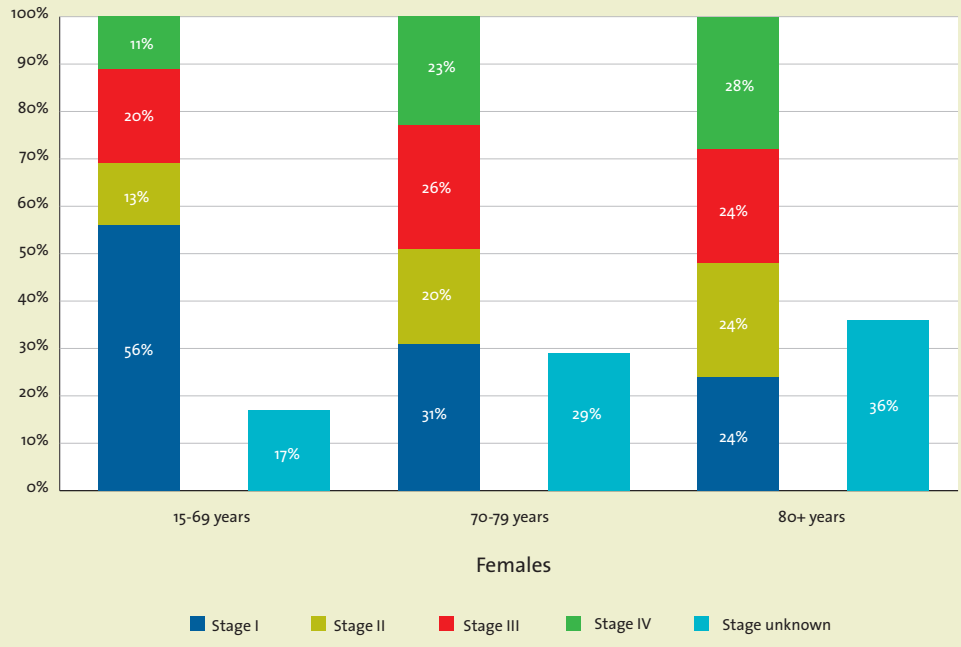
Table 2 Cervix uteri cancer: AAPC (%) by stage and age group in Belgium

Cervical cancer		Females		
Incidence		AAPC (%)	95% CI	Period
	15+ years	-0.3	[-1.1; 0.6]	2004-2016
	15-69 years	-0.3	[-1.2; 0.6]	2004-2016
	70-79 years	1.3	[-0.8; 3.4]	2004-2016
	80+ years	-2.2	[-5.0; 0.6]	2004-2016
Mortality		AAPC (%)	95% CI	Period
	15+ years	-1.5	[-3.2; 0.3]	2004-2015
	15-69 years	-1.3	[-3.3; 0.7]	2004-2015
	70-79 years	-2.4	[-5.7; 1.1]	2004-2015
	80+ years	-1.7	[-4.4; 1.1]	2004-2015
Incidence by stage		AAPC (%)	95% CI	Period
Stage 0 (carcinoma in situ)	15+ years	9.8	[8.7; 10.8]	2004-2016
	15-69 years	9.8	[8.7; 10.8]	2004-2016
	70-79 years	7.3	[2.4; 12.4]	2004-2016
	80+ years	4.6	[-0.4; 9.9]	2004-2016
Stage I	15+ years	1.1	[-0.4; 2.5]	2004-2016
	15-69 years	1.1	[-0.4; 2.6]	2004-2016
	70-79 years	-0.4	[-4.2; 3.5]	2004-2016
	80+ years	-0.8	[-5.8; 4.4]	2004-2016
		-15.8	[-39.4; 17.1]	2004-2006
		2.5	[-3.1; 8.3]	2006-2016
Stage II	15+ years	2.7	[0.6; 4.9]	2004-2016
	15-69 years	3.0	[0.6; 5.4]	2004-2016
	70-79 years	2.3	[-2.6; 7.4]	2004-2016
	80+ years	-1.9	[-7.8; 4.4]	2004-2016
Stage III	15+ years	2.3	[0.0; 4.7]	2004-2016
	15-69 years	2.4	[-0.1; 5.0]	2004-2016
	70-79 years	1.1	[-3.6; 6.2]	2004-2016
	80+ years	-1.4	[-6.5; 4.0]	2004-2016
Stage IV	15+ years	5.6	[3.1; 8.2]	2004-2016
	15-69 years	6.7	[4.1; 9.4]	2004-2016
		15.4	[6.2; 25.4]	2004-2008
		2.6	[-1.3; 6.7]	2008-2016
	70-79 years	4.4	[0.2; 8.8]	2004-2016
	80+ years	4.1	[-1.4; 10.0]	2004-2016
Stage Unknown	15+ years	-7.9	[-9.2; -6.6]	2004-2016
	15-69 years	-8.7	[-10.3; -7.1]	2004-2016
	70-79 years	-0.1	[-2.9; 2.8]	2004-2016
	80+ years	-6.5	[-11.5; -1.2]	2004-2016

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

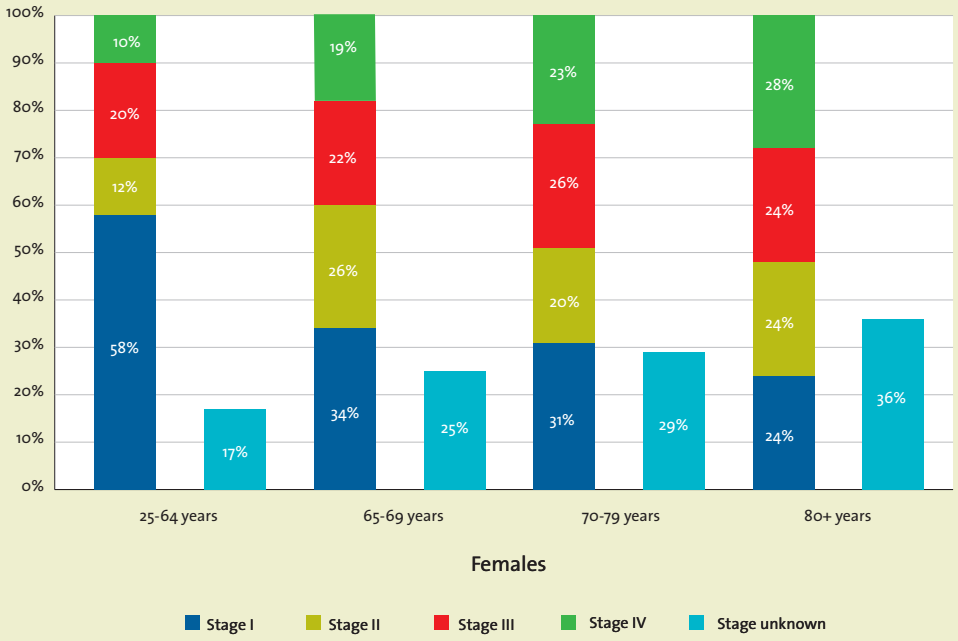
Source: Belgian Cancer Registry

Figure 4a Cervical cancer: Stage distribution by age group, Belgium 2010-2016



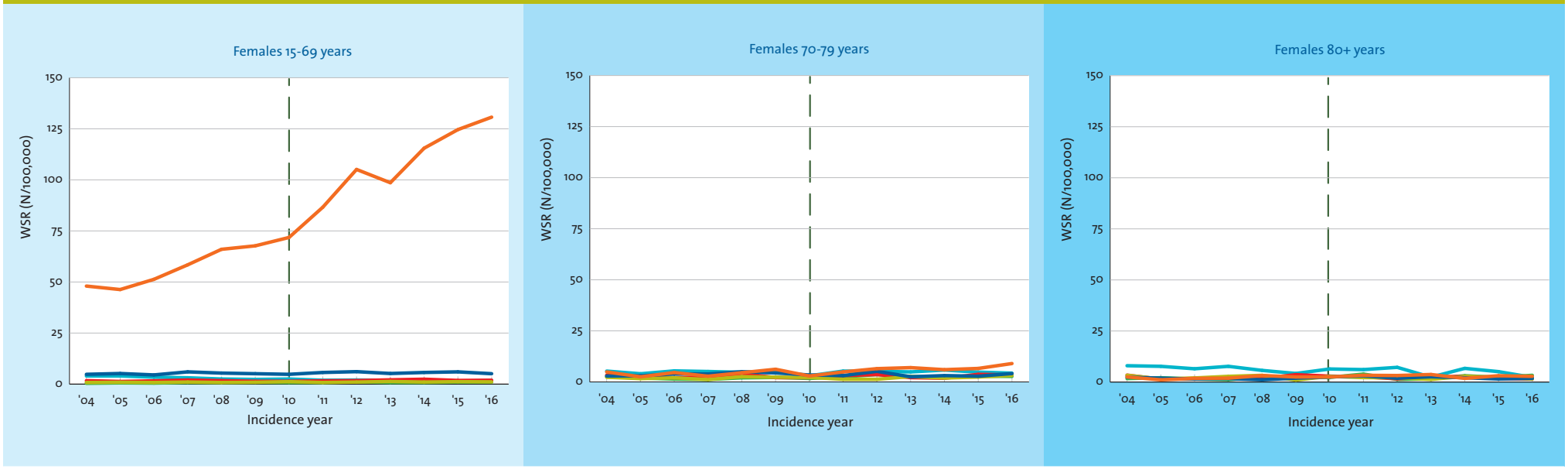
Source: Belgian Cancer Registry

Figure 4b Cervical cancer: Stage distribution by age group, Belgium 2010-2016



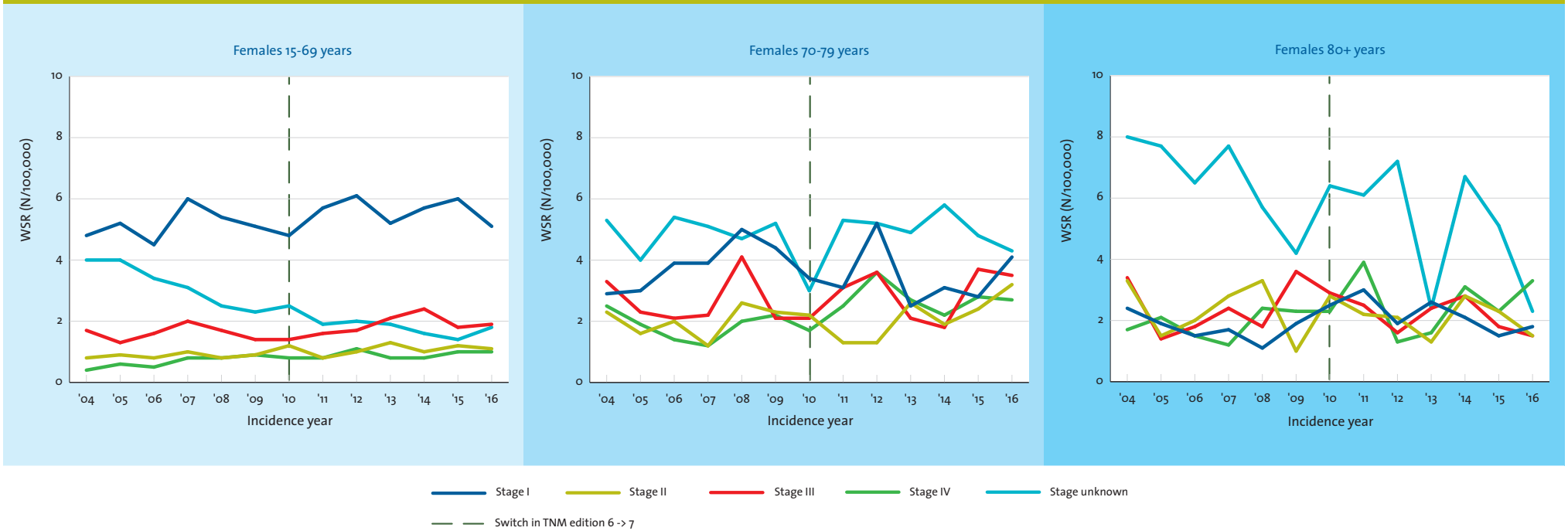
Source: Belgian Cancer Registry

Figure 5a Cervical cancer: Trends in age-standardised incidence (WSR) by stage, and age group, Belgium 2004-2016



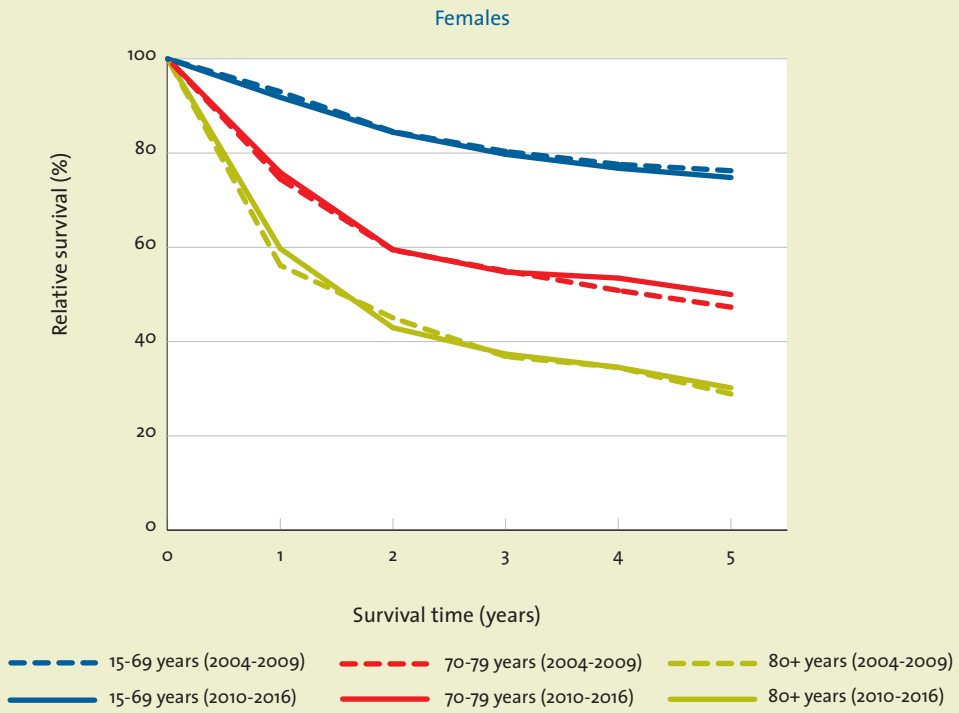
Source: Belgian Cancer Registry

Figure 5b Cervical cancer: Trends in age-standardised incidence (WSR) by stage, and age group, Belgium 2004-2016



Source: Belgian Cancer Registry

Figure 6 Cervical cancer: Relative survival by age group, Belgium 2004-2009 (dashed line) versus 2010-2016 (full line)



Source: Belgian Cancer Registry

Table 3 Cervical cancer: Relative survival by age group (Belgium, 2004-2016)

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Females	6,550	92.4	[91.7; 93.0]	80.0	[79.0; 81.0]	75.6	[74.4; 76.7]	70.7	[69.4; 72.1]
70-79 years	Females	964	75.2	[72.2; 78.0]	54.9	[51.3; 58.3]	48.5	[44.7; 52.3]	41.6	[36.4; 47.0]
80+ years	Females	665	58.2	[53.9; 62.3]	37.1	[32.5; 41.8]	29.5	[24.4; 34.9]	24.3	[15.6; 35.5]

Source: Belgian Cancer Registry

Table 4 Cervical cancer: Conditional relative survival by age group (Belgium, 2004-2016)
Unadjusted relative survival proportion to survive an additional year, conditional on surviving the first year since diagnosis, %

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Females	5,991	91.4	[90.7; 92.1]	83.6	[82.5; 84.5]	80.2	[79.0; 81.3]	75.8	[74.3; 77.2]
70-79 years	Females	703	79.1	[75.6; 82.1]	69.2	[65.0; 73.1]	60.7	[55.9; 65.4]	54.5	[46.9; 62.2]
80+ years	Females	351	75.3	[69.7; 80.4]	59.3	[51.9; 66.6]	48.9	[40.0; 58.3]	33.5	[17.0; 57.3]

Source: Belgian Cancer Registry

Keynotes

- Cervical cancer affects young females particularly between the age of 35 and 50 years old and is less common in older females. The screening allows at a younger age early detection of pre-malignant or malignant lesions. When pre-malignant lesions are detected by screening, these patients are treated before the cancer can develop. This makes the incidence shift to a younger age and avoids that cancer develops at older age.

- Cervical cancer screening is recommended by the Council of the European Union [42]. As published in the second edition of the European guidelines for quality assurance in cervical cancer screening, cervical cytology is the recommended standard screening test [43]. Screening should start at the age of 20 to 30 years old, until the age of 60 to 65 years old with a 3 to 5 years interval [43]. These recommendations, published in 2007, were updated in 2015 with complementary approaches to cervical cancer prevention such as primary testing for oncogenic human papilloma virus (HPV) types and vaccination against HPV [44]. The Belgian Health Care Knowledge Centre published a recommendation in 2015 to switch to primary HPV screening in females from 30 to 64 years old [45].

- In Belgium there is no organized cervical cancer screening program at the national level. Screening smears are currently reimbursed only once in three years, but without upper or lower limits for age. Only in the Flemish Region, a population-based organised cervical screening was set-up in 2013 for the Flemish females aged 24-64 years old. The quality of the Flemish screening program is evaluated annually by means of quality indicators [46]. These analyses reveal that nearly 80% of the tumours detected in Flemish females who were screened in the past were diagnosed at stage I, compared to 40% stage I tumours in females who had not been screened beforehand [46]. The fact that almost 60% of the tumours diagnosed in the age group 25-64 years are discovered at an early stage, can thus be in part explained by screening.

- Despite the fact that the incidence of cervical cancer is the highest in the age group 15-69 years, a lower mortality and a better survival are observed in this group. This is an indication that tumours detected in an early stage have a better prognosis. Hence the cervical cancer screening can yield an important health benefit.

- About 50% of the tumours diagnosed in females aged 70 years or older are at advanced stage (i.e. stage III-IV). It is therefore important to continue screening in the oldest age groups. In the Flemish Region, the overall screening coverage is 62%, but varies according to age [46]. Between the age of 30 and 49 years, it peaks around 67%. From the age of 50 years old, the coverage declines to 48% for the age group 60-64 years. It is important to increase the coverage of these older females.

- The incidence of in situ cancers has more than doubled since 2004. In other European countries, such as the UK, the Netherlands and Denmark, an increase of in situ cancers has been reported too [47-49]. All of the three countries have an organized screening program. The increase is more particularly due to an increase of adenocarcinoma in situ.

- Given that lower socio-economic status is linked to a higher risk of cervical cancers, and females with a lower socio-economic status participate less in screening, it should be important to take into account in the health public policy [50].

Conclusions

- Participation in cervical cancer screening programs can lead to significant health gains. Necessary actions must be taken to increase the participation and, in particular, for older females and females with a lower socio-economic status. A nation-wide organized screening program can contribute to this.

- The increased incidence of the in situ cancers should be investigated more in detail (e.g. histology type, whether or not screened, HPV infection, vaccinated for HPV, etc.).

- Further analyses should reveal how strong the protective effect of screening is if one falls outside the screening target age and how long this effect will last.

3.3.2 Special focus on what is common in the older and the younger population

This section elaborates on five tumour types that are considered of equally important incidence among the older population and the population of 15-69 years old. These five tumour types are the generally known top 5 tumour sites: colon, rectal, lung, breast and prostate cancer as was already shown in chapter *'3.2 What are the most common types of cancer in the older population?'*.

3.3.2.1 Colon cancer (ICD-10: C18-C19)

Table 1 Colon cancer: Overview of incidence, mortality, prevalence and survival by sex and age group (Belgium)

Belgium	All ages together (15 years or older)			15-69 years			70-79 years			80+ years			80-89 years			90+ years		
Incidence, 2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	3,216	70.5	39.9	1,353	34.2		1,046	276.8		817	367.5		732	373.7		85	321.0	
Females	2,834	59.1	29.1	1,056	26.8		809	177.8		969	244.5		806	249.5		163	222.4	
Mortality, 2015	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	1,241	27.4	14.1	389	9.9		404	108.3		448	205.8		372	192.8		76	307.2	
Females	1,064	22.3	8.5	259	6.6		245	54.2		560	142.3		386	119.4		174	247.2	
Prevalence (5-years), 2012-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	11,760	256.5	143.3	4,897	123.5		3,974	1,015.0		2,889	1,269.4		2,570	1,287.8		319	1,138.4	
Females	10,150	210.7	103.9	3,868	97.9		2,852	611.0		3,430	856.9		2,827	873.3		603	787.6	
Prevalence (10-years), 2007-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	17,981	392.1	213.8	6,990	176.2		6,051	1,545.6		4,940	2,170.6		4,332	2,170.7		608	2,169.8	
Females	16,156	335.4	158.8	5,673	143.6		4,535	971.5		5,948	1,485.9		4,758	1,469.7		1,190	1,554.4	
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Males	16,535	70.4	[69.3; 71.6]	7,253	73.9	[72.5; 75.2]	5,234	70.7	[68.7; 72.8]	4,057	64.3	[60.7; 67.9]	3,688	64.7	[61.0; 68.3]	372	66.8	[46.7; 90.4]
Females	14,360	69.6	[68.4; 70.8]	5,455	75.0	[73.5; 76.4]	4,032	68.7	[66.6; 70.8]	4,.881	65.1	[62.2; 68.0]	4,137	66.0	[63.0; 68.9]	753	63.8	[52.3; 76.1]

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

Source: Belgian Cancer Registry

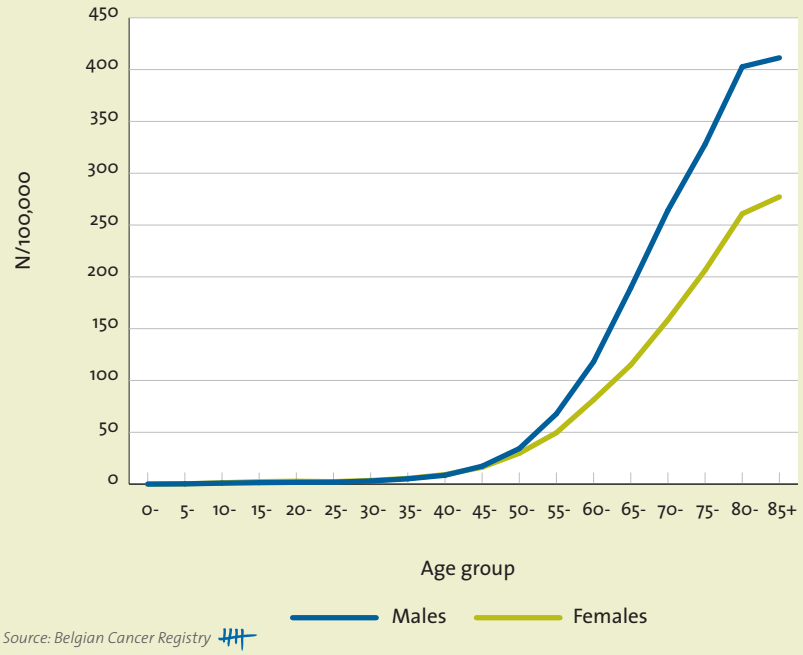
- **Incidence** (**Figure 1**, **Table 1**, **Figure 2**):
  - Colon cancer is the 3rd most frequent cancer in males and the 2nd most frequent in females. In the age group 80+ years, it is the 2nd most frequent cancer in both males and females.
  - In 2016, there were 6,061 new diagnoses of colon cancer in Belgium of whom 6,050 in patients aged 15 years or older. 53% were males. Colon cancer is most common in patients of 65 years or older: 60% was 70 years or older, 29% was 80 years or older and 4% was older than 90 years.
  - Over time, the incidence rates globally remain stable in the different age groups, although in the age group 80+ years, a slight decrease is observed. In 2014, a peak in incidence in both sexes is observed, most pronounced in the age group 70-79 years. This is, most probably due to the start of the Flemish Regional screening program at the end of 2013 (screening target population: 65-74 years in 2013, 56-74 years in 2014) (**Figure 3**).
  - Until about 50 years of age, the risk is similar in males and in females. Afterwards colon cancer preferentially affects males (male/female ratio: 1.3 in 2016) (**Figure 1**, **Figure 3**):
    - Age group 15-69 years: the male/female ratio is 1.3.
    - Age group 70-79 years: the male/female ratio is 1.6.
    - Age group 80+ years: the male/female ratio is 1.5.
  - Among cases with a known stage, about half of all colon cancers are diagnosed in advanced stages (stage III or IV), in both males and females and for all age groups.
    - Availability of information on stage is quite high (93%). In the age group 80+ years, this percentage is slightly lower (about 91%) (**Figure 4**).
    - In the age group 80+ years, stage II cancers are more frequent.
    - Over time, a rise of stage I cancers in all age groups and of stage IV in the age group 80+ is observed. Besides an effect of increasing awareness resulting in more early diagnoses, part of this evolution should be seen relative to the large decrease of unknown stages (**Table 2**, **Figure 5**).

- **Mortality** (**Table 1**, **Figure 2**, **Figure 3**, **Table 2**):
  - Colon cancer is the 3rd most important cause of cancer death in males and females. In patients of 80 years or older, it is ranked 2nd in females.
  - In 2015, 2,305 deaths due to colon cancer were counted in Belgium (all older than 15 years); more than 70% was older than 70 years.
  - Mortality rates are decreasing in both males and females, for all age groups. This decrease is especially obvious in the age group 80+ years, with an annual decrease of -2.7% and -3.1% in males and females respectively. It is most probably due to the earlier detection of cancer and the improvement in care, e.g. a better management of patients' frailty.

- **Prevalence** (**Table 1**):
  - Of all the 6,061 diagnosed with colon cancer between 2007 and 2016, 34,137 were still alive at 31 December 2016 (i.e. 10-year prevalence) of which 31% was aged between 70 and 79 years, 27% between 80 and 89 years and 5% was older than 90 years.

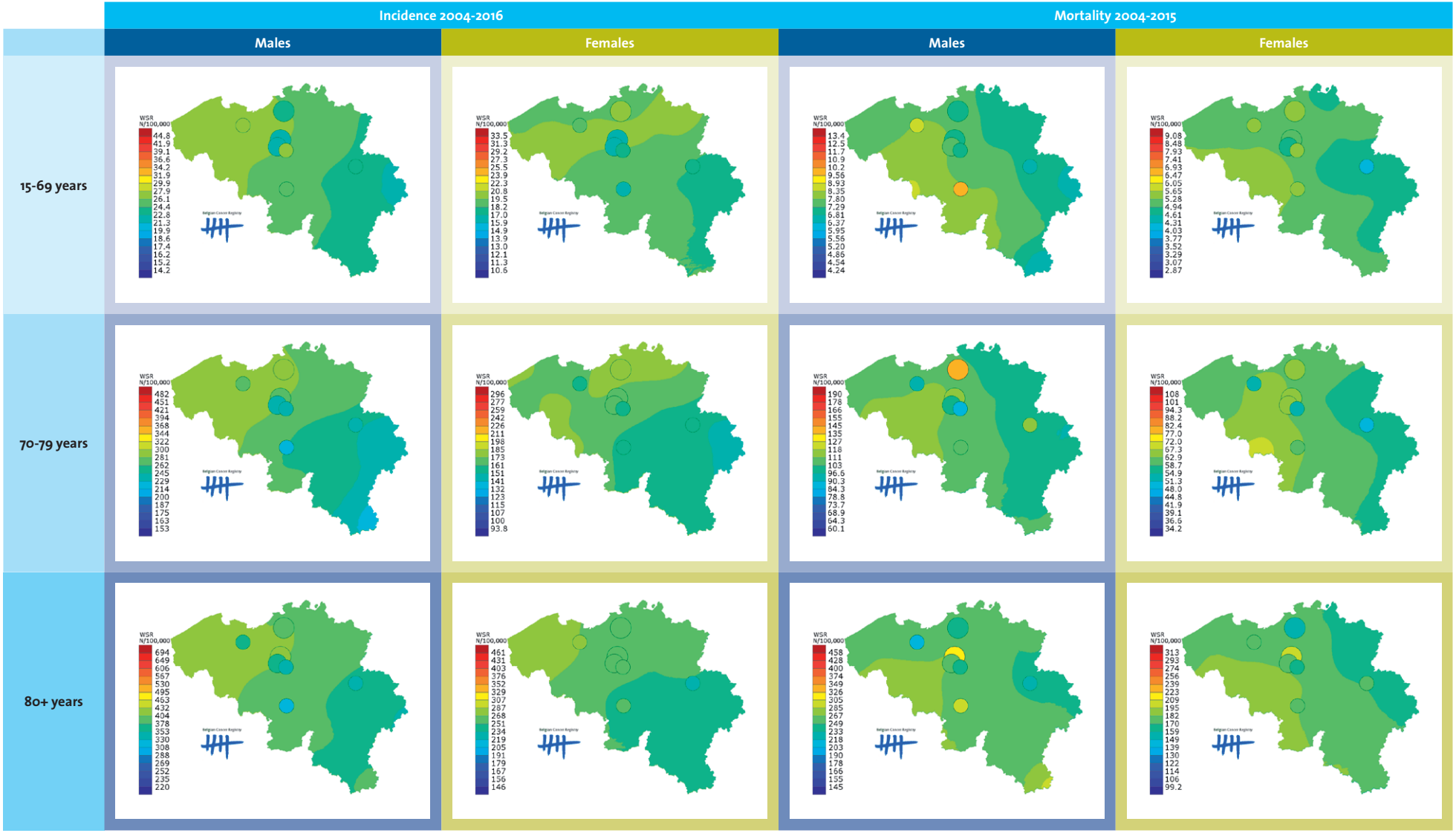
- **Survival**:
  - The 5-year relative survival proportion for the Belgian 2012-2016 cohort is about 70% in both males and females (**Table 1**). In both sexes, an age-dependent survival gradient is noted, with the best survival for patients of 15-69 years old (5-year relative survival 2004-2016: 70% in males and 73% in females), and the worst survival for patients of 80 years and older (5-year relative survival: 60% in males and 62% in females) (**Table 3**).
  - Females have a small survival advantage in comparison with males, which is increasing with follow-up time. This difference is more pronounced for the age group 80+ years and results in a 10-year relative survival proportion of 57% in males and 62% in females (**Table 3**).
  - An increase in the relative survival proportion for colon cancer is observed over time in Belgium (2004-2009 vs 2010-2016) (**Figure 6**). In the older population (the age groups 70-79 years and 80+ years), the gain in survival is more pronounced in males than in females.
  - The survival decreases sharply during the first year, especially for the 80+ age group, resulting in a 1-year relative survival of 74% in males and 73% in females for both sexes in this age group between 2004-2016. In contrast, the conditional relative survival is better for this age group compared to the younger fellow-sufferers, with a 5-year conditional relative survival of 79% in males and 84% in females (**Table 4**). This suggests that for older patients, surviving the first year is crucial. Possible explanations for the large mortality in the first year include a higher post-operative mortality, more comorbidities, less surgical interventions and less treatment consent in older patients (**Table 4**). This hypothesis is further underlined by the observation that older patients are more often treated less aggressively or left untreated for colon cancer compared to their younger counterparts, as demonstrated in the Capita Selecta.

Figure 1 Colon cancer: Age-specific incidence rates (N/100,000) by sex, Belgium 2004-2016



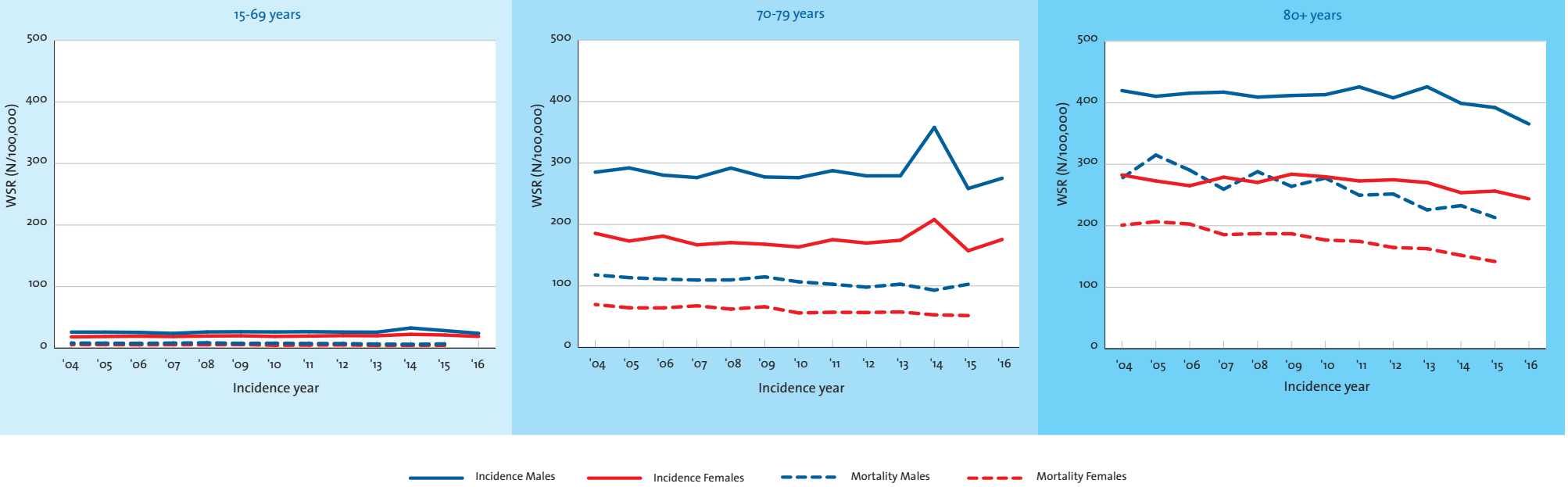
Source: Belgian Cancer Registry

Figure 2 Colon cancer: Age-standardised incidence and mortality (WSR) by sex and age group, Belgium



Source: Belgian Cancer Registry

Figure 3 Colon cancer: Trends in age-standardised incidence and mortality (WSR) by sex and age group, Belgium 2004-2016



Source: Belgian Cancer Registry

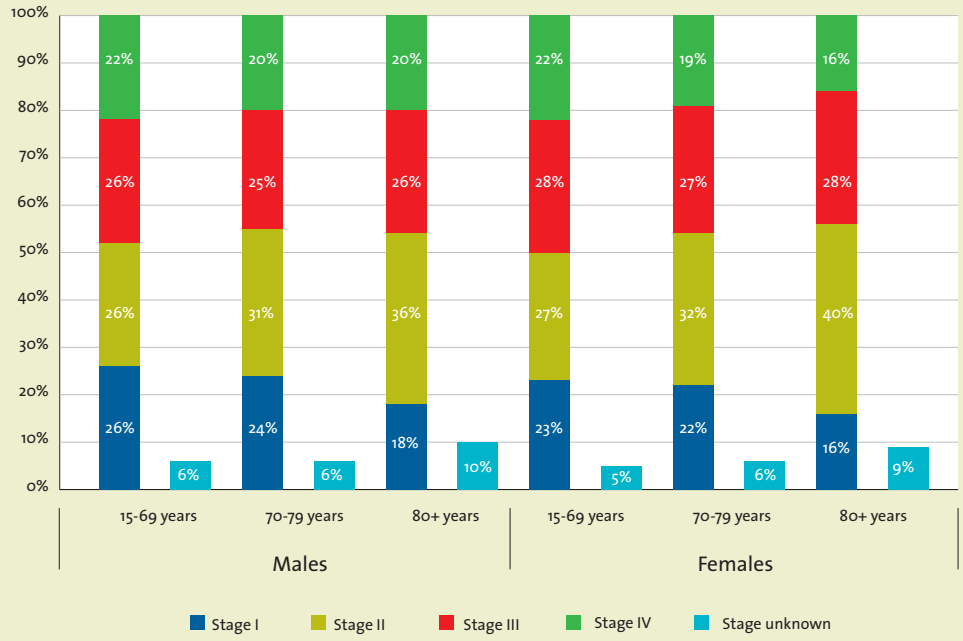
Table 2 Colon cancer: AAPC (%) by sex, stage and age group in Belgium

Colon cancer		Males			Females		
Incidence		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	0.3	[-0.7; 1.4]	2004-2016	0.4	[-0.2; 1.1]	2004-2016
	15-69 years	0.7	[-0.6; 1.9]	2004-2016	0.9	[0.2; 1.6]	2004-2016
	70-79 years	0.1	[-1.2; 1.4]	2004-2016	-0.0	[-1.2; 1.1]	2004-2016
	80+ years	-0.9	[-1.2; -0.6]	2004-2016	-0.9	[-1.3; -0.5]	2004-2016
		0.1	[-0.2; 0.5]	2004-2013	0.2	[-0.5; 0.9]	2004-2011
		-4.0	[-5.3; -2.8]	2013-2016	-2.4	[-3.4; -1.4]	2011-2016
Mortality		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	-2.0	[-2.5; -1.4]	2004-2015	-2.6	[-3.4; -1.9]	2004-2015
		-0.1	[-1.8; 1.6]	2004-2008			
		-3.0	[-3.9; -2.1]	2008-2015			
	15-69 years	-1.9	[-2.7; -1.0]	2004-2015	-2.5	[-3.7; -1.3]	2004-2015
		1.1	[-1.7; 4.0]	2004-2008			
		-3.5	[-5.0; -2.1]	2008-2015			
	70-79 years	-1.6	[-2.3; -0.9]	2004-2015	-2.5	[-3.2; -1.7]	2004-2015
	80+ years	-2.7	[-3.7; -1.7]	2004-2015	-3.1	[-3.6; -2.7]	2004-2015
					-2.2	[-3.1; -1.2]	2004-2010
					-4.3	[-5.4; -3.2]	2010-2015
Incidence by stage		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
Stage I	15+ years	7.6	[5.0; 10.3]	2004-2016	7.8	[6.3; 9.3]	2004-2016
	15-69 years	8.8	[5.8; 11.9]	2004-2016	9.0	[7.4; 10.6]	2004-2016
	70-79 years	6.6	[3.3; 9.9]	2004-2016	6.6	[3.8; 9.5]	2004-2016
	80+ years	2.7	[1.3; 4.2]	2004-2016	3.2	[1.8; 4.7]	2004-2016
		5.1	[3.5; 6.7]	2004-2014			
		-8.3	[-16.2; 0.4]	2014-2016			
Stage II	15+ years	-0.6	[-1.4; 0.2]	2004-2016	-0.1	[-0.9; 0.7]	2004-2016
		0.9	[-0.7; 2.5]	2004-2011			
		-2.7	[-4.9; -0.5]	2011-2016			
	15-69 years	-0.8	[-2.2; 0.6]	2004-2016	0.2	[-0.9; 1.3]	2004-2016
	70-79 years	-0.1	[-1.2; 0.9]	2004-2016	-0.8	[-2.2; 0.6]	2004-2016
	80+ years	-0.9	[-1.8; 0.1]	2004-2016	-0.4	[-1.4; 0.7]	2004-2016
		1.1	[-0.2; 2.4]	2004-2013	1.4	[-0.2; 3.1]	2004-2012
		-6.4	[-10.4; -2.2]	2013-2016	-3.8	[-7.1; -0.4]	2012-2016
Stage III	15+ years	0.2	[-1.1; 1.5]	2004-2016	-0.6	[-1.3; 0.1]	2004-2016
					1.5	[0.8; 2.3]	2004-2014
					-10.6	[-14.5; -6.5]	2014-2016
	15-69 years	0.8	[-0.8; 2.4]	2004-2016	-0.0	[-0.8; 0.8]	2004-2016
					2.3	[1.5; 3.2]	2004-2014
					-10.9	[-15.2; -6.4]	2014-2016
	70-79 years	-0.7	[-2.1; 0.6]	2004-2016	-0.7	[-1.9; 0.6]	2004-2016
	80+ years	-1.1	[-2.5; 0.3]	2004-2016	-1.0	[-2.4; 0.4]	2004-2016
		0.5	[-1.3; 2.4]	2004-2013	1.8	[-0.9; 4.5]	2004-2011
		-5.8	[-11.5; 0.2]	2013-2016	-4.7	[-8.3; -1.0]	2011-2016
Stage IV	15+ years	-0.1	[-0.8; 0.6]	2004-2016	1.2	[0.4; 2.0]	2004-2016
		1.1	[0.3; 1.8]	2004-2014	3.1	[1.2; 4.9]	2004-2010
		-5.9	[-9.9; -1.7]	2014-2016	-0.7	[-2.5; 1.1]	2010-2016
	15-69 years	-0.1	[-1.1; 0.8]	2004-2016	0.9	[0.3; 1.5]	2004-2016
					4.5	[2.8; 6.2]	2004-2008
					0.8	[-0.2; 1.8]	2008-2014
					-5.8	[-9.1; -2.4]	2014-2016
	70-79 years	-0.2	[-1.4; 1.0]	2004-2016	0.8	[-0.8; 2.4]	2004-2016
		1.6	[0.3; 2.9]	2004-2014			
		-8.7	[-15.3; -1.6]	2014-2016			
	80+ years	3.0	[1.8; 4.4]	2004-2016	2.2	[0.7; 3.7]	2004-2016
Stage unknown	15+ years	-10.7	[-11.5; -9.9]	2004-2016	-11.5	[-12.4; -10.5]	2004-2016
		-8.8	[-11.0; -6.6]	2004-2009			
		-12.1	[-13.5; -10.6]	2009-2016			
	15-69 years	-10.6	[-11.4; -9.8]	2004-2016	-12.2	[-13.6; -10.8]	2004-2016
		-8.1	[-10.4; -5.8]	2004-2009	-5.7	[-12.0; 1.0]	2004-2007
		-12.4	[-13.9; -10.9]	2009-2016	-14.3	[-16.0; -12.5]	2007-2016
	70-79 years	-11.8	[-14.0; -9.6]	2004-2016	-9.9	[-12.4; -7.3]	2004-2016
	80+ years	-11.0	[-12.1; -9.8]	2004-2016	-10.0	[-11.2; -8.8]	2004-2016
		-20.3	[-26.6; -13.5]	2004-2006	-17.1	[-21.8; -12.1]	2004-2007
		-4.7	[-7.3; -2.0]	2006-2011	-7.5	[-9.1; -5.9]	2007-2016
		-13.0	[-15.5; -10.5]	2011-2016			

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

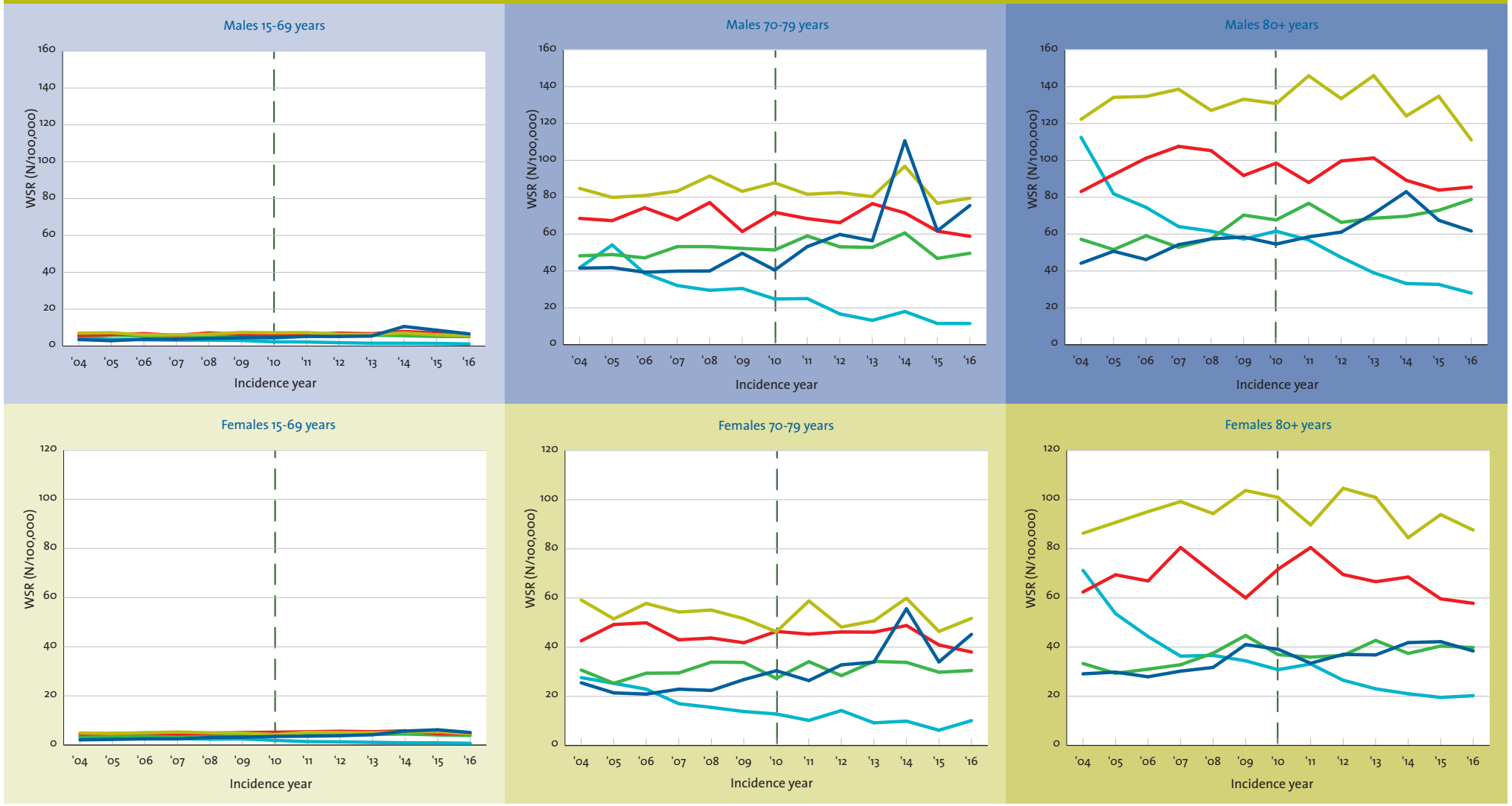
Source: Belgian Cancer Registry

Figure 4 Colon cancer: Stage distribution by age group and sex, Belgium 2010-2016



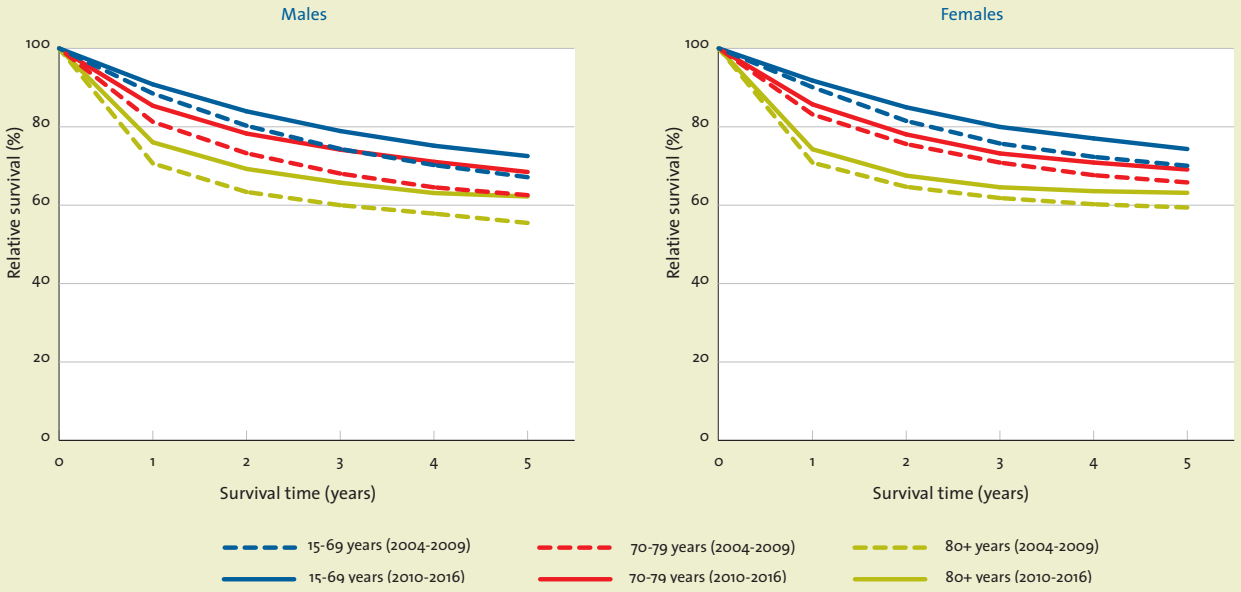
Source: Belgian Cancer Registry

Figure 5 Colon cancer: Trends in age-standardised incidence (WSR) by stage, age group and sex, Belgium 2004-2016



Source: Belgian Cancer Registry

Figure 6 Colon cancer: Relative survival by sex and age group, Belgium 2004-2009 (dashed line) versus 2010-2016 (full line)



Source: Belgian Cancer Registry

Table 3 Colon cancer: Relative survival by age group and sex (Belgium, 2004-2016)

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	16,865	89.9	[89.4; 90.3]	77.0	[76.3; 77.7]	70.1	[69.3; 70.9]	64.4	[63.2; 65.5]
	Females	12,743	91.1	[90.6; 91.6]	78.1	[77.4; 78.9]	72.5	[71.6; 73.3]	66.7	[65.6; 67.8]
70-79 years	Males	13,710	83.5	[82.8; 84.2]	71.3	[70.3; 72.2]	65.7	[64.5; 66.8]	62.1	[60.2; 64.1]
	Females	10,861	84.5	[83.7; 85.2]	72.1	[71.1; 73.0]	67.4	[66.2; 68.5]	63.7	[61.8; 65.5]
80+ years	Males	9,281	73.9	[72.8; 75.0]	63.5	[61.9; 65.0]	59.2	[57.2; 61.3]	57.2	[52.0; 62.6]
	Females	11,848	72.9	[71.9; 73.8]	63.5	[62.2; 64.7]	61.5	[59.9; 63.1]	62.2	[58.4; 66.1]

Source: Belgian Cancer Registry

Table 4 Colon cancer: Conditional relative survival by age group and sex (Belgium, 2004-2016)
Unadjusted relative survival proportion to survive an additional year, conditional on surviving the first year since diagnosis, %

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	14,929	91.7	[91.2; 92.2]	81.2	[80.5; 82.0]	76.1	[75.3; 77.0]	71.3	[70.0; 72.5]
	Females	11,512	91.7	[91.1; 92.2]	82.3	[81.5; 83.0]	77.4	[76.4; 78.3]	72.8	[71.5; 74.0]
70-79 years	Males	10,946	91.0	[90.3; 91.6]	81.4	[80.3; 82.4]	76.5	[75.2; 77.9]	73.9	[71.2; 76.6]
	Females	8,933	91.0	[90.3; 91.7]	82.0	[80.9; 83.0]	78.0	[76.7; 79.2]	74.9	[72.5; 77.2]
80+ years	Males	6,042	90.6	[89.4; 91.7]	82.6	[80.5; 84.6]	78.6	[75.6; 81.6]	78.6	[69.6; 88.1]
	Females	7,784	91.1	[90.1; 92.0]	85.3	[83.7; 86.9]	84.2	[81.9; 86.6]	85.5	[79.0; 92.3]

Source: Belgian Cancer Registry

Keynotes

- Colon cancer is one of the most frequent cancers in Belgium (9% of all cancers). The incidence is highest in the age group 80+ years.
- Mortality seems to decrease slowly over time, especially in the 80+ years group which could e.g. be due to a better management of comorbidities.
- The start of the Flemish Regional screening program in 2013 contributed probably in the peak of incidence, especially the stage I, observed in the screening target population in 2014. It is an important observation to promote/support the screening. The screening allows diagnosis of colon cancer in more early and treatable stages, resulting in a health gain for the population. Since incidence of colon cancer is highest in the age groups 80+ years, an enlargement of the target population with older ages (i.e. older than 74 years old) could be considered. The screening target population recommended by the WHO (IARC) is between the age of 50 and 74 years old [51-52]. However, the US is more oriented to screen for colorectal cancer in the population older than 74 years old [53].
- It is also important that as many people as possible participate to screening programs. Therefore, efforts must continue to raise awareness and to sensitize the target population.
- Efforts have been done to improve registration of staging for colon tumours, resulting in a large reduction of the unknown stages. The percentage of unknown stages is highest (around 10%) for the age group 80+ years. A correct staging of tumours is important because this could have a positive effect on treatment and survival of the patients. Therefore, further efforts must be done to stage the diagnoses and to notify the results to the Cancer Registry.
- As many older cancer patients present with a certain frailty at time of diagnosis, care needs and cancer care in this population can differ strongly from younger patients. Advanced age in itself should not be sufficient to preclude such patients from any treatment. Instead, comprehensive geriatric assessment should guide patient-tailored care, taking patients' global condition into account. More attention should be given to the support, follow-up and personalized treatment of these older patients.

Screening

3.3.2.2 Rectal cancer (ICD-10: C20)

Table 1 Rectal cancer: Overview of incidence, mortality, prevalence and survival by sex and age group (Belgium)

Belgium	All ages together (15 years or older)			15-69 years			70-79 years			80+ years			80-89 years			90+ years		
Incidence, 2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	1,489	32.7	19.7	758	19.1		432	114.3		299	134.5		270	137.9		29	109.5	
Females	917	19.1	10.4	415	10.5		243	53.4		259	65.4		218	67.5		41	56.0	
Mortality, 2015	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	289	6.4	3.4	94	2.4		96	25.7		99	45.5		75	38.9		24	97.0	
Females	214	4.5	1.9	59	1.5		49	10.8		106	26.9		77	23.8		29	41.2	
Prevalence (5-years), 2012-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	5,609	122.3	72.3	2,821	71.1		1,747	446.2		1,041	457.4		948	475.0		93	331.9	
Females	3,496	72.6	39.9	1,672	42.3		980	209.9		844	210.8		728	224.9		116	151.5	
Prevalence (10-years), 2007-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	8,905	194.2	111.7	4,154	104.7		2,904	741.7		1,847	811.6		1,668	835.8		179	638.8	
Females	5,762	119.6	62.8	2,546	64.5		1,659	355.4		1,557	389.0		1,323	408.7		234	305.6	
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Males	7,611	70.3	[68.7;71.9]	3.960	74.9	[73.0;76.7]	2,221	72.2	[69.0;75.3]	1,430	51.7	[46.0;57.6]	1,271	54.6	[48.7;60.6]	161	15.1	[3.3;43.6]
Females	4,724	69.5	[67.5;71.4]	2.213	78.0	[75.7;80.1]	1,275	70.4	[66.6;74.1]	1,236	50.8	[45.5;56.3]	1,035	53.3	[47.7;59.0]	204	35.7	[19.7;57.3]

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

Source: Belgian Cancer Registry

- **Incidence** (**Figure 1**, **Table 1**, **Figure 2**):
  - Rectal cancer is the 6th most frequent cancer in males and females. In the age group 80+ years, it is the 5th most frequent cancer in males and females.
  - In 2016, there were 2,407 new diagnoses of rectal cancer in Belgium, except 1 case all of them in patients of 15 years or older. 62% were males. Rectal cancer occurs equally frequent in patients younger or older than 70 years: 51% was 70 years or older, 23% was 80 years or older and 3% was older than 90 years at diagnosis.
  - Over time, the incidence rates remain stable for the different age groups. For the age group 70-79 years, only a decrease in incidence in 2010 and an increase in 2014 was observed. This increase is, most probably, due to the implementation of the Flemish Regional screening program at the end of 2013 (screening target population: 64-74 years in 2013, 56-74 years in 2014) (**Figure 3**).

Screening

  - Rectal cancer preferentially affects men (male/female ratio: 1.9 in 2016). A different risk is observed with age between males and females (**Figure 1**, **Figure 3**, **Table 2**):
    - Age group 15-69 years: males have an almost twofold higher risk than females (M/F ratio = 1.8).
    - Age group 70-79 years: males have an more than twofold higher risk than females (M/F ratio = 2.1).
    - Age group 80+ years: males have a twofold higher risk than females (M/F ratio = 2.0).
  - Among cases with a known stage, almost half of all rectal cancers was diagnosed in advanced stages (stage III or IV), in both males and females and for all age groups.
    - Availability of information on stage is high, about 89%, but still can be improved. A small decrease of known stages is observed with age, especially in the age group 80+ years (**Figure 4**).

Screening

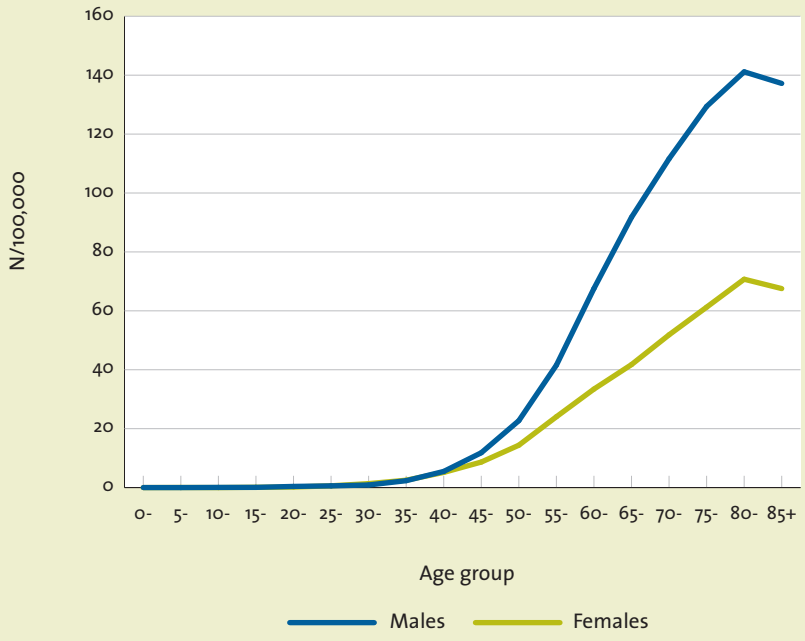
    - Trends of stage over time show a decrease of unknown stages, especially for the age group 80+ years. In 2014, an increase of early stages (stage I and II) was observed especially for the age group 70-79 years, due to the age based phased implementation of the Flemish Regional colorectal cancer screening program at the end of 2013 (**Table 2**, **Figure 5**).

- **Mortality** (**Table 1**, **Figure 2**, **Figure 3**, **Table 2**):
  - Rectal cancer is the 15th most important cause of cancer death in males and the 14th most important cause of death in females, both in the total population as well as in patients of 80 years or older.
  - In 2015, 503 deaths due to rectal cancer were counted in Belgium (all older than 15 years); 70% was older than 70 years.
  - Mortality rates are slightly decreasing in both males and females in the age groups 15+ years and 80+ years.

- **Prevalence** (**Table 1**):
  - Of all 24,292 persons diagnosed with rectal cancer between 2007 and 2016, 14,667 were still alive at 31 December 2016 (i.e. 10-year prevalence) of which 31% was aged between 70 and 79 years, 20% between 80 and 89 years and 3% was older than 90 years.

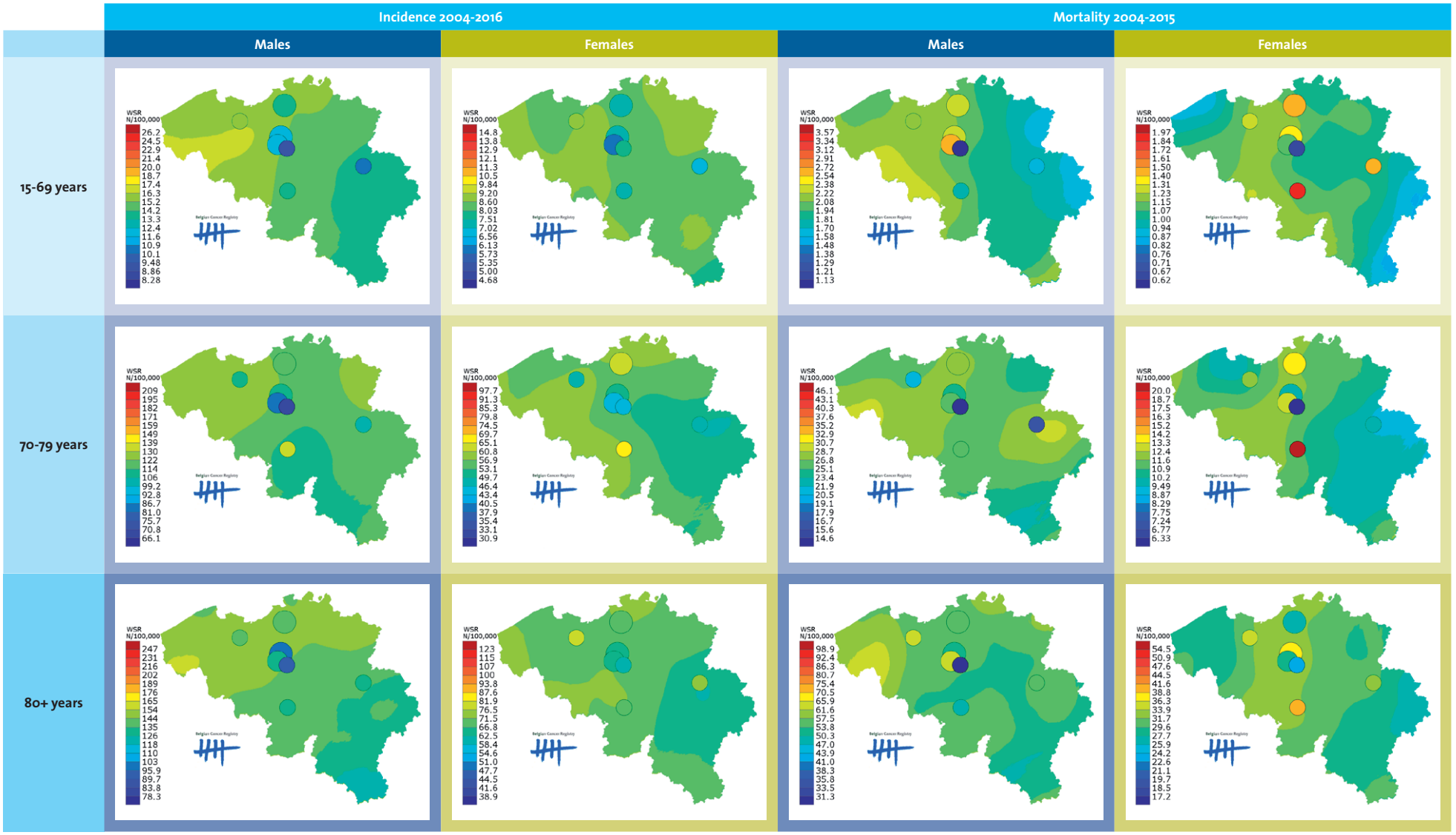
- **Survival**:
  - The 5-year relative survival proportion for the Belgian 2012-2016 cohort is about 70% in both males and females (**Table 1**). In both sexes, an age-dependent survival gradient is noted, with the best survival for patients of 15-69 years old (5-year relative survival 2004-2016: 72% in males and 75% in females), and the worst survival for patients of 80 years or older (5-year relative survival: about 50% in both males and females) (**Table 3**).
  - An increase in the relative survival proportion for rectal cancer is observed over time in Belgium (2004-2016) (**Figure 6**). This increase in survival is less pronounced for the oldest age group, i.e. 80+ years.
  - In contrast to the younger age groups, in the 80+ years age group, males have a small survival advantage in comparison with females: a 10-year relative survival proportion of 51% in males and 48% in females of 80 years or older (**Table 3**).
  - We observe a 5-year conditional relative survival proportion (2004-2016) of 69% in males and 70% in females of 80 years or older (**Table 4**).

Figure 1 Rectal cancer: Age-specific incidence rates (N/100,000) by sex, Belgium 2004-2016



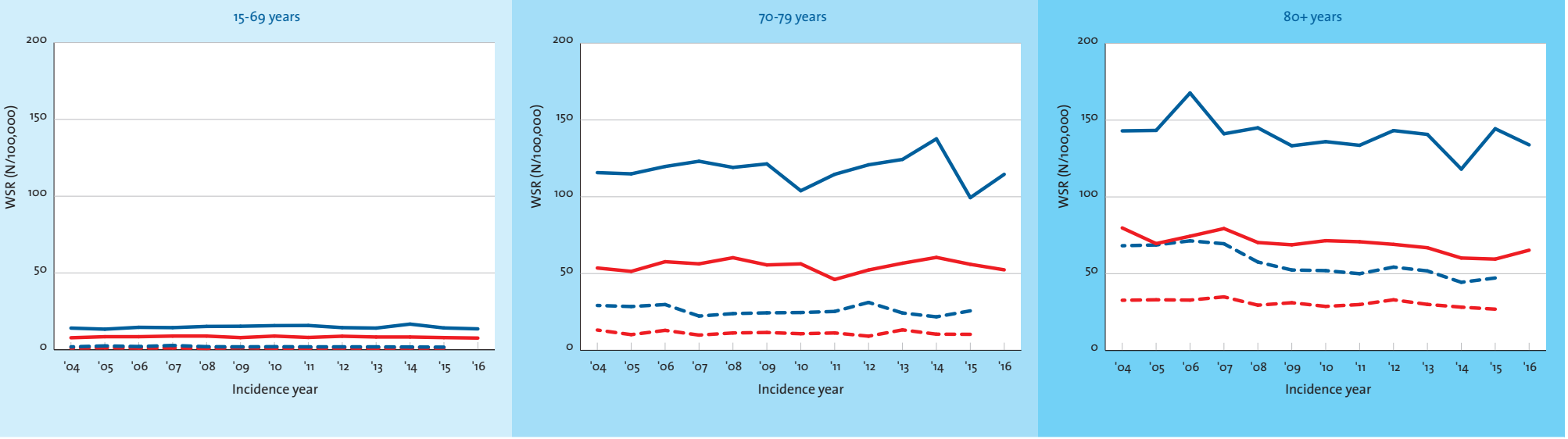
Source: Belgian Cancer Registry

Figure 2 Rectal cancer: Age-standardised incidence and mortality (WSR) by sex and age group, Belgium



Source: Belgian Cancer Registry

Figure 3 Rectal cancer: Trends in age-standardised incidence and mortality (WSR) by age group, Belgium 2004-2016



Source: Belgian Cancer Registry

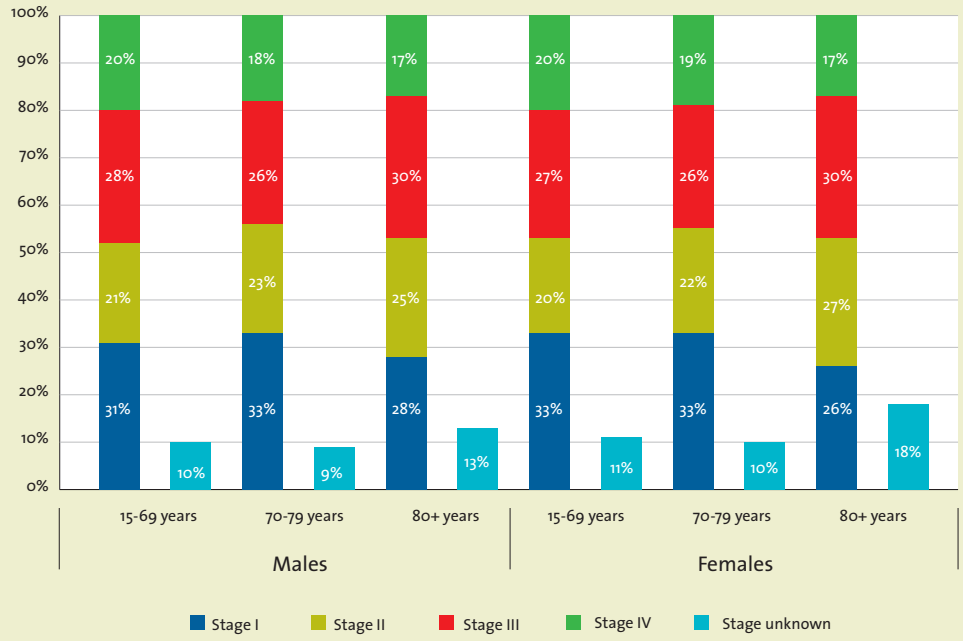
Table 2 Rectal cancer: AAPC (%) by sex, stage and age group in Belgium

Rectal cancer		Males			Females		
Incidence		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	-0.0	[-0.8; 0.7]	2004-2016	-0.5	[-1.2; 0.3]	2004-2016
		1.1	[-0.3; 2.5]	2004-2011			
		-1.6	[-3.6; 0.4]	2011-2016			
	15-69 years	0.2	[-0.6; 1.1]	2004-2016	-0.5	[-1.3; 0.3]	2004-2016
		2.3	[0.3; 4.4]	2004-2010	0.9	[-0.8; 2.7]	2004-2010
		-1.8	[-3.7; 0.1]	2010-2016	-1.9	[-3.6; -0.1]	2010-2016
	70-79 years	-0.1	[-1.5; 1.2]	2004-2016	0.0	[-1.2; 1.3]	2004-2016
	80+ years	-1.0	[-2.1; 0.2]	2004-2016	-1.8	[-2.7; -1.0]	2004-2016
Mortality		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	-2.5	[-3.7; -1.3]	2004-2015	-1.1	[-2.1; -0.1]	2004-2015
	15-69 years	-2.5	[-4.5; -0.5]	2004-2015	-0.9	[-2.8; 1.0]	2004-2015
	70-79 years	-1.2	[-3.2; 0.9]	2004-2015	-0.9	[-3.0; 1.3]	2004-2015
	80+ years	-4.1	[-5.3; -2.8]	2004-2015	-1.6	[-2.6; -0.5]	2004-2015
Incidence by stage		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
Stage I	15+ years	4.2	[2.5; 5.9]	2004-2016	4.5	[3.6; 5.3]	2004-2016
	15-69 years	4.3	[2.1; 6.5]	2004-2016	5.1	[4.0; 6.2]	2004-2016
		7.0	[2.8; 11.3]	2004-2011			
		0.7	[-5.0; 6.6]	2011-2016			
	70-79 years	3.4	[1.1; 5.7]	2004-2016	3.6	[1.5; 5.9]	2004-2016
	80+ years	4.5	[1.9; 7.1]	2004-2016	0.7	[-1.9; 3.2]	2004-2016
Stage II	15+ years	-2.8	[-3.7; -1.9]	2004-2016	-2.4	[-3.8; -0.9]	2004-2016
		-1.0	[-2.2; 0.2]	2004-2013			
		-8.0	[-11.7; -4.2]	2013-2016			
	15-69 years	-2.8	[-3.8; -1.8]	2004-2016	-2.4	[-4.2; -0.7]	2004-2016
		-0.2	[-1.8; 1.4]	2004-2012	0.5	[-3.4; 4.6]	2004-2010
		-7.7	[-10.9; -4.4]	2012-2016	-5.3	[-9.0; -1.4]	2010-2016
	70-79 years	-2.7	[-4.4; -0.9]	2004-2016	-2.3	[-4.3; -0.4]	2004-2016
	80+ years	-1.4	[-4.2; 1.4]	2004-2016	-1.9	[-3.8; 0.0]	2004-2016
Stage III	15+ years	-0.7	[-1.4; -0.1]	2004-2016	-2.9	[-3.9; -2.0]	2004-2016
		1.0	[-0.3; 2.2]	2004-2011			
		-3.1	[-4.8; -1.3]	2011-2016			
	15-69 years	-0.6	[-1.7; 0.5]	2004-2016	-3.1	[-4.5; -1.7]	2004-2016
	70-79 years	-0.4	[-2.0; 1.2]	2004-2016	-2.5	[-5.0; 0.0]	2004-2016
		3.6	[-1.8; 9.3]	2004-2008	-2.0	[-4.7; 0.8]	2004-2014
		-2.3	[-4.7; 0.1]	2008-2016	-5.1	[-19.6; 12.1]	2014-2016
	80+ years	-0.2	[-2.9; 2.6]	2004-2016	-3.2	[-5.2; -1.1]	2004-2016
Stage IV	15+ years	0.7	[-0.7; 2.2]	2004-2016	0.8	[-0.7; 2.2]	2004-2016
					5.4	[2.0; 8.9]	2004-2010
					-3.7	[-6.8; -0.5]	2010-2016
	15-69 years	0.2	[-1.5; 2.0]	2004-2016	-0.4	[-2.3; 1.5]	2004-2016
					4.6	[1.0; 8.4]	2004-2011
					-7.0	[-11.6; -2.0]	2011-2016
	70-79 years	1.4	[-0.1; 3.0]	2004-2016	2.7	[-0.1; 5.6]	2004-2016
		4.9	[2.4; 7.4]	2004-2012			
		-5.2	[-9.9; -0.2]	2012-2016			
	80+ years	2.0	[-0.1; 4.2]	2004-2016	1.2	[-0.8; 3.4]	2004-2016
					4.0	[0.1; 8.0]	2004-2011
					-2.5	[-7.7; 3.1]	2011-2016
Stage unknown	15+ years	-7.5	[-10.0; -4.9]	2004-2016	-6.6	[-8.3; -4.8]	2004-2016
	15-69 years	-4.1	[-6.4; -1.8]	2004-2016	-7.1	[-9.4; -4.8]	2004-2016
		1.2	[-6.5; 9.5]	2004-2008			
		-20.9	[-27.9; -13.2]	2008-2011			
		3.1	[-2.9; 9.5]	2011-2016			
	70-79 years	-9.5	[-12.7; -6.2]	2004-2016	-8.2	[-12.8; -3.4]	2004-2016
					-26.1	[-46.8; 2.6]	2004-2006
					-4.1	[-9.3; 1.3]	2006-2016
	80+ years	-9.0	[-11.2; -6.8]	2004-2016	-5.0	[-6.6; -3.4]	2004-2016
		-13.2	[-17.8; -8.4]	2004-2010			
		-4.6	[-9.7; 0.7]	2010-2016			

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

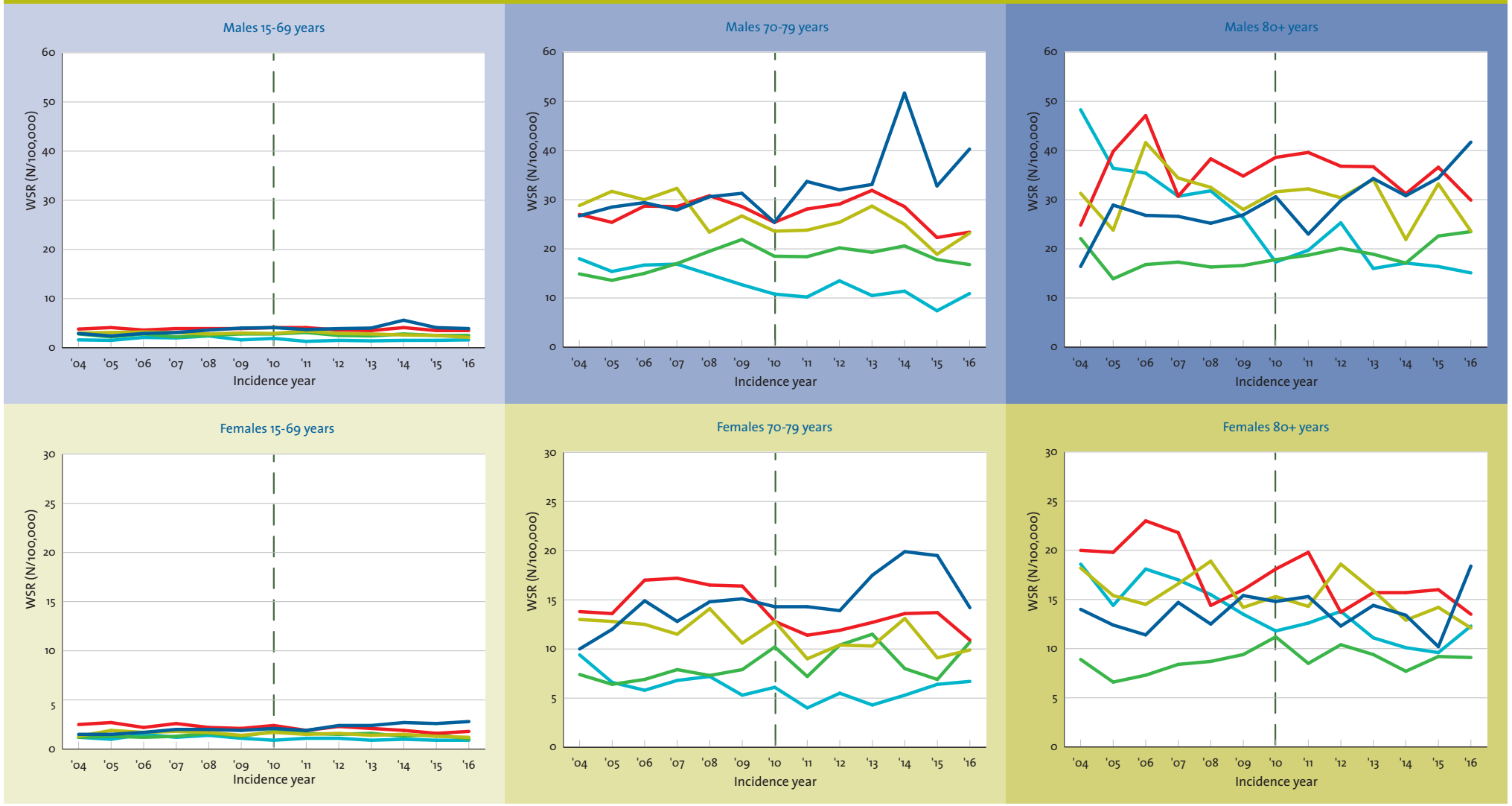
Source: Belgian Cancer Registry

Figure 4 Rectal cancer: Stage distribution by age group and sex, Belgium 2010-2016



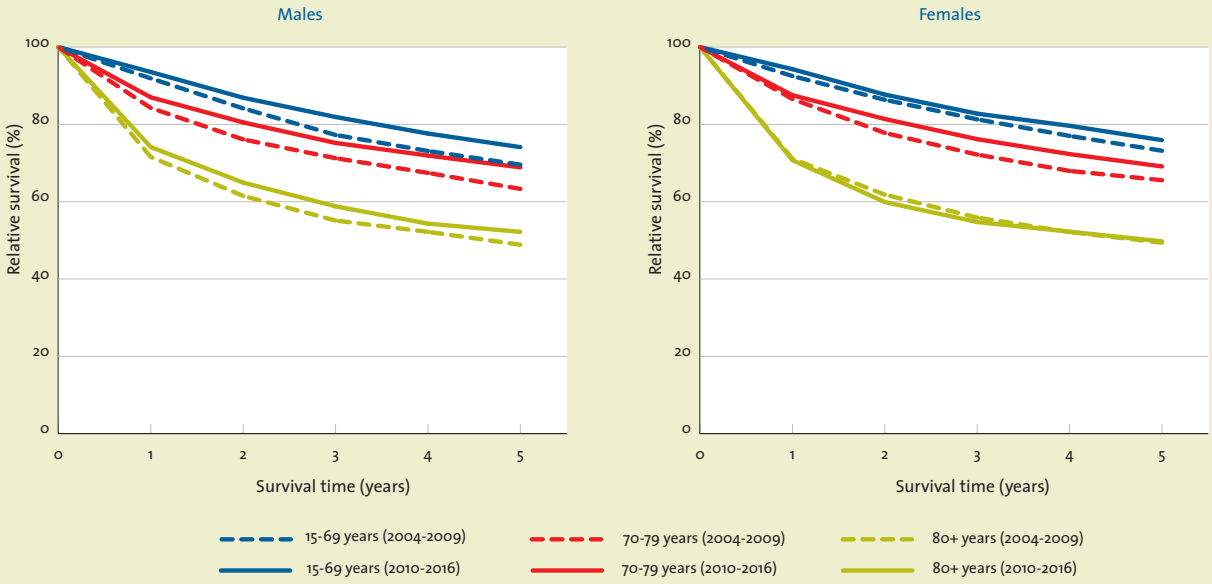
Source: Belgian Cancer Registry

Figure 5 Rectal cancer: Trends in age-standardised incidence (WSR) by stage, age group and sex, Belgium 2004-2016



Source: Belgian Cancer Registry

Figure 6 Rectal cancer: Relative survival by sex and age group, Belgium 2004-2009 (dashed line) versus 2010-2016 (full line)



Source: Belgian Cancer Registry

Table 3 Rectal cancer: Relative survival by age group and sex (Belgium, 2004-2016)

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	9,618	92.9	[92.3; 93.4]	79.9	[79.0; 80.8]	72.1	[71.0; 73.1]	63.7	[62.2; 65.2]
	Females	5,503	93.5	[92.8; 94.2]	82.1	[81.0; 83.2]	74.6	[73.3; 75.9]	67.7	[66.0; 69.4]
70-79 years	Males	5,766	85.8	[84.7; 86.8]	73.4	[71.9; 74.8]	66.1	[64.3; 67.8]	61.6	[58.5; 64.6]
	Females	3,448	87.1	[85.8; 88.3]	74.2	[72.5; 75.9]	67.4	[65.3; 69.4]	63.5	[60.3; 66.7]
80+ years	Males	3,288	73.1	[71.2; 74.9]	57.3	[54.7; 59.8]	50.7	[47.5; 54.0]	50.5	[42.7; 59.0]
	Females	3,148	70.9	[69.0; 72.7]	55.2	[52.8; 57.6]	49.4	[46.5; 52.4]	48.0	[41.9; 54.4]

Source: Belgian Cancer Registry

Table 4 Rectal cancer: Conditional relative survival by age group and sex (Belgium, 2004-2016)
Unadjusted relative survival proportion to survive an additional year, conditional on surviving the first year since diagnosis, %

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	8,806	92.3	[91.7; 92.9]	81.5	[80.5; 82.4]	74.4	[73.2; 75.5]	67.6	[65.9; 69.3]
	Females	5,104	93.2	[92.4; 93.9]	83.8	[82.7; 84.9]	77.5	[76.1; 78.8]	71.4	[69.5; 73.2]
70-79 years	Males	4,734	91.5	[90.5; 92.5]	81.4	[79.8; 83.0]	75.7	[73.6; 77.7]	70.1	[66.1; 74.1]
	Females	2,922	91.5	[90.2; 92.6]	80.5	[78.7; 82.3]	75.4	[73.1; 77.6]	70.9	[66.8; 75.0]
80+ years	Males	2,117	86.9	[84.8; 88.9]	73.2	[69.8; 76.6]	68.7	[63.9; 73.5]	57.2	[44.2; 72.3]
	Females	2,013	85.7	[83.6; 87.7]	73.5	[70.2; 76.6]	70.1	[65.8; 74.4]	60.3	[50.2; 71.4]

Source: Belgian Cancer Registry

Keynotes

- Rectal cancer is an important cancer in Belgium. In combination with colon cancer, it ranks in the top 3 of cancer incidence and mortality.
- Although rectal cancer incidence rates remain rather stable over time, mortality is decreasing slowly.
- Rectal cancer forms a part of the colorectal cancer screening program in the Flemish and Walloon Region. The positive effects of cancer screening in rectal cancer are smaller than those observed in colon cancer, e.g. increase in incidence for the age group 70-79 years (due to screening population aged 70-74 years), switch to diagnosis in an early and better treatable stage etc. A positive explanation for this smaller screening effect is that rectal cancer causes more symptoms than colon cancer, resulting in an earlier diagnosis. Although screening seems to be less efficient for rectal cancer, it remains important. It is proved that diagnoses in more early and treatable stages, results in a health gain for the population.
- Efforts have been made by both the oncological care programs and the laboratories for pathological anatomy in staging rectal tumours, resulting in a large reduction of the unknown stages. Despite these efforts, rectal cancer staging still can improve, especially for the oldest age group where the percentage of unknown stages is the highest (among 15%). The correct staging of tumours is important because this could have a positive effect on treatment and survival of the patients.
- PROCARE (PROject on Cancer of the REctum), a multidisciplinary project on rectal cancer, was a very successful project which ended in 2015. The Belgian Cancer Registry was involved in the registration of the data, gave feedback to the hospitals, and organised review for pathology, radiology and radiotherapy. This project still seems to have a major impact in the world of rectal cancer. Not only treatment have been optimized (e.g. evaluation of a total mesorectal excision (TME), survival-gain of chemotherapy), also pathology, radiology and radiotherapy staging evolved due to the review-programs. This resulted not only in a better rectal cancer registration but also in improved treatment and follow-up of rectal cancer patients.
- The BCR conducts studies on quality of care indicators (QCI) by linking its population-based cancer registration database with administrative databases. These projects aim to compare and finally improve quality of care in Belgian hospitals. For rectal cancer, the BCR is involved in the "Vlaams Indicatorenproject voor Patiënten en Professionals" (VIP^2) [54-55] where the QCI were calculated at the Flemish population and hospital level. Also, the same QCI were calculated for the hospitals of the Brussels-Capital and Walloon Region. Substantial variability in treatment and outcome is observed between centres. By providing individual feedback to all Belgian hospitals, centres are encouraged to take further initiatives for quality improvement.
- The general population is aging, inducing also an increase of the total number of cancer cases. This will also be the case for rectal cancer: in 2025 the yearly number of rectal cancer diagnosis in Belgium is projected to rise to 3,028, an increase of about 17% regards 2014. The increase in projected numbers of rectal cancer diagnosis is more pronounced from the age of 50 years old [15].

3.3.2.3 Lung cancer (ICD-10: C34)

Table 1 Lung cancer: Overview of incidence, mortality, prevalence and survival by sex and age group (Belgium)

Belgium	All ages together (15 years or older)			15-69 years			70-79 years			80+ years			80-89 years			90+ years		
Incidence, 2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	5,439	119.3	70.3	2,673	67.5		1,773	469.2		993	446.6		926	472.8		67	253.0	
Females	2,735	57.0	35.4	1,636	41.5		731	160.7		368	92.9		319	98.8		49	66.9	
Mortality, 2015	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	4,332	95.6	53.7	1,877	47.6		1,387	372.0		1,068	490.6		954	494.4		114	460.8	
Females	1,936	40.6	22.9	999	25.4		497	109.9		440	111.8		371	114.8		69	98.0	
Prevalence (5 years), 2012-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	8,768	191.2	113.1	4,409	111.2		3,018	770.9		1,341	589.2		1,266	634.4		75	267.7	
Females	5,223	108.4	67.5	3,189	80.7		1,440	308.5		594	148.4		536	165.6		58	75.8	
Prevalence (10 years), 2007-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	11,379	248.2	144.7	5,501	138.7		4,014	1,025.3		1,864	819.0		1,765	884.4		99	353.3	
Females	6,846	142.1	87.6	4,108	104.0		1,915	410.3		823	205.6		744	229.8		79	103.2	
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Males	28,177	18.1	[17.5; 18.7]	14,040	21.7	[20.9; 22.6]	9,081	16.7	[15.6; 17.8]	5,071	8.9	[7.5; 10.4]	4,751	9.0	[7.6; 10.6]	320	7.9	[2.8; 18.0]
Females	12,791	26.8	[25.9; 27.8]	7,799	30.1	[28.9; 31.3]	3,201	24.5	[22.5; 26.5]	1,796	15.8	[13.2; 18.8]	1,613	16.1	[13.4; 19.2]	183	14.0	[5.2; 29.9]

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

Source: Belgian Cancer Registry

- **Incidence** (**Figure 1**, **Table 1**, **Figure 2**):
  - Lung cancer is the 2nd and 3rd most frequent cancer in males and females respectively. In the age group 80+ years, it is the 3rd most frequent cancer, in both males and females.
  - In 2016 there were 8,174 new diagnoses of lung cancer in Belgium, all of them occurred in patients aged 15 years or older. 67% were males. Lung cancer is most common (53%) in the age group 15-69 years.
  - The incidence rate of lung cancer in Belgium slowly decreases in males and adversely clearly rises in females (**Figure 3**, **Table 2**). While from 70 years onwards the increase in females is even more pronounced, decreases in males are flattening off and are less pronounced in the age group 80+ years.
  - Lung cancer in general preferentially affects males (male/female ratio: 2.1 in 2016). After an initially almost equal incidence in males and females, the incidence curves diverge starting around 45 years of age. This sex difference in incidence increases further with age, resulting in a M/F ratio of 4.2 in the age group 70-79 years, and 5.9 for the age group 80+ years (**Figure 1**, **Figure 3**, **Table 2**).
  - The majority of lung cancer patients in Belgium are diagnosed with advanced disease, approximately 50% of the diagnoses with known stage presenting with distant metastases, followed by stage III disease as second most frequent stage at diagnosis (**Figure 4**, **Figure 5**).
    - Age nor gender influence stage distribution profoundly, although we note a higher proportion of unknown stages in the 80+ years age group compared to the 15-69 years age group: 17% versus 12% in males and 20% versus 11% in females. Staging examinations appear to be less frequent in older patients.
    - Generally we observe a distinct increasing trend of stage IV disease (and to a lesser extent stages I to III), paralleled by a decreasing trend for unknown stages.
    - An important diminution of the proportion of unknown stages is observed the past ten years, especially in males. Availability of information on stage in the 2010-2016 cohort is ascertained at 87%.
  - The past years, adenocarcinoma has become the dominant histological subtype in lung cancer (**Table 2**, **Figure 6**, **Figure 7**).
    - The age-standardised incidence rate of lung adenocarcinoma is increasing, with an AAPC of 5.2% in females. This increase is even more explicit in the age groups 70-79 years and 80+ years.
    - In males, only the adenocarcinoma subtype is rising, whereas a simultaneously adverse downward movement is marked for the other histological subtypes. A possible explanation for these opposing trends could be a decline in smoking prevalence in males resulting in a decrease in most lung cancer types whereas the higher proportion of filter cigarettes could explain the contradictory rise of lung adenocarcinoma [56-57].
    - In females, squamous as well as small cell lung carcinoma are increasing, albeit less obvious than adenocarcinoma.

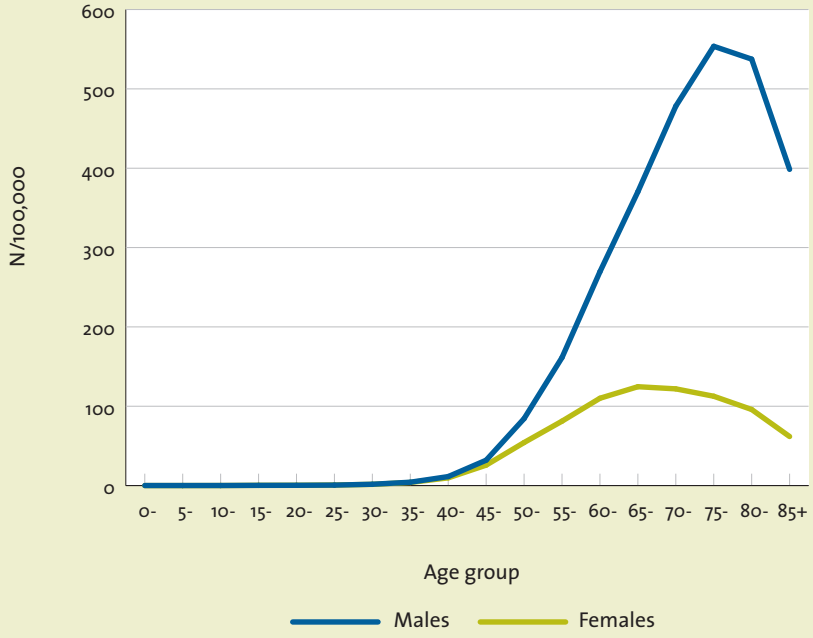
- Incidences for large cell undifferentiated carcinoma decrease over time in both males and females.
- Stage distribution amongst histological subtypes reveals the aggressive behaviour of small cell lung carcinoma with more than 90% of the diagnoses being in advanced stage (stage III or IV). Squamous cell carcinoma on the other hand appears the somewhat less aggressive subtype with generally more than 20% stage I diagnoses and a clearly smaller proportion of stage IV (around 30%).

- **Mortality** (**Table 1**, **Figure 2**, **Figure 3**, **Table 2**):
  - Lung cancer is the most important cause of cancer death in males, and the 2nd most important in females. In the population younger than 80 years old, lung cancer is the leading cause of cancer death, regardless of gender. In patients of 80 years or older, it is ranked 1st in males and 3rd in females.
  - In 2015, 6,268 deaths due to lung cancer were recorded in Belgium, the male proportion was 69%.
  - In alignment with the incidence rates, mortality rates of lung cancer demonstrate an opposite trend in males compared to females, with a decrease in males versus an increase in the female counterparts.
  - In the 80+ population, especially in males, mortality exceeds incidence. This could partly be caused by long-term survivors diagnosed prior to their 80th birthday, but as the difference in mortality and incidence is initially high, and decreases from 2004 to 2015, a more likely explanation could be an incomplete cancer registration of older people with lung cancer. The decreasing nature of this offset could point towards an improvement of this artefact. Indeed, older people are more likely to be missed in cancer registration as they are less frequently treated by oncological care programs, are less often discussed at a MOC-COM and more often treated by a geriatrician or general practitioner. Also incorrect mortality data could contribute to the higher mortality, e.g. when lung metastases are mistakenly registered as a primary lung cancer. This is to be explored further in the future to investigate whether more efforts are necessary to improve detection or registration of lung cancer in older patients.

- **Prevalence** (**Table 1**):
  - Of all persons diagnosed with lung cancer between 2007 and 2016, 18,225 were still alive at 31 December 2016 (i.e. 10-year prevalence) of which 33% was aged between 70 and 79 years, 14% between 80 and 89 years and 1% was older than 90 years.

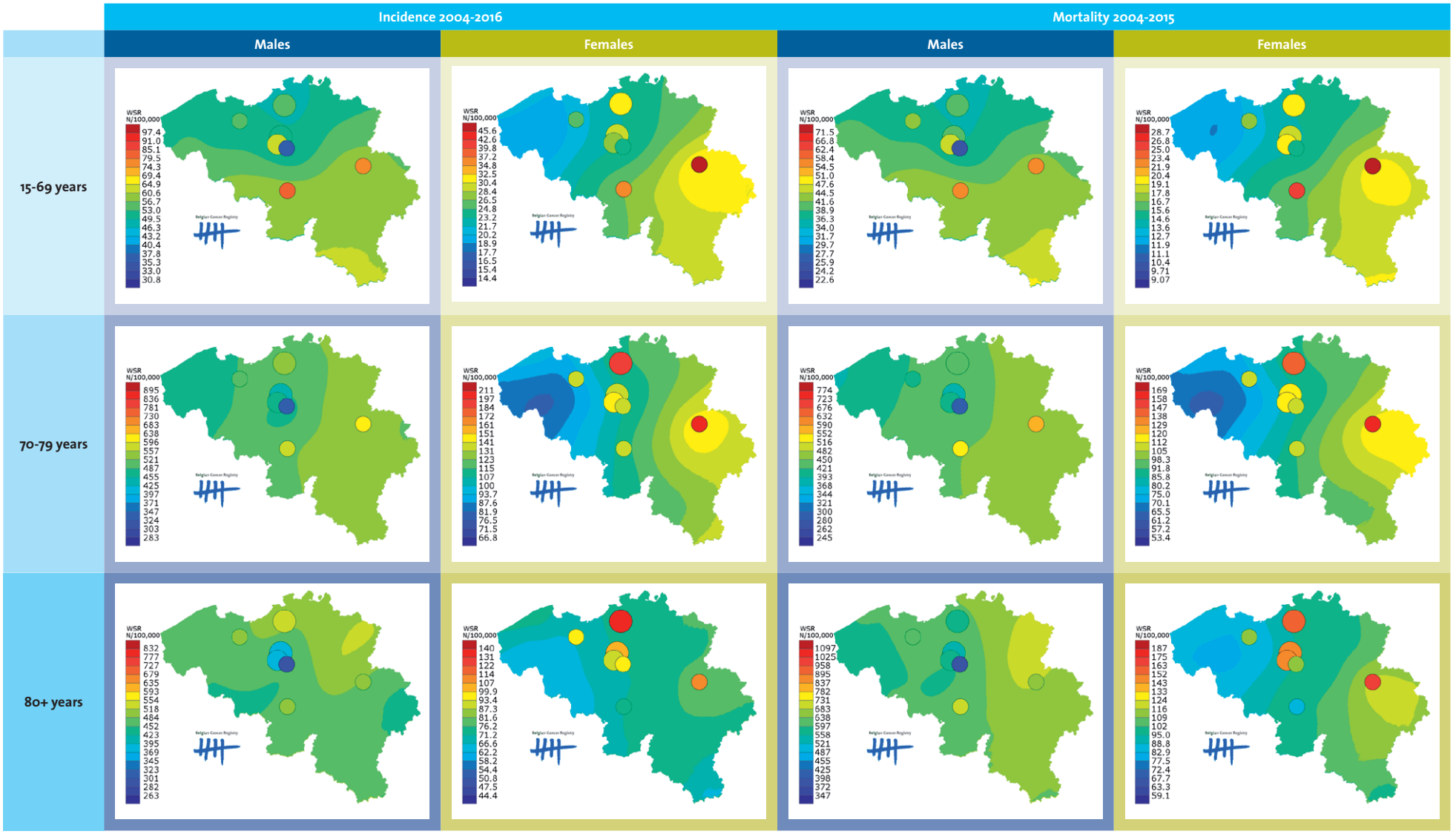
- **Survival**:
  - The 5-year relative survival proportion for the Belgian 2012-2016 cohort is 18% in males compared to 27% in females. The survival benefit in females persists throughout all age groups. Survival is inversely related to age, with a 5-year relative survival of 9% and 16% in males and females older than 80 years respectively (**Table 1**, **Figure 8**).
  - Survival curves of lung cancer are characterized by a steep drop during the first year after diagnosis, especially in the older population. In the 80+ years age group, one out of three patients survives the first year compared to one out of two in the patients aged 15-69 years (**Figure 8**, **Table 3**). This is also obvious from the relative survival when considering only those patients who survived the first year (i.e. conditional relative survival, **Table 4**), a smaller difference is observed between the youngest and the older age groups as compared to the relative survival (**Table 3**). A possible explanation could be a higher amount of comorbidities in some patients in the older population leading to a large selection in the first year and the occurrence of tumours developing more slowly in those patients who made it through the first year.

Figure 1 Lung cancer: Age-specific incidence rates (N/100,000) by sex, Belgium 2004-2016



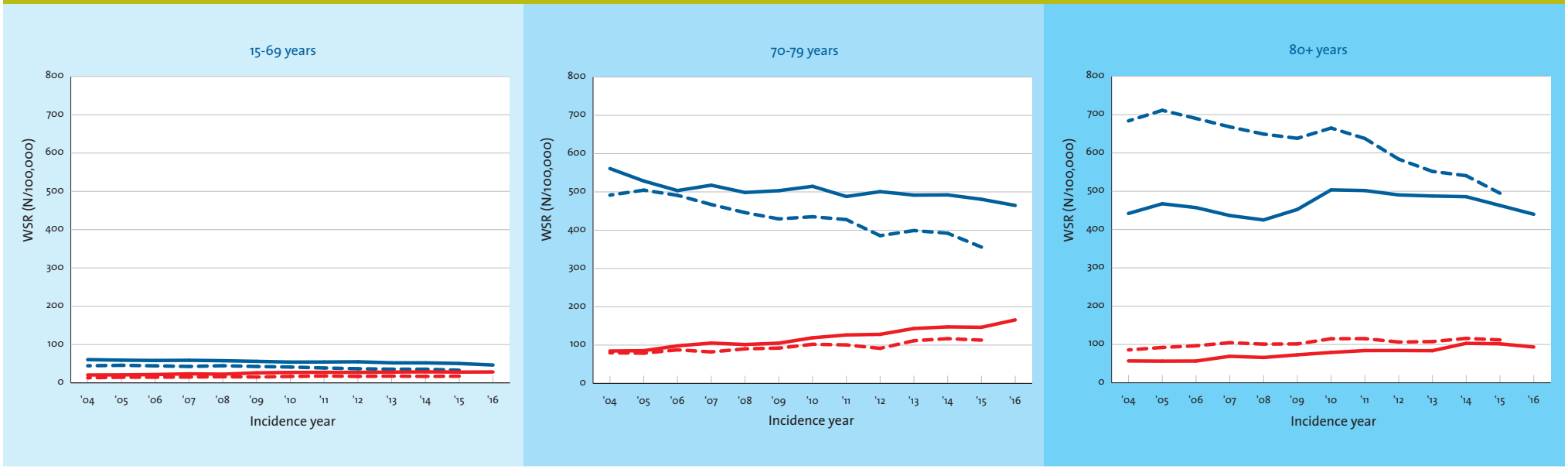
Source: Belgian Cancer Registry

Figure 2 Lung cancer: Age-standardised incidence and mortality (WSR) by sex and age group, Belgium



Source: Belgian Cancer Registry

Figure 3 Lung Cancer: Trends in age-standardised incidence and mortality (WSR) by sex and age group, Belgium 2004-2016



Source: Belgian Cancer Registry

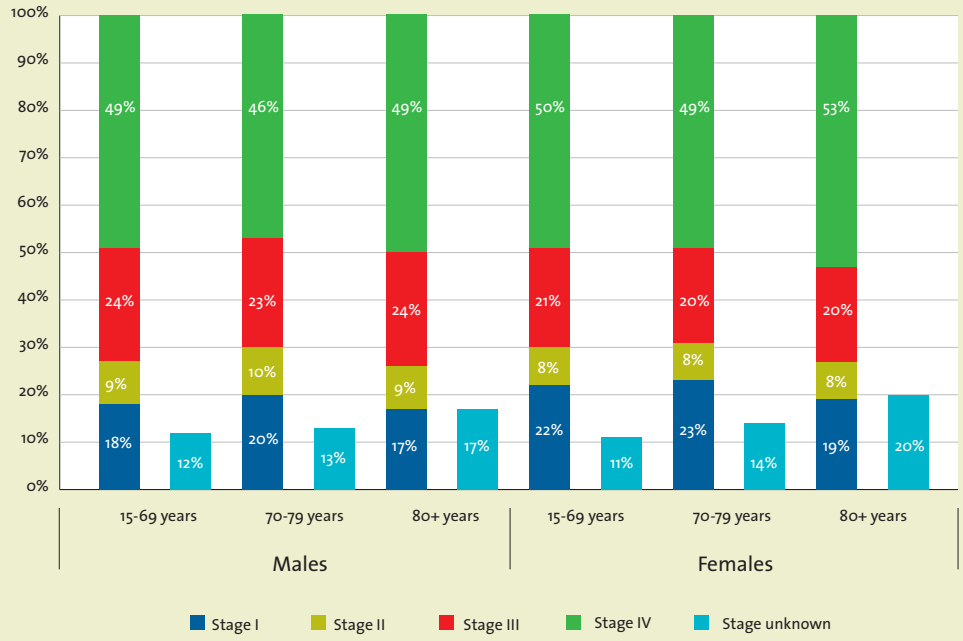
Table 2 Lung cancer: AAPC (%) by sex, histology and age group in Belgium

Lung cancer		Males			Females		
Incidence		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	-1.7	[-1.9; -1.4]	2004-2016	3.5	[3.0; 4.0]	2004-2016
		-1.1	[-1.3; -0.9]	2004-2014	4.9	[4.0; 5.8]	2004-2011
		-4.4	[-5.7; -3.1]	2014-2016	1.6	[0.4; 2.8]	2011-2016
	15-69 years	-2.1	[-2.4; -1.8]	2004-2016	3.0	[2.5; 3.5]	2004-2016
		-1.4	[-1.8; -1.1]	2004-2014	4.7	[3.8; 5.6]	2004-2011
		-5.3	[-7.0; -3.5]	2014-2016	0.6	[-0.7; 1.9]	2011-2016
	70-79 years	-1.0	[-1.4; -0.6]	2004-2016	5.6	[5.0; 6.3]	2004-2016
	80+ years	-0.2	[-0.9; 0.5]	2004-2016	5.4	[4.3; 6.4]	2004-2016
		-0.9	[-3.0; 1.3]	2004-2008			
		3.9	[1.8; 5.9]	2008-2012			
		-3.5	[-5.5; -1.3]	2012-2016			
Mortality		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
	15+ years	-2.8	[-3.2; -2.5]	2004-2015	2.4	[1.8; 3.0]	2004-2015
		-1.5	[-2.4; -0.6]	2004-2009	3.4	[2.4; 4.4]	2004-2011
		-3.9	[-4.6; -3.2]	2009-2015	0.6	[-1.2; 2.3]	2011-2015
	15-69 years	-2.7	[-3.1; -2.3]	2004-2015	2.1	[1.4; 2.7]	2004-2015
		-0.4	[-1.6; 0.8]	2004-2008	3.4	[2.3; 4.6]	2004-2011
		-4.0	[-4.6; -3.3]	2008-2015	-0.3	[-2.3; 1.7]	2011-2015
	70-79 years	-2.9	[-3.4; -2.3]	2004-2015	3.6	[2.5; 4.6]	2004-2015
	80+ years	-3.1	[-3.5; -2.6]	2004-2015	2.2	[1.4; 3.0]	2004-2015
		-1.4	[-2.2; -0.7]	2004-2011	4.0	[2.4; 5.6]	2004-2010
		-5.9	[-7.2; -4.5]	2011-2015	0.0	[-1.8; 1.9]	2010-2015
Incidence by histology		AAPC (%)	95% CI	Period	AAPC (%)	95% CI	Period
Adenocarcinoma	15+ years	1.5	[1.0; 2.0]	2004-2016	5.2	[3.9; 6.6]	2004-2016
		2.6	[2.1; 3.1]	2004-2014	3.2	[-4.7; 11.8]	2004-2006
		-4.0	[-6.8; -1.1]	2014-2016	9.7	[6.8; 12.7]	2006-2011
					1.7	[-1.1; 4.6]	2011-2016
	15-69 years	1.4	[0.8; 2.1]	2004-2016	5.5	[4.2; 6.7]	2004-2016
		3.0	[1.1; 4.8]	2004-2009	8.4	[6.1; 10.8]	2004-2011
		0.4	[-0.9; 1.6]	2009-2016	1.5	[-1.6; 4.8]	2011-2016
	70-79 years	2.6	[2.1; 3.2]	2004-2016	6.2	[5.4; 6.9]	2004-2016
		1.6	[-0.2; 3.5]	2004-2008	5.7	[3.9; 7.5]	2004-2009
		7.0	[4.7; 9.3]	2008-2011	11.5	[9.2; 13.8]	2009-2013
		0.9	[-0.5; 2.4]	2011-2016	0.2	[-2.9; 3.5]	2013-2016
	80+ years	4.1	[2.9; 5.4]	2004-2016	7.5	[5.7; 9.3]	2004-2016
		3.6	[-0.4; 7.7]	2004-2008			
		12.9	[7.8; 18.2]	2008-2011			
		-0.4	[-3.3; 2.6]	2011-2016			
Small cell carcinoma	15+ years	-2.3	[-3.2; -1.5]	2004-2016	2.4	[1.3; 3.6]	2004-2016
	15-69 years	-2.7	[-3.6; -1.8]	2004-2016	1.9	[0.6; 3.2]	2004-2016
	70-79 years	-1.5	[-2.6; -0.4]	2004-2016	4.9	[3.5; 6.3]	2004-2016
					2.7	[0.2; 5.3]	2004-2011
					8.0	[4.2; 12.1]	2011-2016
	80+ years	-1.5	[-3.2; 0.2]	2004-2016	3.6	[0.6; 6.8]	2004-2016
		2.8	[-1.1; 6.8]	2004-2010			
		-5.6	[-9.2; -1.8]	2010-2016			
Large cell undifferentiated carcinoma	15+ years	-10.9	[-12.3; -9.5]	2004-2016	-7.6	[-9.7; -5.5]	2004-2016
	15-69 years	-11.6	[-12.9; -10.2]	2004-2016	-8.7	[-11.0; -6.3]	2004-2016
	70-79 years	-9.9	[-12.0; -7.8]	2004-2016	-3.1	[-5.8; -0.4]	2004-2016
	80+ years	-10.2	[-11.8; -8.5]	2004-2016	-7.6	[-12.0; -2.8]	2004-2016
		-7.6	[-11.3; -3.7]	2004-2010			
		-12.7	[-16.2; -9.0]	2010-2016			
Squamous cell carcinoma	15+ years	-3.3	[-3.8; -2.7]	2004-2016	1.4	[0.3; 2.6]	2004-2016
		-4.0	[-6.2; -1.6]	2004-2007			
		-3.0	[-3.7; -2.4]	2007-2016			
	15-69 years	-3.6	[-4.1; -3.0]	2004-2016	0.5	[-0.8; 1.7]	2004-2016
	70-79 years	-3.2	[-3.6; -2.7]	2004-2016	4.4	[2.2; 6.7]	2004-2016
		-3.9	[-4.8; -3.0]	2004-2010			
		0.6	[-1.2; 2.4]	2010-2013			
		-5.4	[-7.3; -3.4]	2013-2016			
	80+ years	-2.3	[-3.5; -1.2]	2004-2016	1.6	[-0.3; 3.6]	2004-2016
					8.4	[-4.2; 22.7]	2004-2006
					0.3	[-1.8; 2.4]	2006-2016
Carcinoma, other and NOS	15+ years	-4.3	[-6.3; -2.4]	2004-2016	-0.2	[-2.7; 2.3]	2004-2016
		4.1	[-1.9; 10.4]	2004-2008	8.5	[-0.3; 18.2]	2004-2008
		-13.9	[-17.5; -10.0]	2008-2013	-4.3	[-8.0; -0.5]	2008-2016
		1.8	[-6.2; 10.5]	2013-2016			
	15-69 years	-4.6	[-6.7; -2.5]	2004-2016	-1.0	[-3.6; 1.8]	2004-2016
		3.7	[-2.8; 10.7]	2004-2008	7.6	[-2.0; 18.0]	2004-2008
		-13.5	[-17.5; -9.3]	2008-2013	-5.0	[-9.0; -0.8]	2008-2016
		0.2	[-8.4; 9.7]	2013-2016			
	70-79 years	-5.1	[-7.6; -2.5]	2004-2016	3.8	[0.2; 7.5]	2004-2016
		0.6	[-6.1; 7.7]	2004-2009	16.7	[3.8; 31.2]	2004-2008
		-20.2	[-28.2; -11.3]	2009-2012	-2.1	[-7.3; 3.3]	2008-2016
		0.5	[-8.1; 10.0]	2012-2016			
	80+ years	-1.9	[-4.4; 0.7]	2004-2016	-0.6	[-4.8; 3.8]	2004-2016
		3.5	[-1.6; 8.9]	2004-2010			
		-18.6	[-26.3; -10.1]	2010-2013			
		6.3	[-5.4; 19.5]	2013-2016			

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

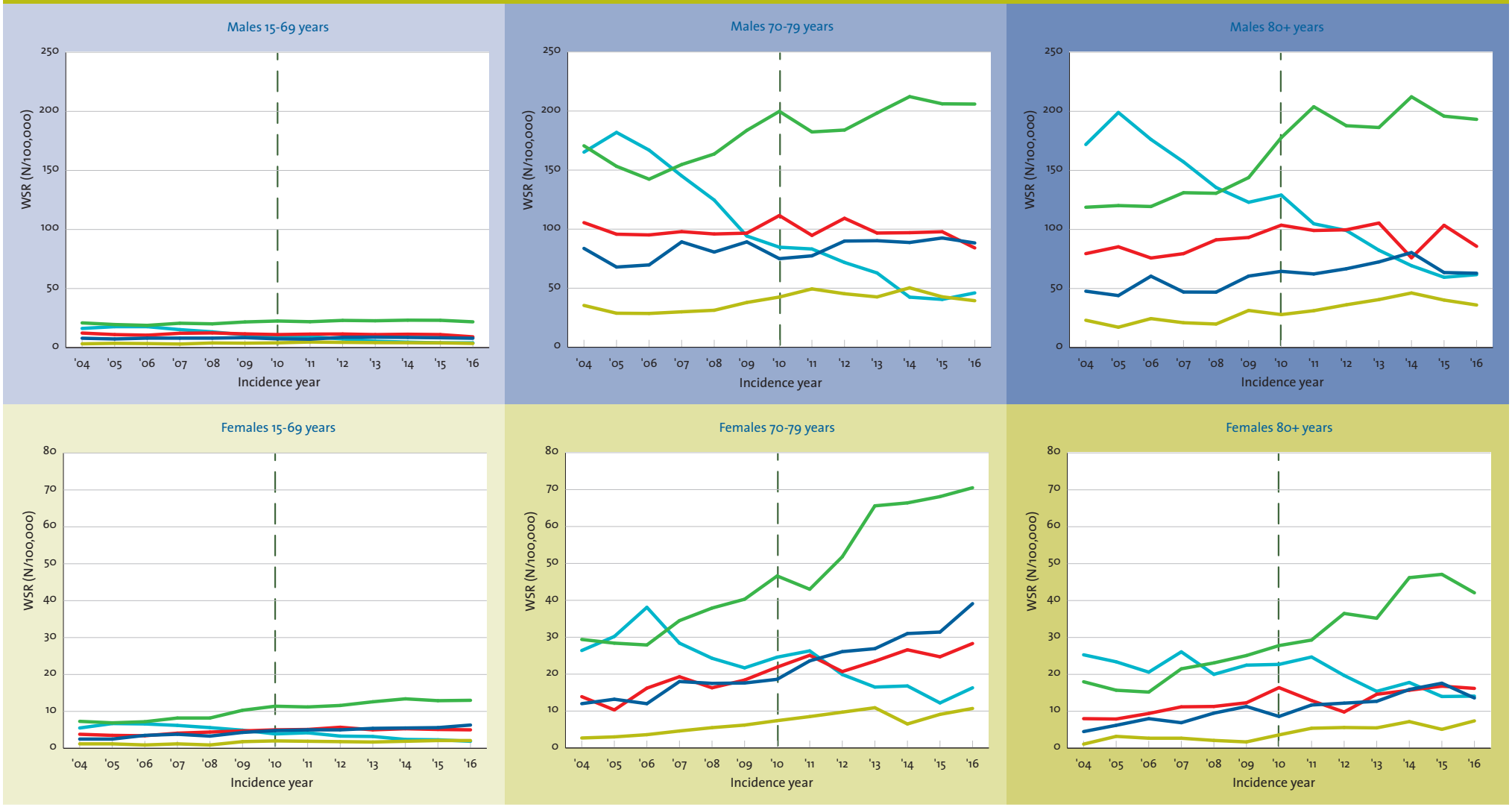
Source: Belgian Cancer Registry

Figure 4 Lung cancer: Stage distribution by age group and sex, Belgium 2010-2016



Source: Belgian Cancer Registry

Figure 5 Lung cancer: Trends in age-standardised incidence (WSR) by stage, age group and sex, Belgium 2004-2016



Source: Belgian Cancer Registry

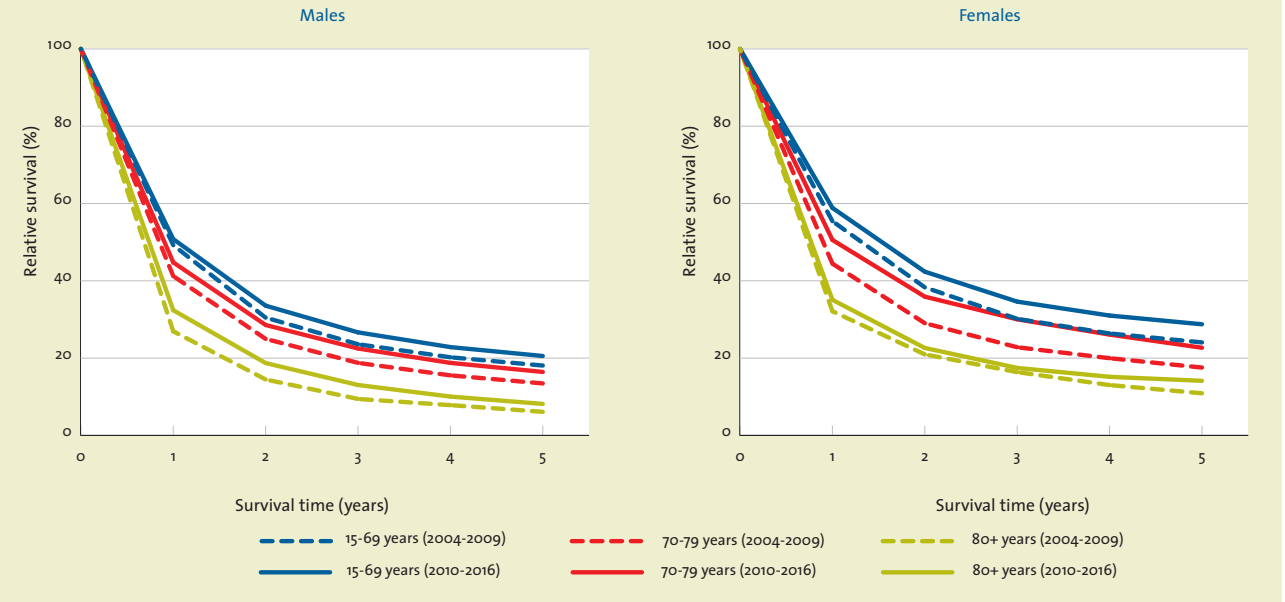
Figure 6 Lung cancer: Trends in age-standardised incidence (WSR) by histology, age group and sex, Belgium 2004-2016

Source: Belgian Cancer Registry

Figure 7 Lung cancer: Stage distribution by histological subtype, by age group and sex, Belgium 2010-2016

Source: Belgian Cancer Registry

Figure 8 Lung cancer: Relative survival by sex and age group, Belgium 2004-2009 (dashed line) versus 2010-2016 (full line)



Source: Belgian Cancer Registry

Table 3 Lung cancer: Relative Survival by age group and sex (Belgium, 2004-2016)

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	35,813	50.0	[49.5; 50.6]	25.2	[24.7; 25.7]	19.4	[18.9; 19.8]	13.7	[13.2; 14.2]
	Females	17,032	57.5	[56.8; 58.3]	32.8	[32.1; 33.6]	26.8	[26.1; 27.5]	19.8	[19.0; 20.7]
70-79 years	Males	24,516	43.1	[42.4; 43.7]	20.7	[20.1; 21.3]	15.0	[14.4; 15.5]	9.1	[8.5; 9.9]
	Females	7,134	48.2	[47.0; 49.4]	27.1	[26.0; 28.3]	20.7	[19.6; 21.8]	13.5	[12.1; 14.9]
80+ years	Males	11,367	30.3	[29.4; 31.2]	11.6	[10.9; 12.4]	7.3	[6.6; 8.1]	4.3	[3.1; 5.9]
	Females	3,622	34.1	[32.5; 35.8]	17.1	[15.7; 18.6]	12.7	[11.2; 14.3]	6.3	[4.0; 9.4]

Source: Belgian Cancer Registry

Table 4 Lung cancer: Conditional Relative Survival by age group and sex (Belgium, 2004-2016)
Unadjusted relative survival proportion to survive an additional year, conditional on surviving the first year since diagnosis, %

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	17,625	64.2	[63.4; 64.9]	43.1	[42.3; 43.9]	35.5	[34.7; 36.3]	25.7	[24.8; 26.7]
	Females	9,716	70.9	[70.0; 71.8]	50.6	[49.6; 51.7]	43.6	[42.5; 44.7]	32.2	[30.7; 33.6]
70-79 years	Males	10,102	62.3	[61.3; 63.4]	39.9	[38.8; 41.1]	31.1	[29.9; 32.3]	18.8	[17.1; 20.6]
	Females	3,352	68.9	[67.2; 70.5]	49.0	[47.1; 51.0]	38.2	[36.0; 40.3]	27.2	[24.1; 30.5]
80+ years	Males	3,061	56.4	[54.4; 58.4]	30.5	[28.3; 32.8]	21.2	[18.7; 23.9]	14.3	[9.4; 20.9]
	Females	1,132	64.7	[61.5; 67.8]	42.0	[38.2; 45.9]	33.7	[29.2; 38.6]	18.1	[10.4; 29.0]

Source: Belgian Cancer Registry

Keynotes

- Lung cancer is the leading cause of cancer death for the Belgian population. The predominant causal role of cigarette smoking in the development of lung cancer is well founded [58]. Given the initial presentation mostly at already advanced stage, the devastating character of the disease and the as yet limited therapeutic options, primary prevention remains the priority in attempting to reduce the burden of lung cancer. The importance of smoking cessation can not be stressed enough [59].

Screening

- Lung cancer harbours all the features for promoting a screening program. Lung cancer screening by low-dose computed tomography (LDCT) for high-risk groups is currently recommended by several established medical associations, historically based on findings from the National Lung Screening Trial, but is associated with a substantial risk of false-positive results and overdiagnosis, and ultimately a significant cost [60-65]. Therefore, in order to guide the transition of screening trials into clinical practice, several research initiatives exploring optimal screening-management emerged [66]. The European NELSON trial, a cooperation between Belgium and The Netherlands, compared screening with no screening, tried to assess the effect of screening with increasing screening intervals, and attempted to quantify both the potential benefit of screening and the potential harm. Furthermore it offered a guideline for clinicians when counselling high-risk patients [67-68]. Up till now, there is no European recommendation for comprehensive CT screening for lung cancer.
- The BCR had a partnership in the KCE project on the measurement of quality of care indicators (QCI) for the management of lung cancer and was responsible for the calculation of the results at both the national and hospital level [68]. Besides considerable variability in care between the hospitals, results showed an association between center annual volumes for lung cancer surgery, and postoperative mortality and 1- and 3- year observed survival.

3.3.2.4 Breast Cancer (ICD-10: C50)

Table 1 Breast cancer: Overview of incidence, mortality, prevalence and survival by sex and age group (Belgium)

Belgium	All ages together (15 years or older)			15-69 years			70-79 years			80+ years			80-89 years			90+ years		
Incidence, 2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	111	2.4	1.4	51	1.3		29	7.7		31	13.9		27	13.8		4	15.1	
Females	10,735	223.8	153.8	7,175	181.9		1,986	436.5		1,574	397.2		1,319	408.4		255	348.0	
Mortality, 2015	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	17	0.4	0.2	8	0.2		3	0.8		6	2.8		3	1.6		3	12.1	
Females	2,167	45.4	22.2	870	22.1		464	102.6		833	211.6		614	189.9		219	311.1	
Prevalence (5 years), 2012-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	379	8.3	4.7	175	4.4		109	27.8		95	41.7		80	40.1		15	53.5	
Females	47,257	981.2	656.3	31,050	786.2		9,313	1,995.2		6,894	1,722.3		5,758	1,778.6		1,136	1,483.8	
Prevalence (10 years), 2007-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	622	13.6	7.6	274	6.9		192	49.0		156	68.5		134	67.1		22	78.5	
Females	83,201	1,727.5	1,125.9	53,309	1,349.8		17,411	3,730.0		12,481	3,118.0		10,415	3,217.2		2,066	2,698.6	
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Males	453	84.3	[76.5;91.2]	217	92.0	[84.7;97.1]	125	80.8	[64.4;94.0]	111	64.4	[39.591.2]	98	68.2	[42.7;94.8]	13	-	-
Females	52,687	90.5	[90.0;90.9]	35,720	93.1	[92.7;93.5]	9,527	87.9	[86.6;89.1]	7,440	78.5	[75.9;81.0]	6,354	79.4	[76.8;82.0]	1,098	67.7	[56.3;79.9]

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

Source: Belgian Cancer Registry

- **Incidence** (**Figure 1**, **Table 1**, **Figure 2**):
  - Breast cancer is the most frequent cancer in females (34% of all malignancies in 2016), in all age groups (all ages, 15-69, 70-79 and 80+ years). Males however, are rarely diagnosed with breast cancer.
  - In 2016, there were 10,735 new diagnoses of breast cancer in females, all of them in patients aged 15 years or older. There were 111 new diagnoses in males.
  - The correlation between incidence age differs between sexes:
    - 81% of all female breast cancer patients is older than 50 years (of which 59% is aged between 50 and 69 years old and 41% is older than 70 years). According to European recommendations, regional mammographic screening programmes were implemented in females aged 50-69 years from 2001 onwards. Despite ongoing debate about benefits and harms, mammographic screening is still considered to be of sufficient benefit for the age group 50-69 years (and also for the age group 70-74 years) [69].
    - In males, breast cancer occurs most commonly in a somewhat older population, i.e. 60 years or older, with 26% of all male breast cancer patients aged between 70 and 79 years old.

Screening

- **Mortality** (**Table 1**, **Figure 2**, **Figure 3**, **Table 2**):
  - While breast cancer is the most important cause of cancer death in females (18% of all cancer deaths in 2015), in males only 0.1% of cancer deaths are due to breast cancer. In female patients of 70-79 years, breast cancer mortality is ranked 2nd after lung cancer.
  - In 2015, 2,167 deaths due to female breast cancer and 17 deaths due to male breast cancer were counted in Belgium.
  - The correlation between mortality and age also differs between sexes:
    - In females aged 80 years or older, breast cancer is the most important cause of cancer death, while in younger patients (i.e. age group 15-69 years and 70-79 years), it ranks 2nd after lung cancer.
    - In males, breast cancer is ranked between the 29th (age group 15-69 years and 80+ years) and 34th place (age group 70-79 years) as cause of cancer death.

- **Prevalence** (**Table 1**):
  - Of all 101,979 females and 877 males diagnosed with breast cancer between 2007 and 2016, 83,201 females and 622 males were still alive on 31 December 2016 (i.e. 10-year prevalence). 21% of the females and 31% of the males were aged between 70 and 79 years old, 13% of the females and 22% of the males were aged between 80 and 89 years and about 2% in females and 4% in males were 90 years or older.

- **Survival** (**Table 1**):
  - The 5-year relative survival proportion for the Belgian 2012-2016 cohort is 91% in females and 84% in males. Females affected with breast cancer have a survival advantage in comparison to males affected with breast cancer. This could partially be caused by a later detection in males resulting in more advanced stages.
  - In both males and females, an age-dependent gradient is noted, with the best survival for patients aged between 15-69 years old (5-year relative survival: 92% and 93%, respectively), and the worst survival for patients of 80 years or older (5-year relative survival: 64% and 79%, respectively). For women of 90 years or older, the 5-year relative survival drops to 68%.

Female breast cancer burden in Belgium

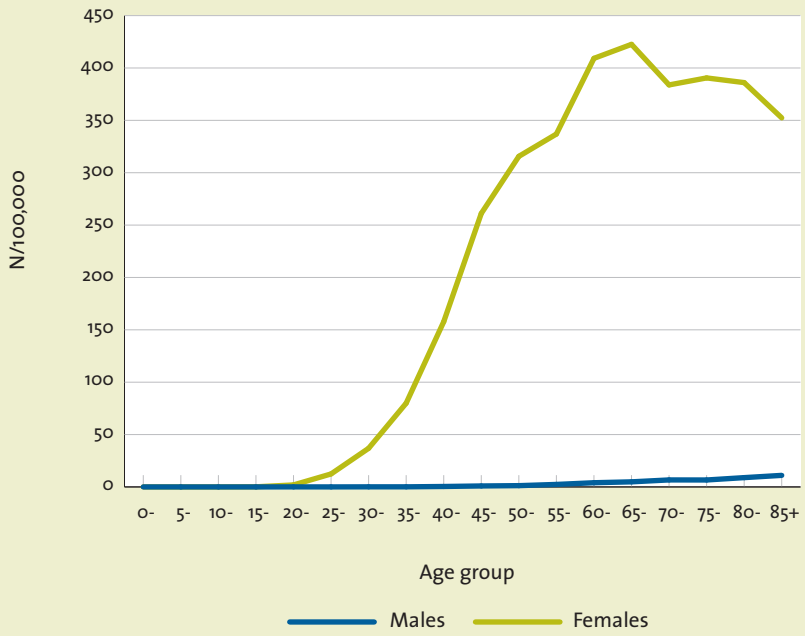
Breast cancer affects females far stronger than males (M/F ratio: 0.009 in 2016). Hereafter, we therefore describe female breast cancer in detail.

- **Incidence and mortality** (**Figure 1**, **Table 1**, **Figure 2**, **Figure 3**, **Table 2**):
  - For patients diagnosed in the period 2004-2016, a different risk pattern with age is observed:
    - For the age group 15-69 years the incidence rates remain stable and are two- to threefold lower than in older females (i.e. 70+ years). Mortality rates decrease annually.
    - For the age group 70-79 years, the incidence rates increase from 2008 onwards. Mortality rates remain more or less stable between 2004 and 2011, but a decrease is observed from 2011 onwards.
    - For patients of 80 years or older the incidence rates slightly increase, while mortality rates are rather stable.
  - For all ages together (i.e. 15 years or older), 81% of the female breast cancers with known stage is diagnosed in the prognostic more favourable stage I or II (**Figure 4**). However, a slight decrease in the diagnosis of stage I or II is observed with age, moreover a shift from stage I to stage II tumours is seen, especially in older females:
    - For the age group 15-69 years, 84% of the cases with known stage is diagnosed as stage I or II breast cancer; 51% of them being stage I.
    - For the age group 70-79 years the percentage of stage I and II breast cancer drops to 78%, with an almost equal percentage of stage I (40%) and stage II (38%) tumours.
    - For patients aged 80 years or older, 72% is diagnosed as stage I or II breast cancer; 47% of them being stage II.
    - The prognostic less favourable stages III and IV gradually increase with age.
    - Also, the amount of cases with an unknown stage increases with age, although there are globally few cases with unknown stage (i.e. 5% for the age groups 15-69 and 70-79 years and 10% for the age group 80+ years).
  - Trends of stage and pT category over time show (**Figure 5**, **Figure 6**):
    - An annual increase of stage I tumours among all age groups. The effect being the largest in the age group 70-79 years (AAPC: 4% from 2011-2016), where a switch of TNM edition 6 to 7 results in a shift of the most frequently diagnosed stage II to stage I. Since pT1 and pT2 categories both show an annual increase and pT1 is most frequently diagnosed over the whole of the cohort, the reason for this shift is believed to be the diagnosis of N1mi tumours in this age category, resulting in the newly created stage IB in the 7th TNM edition, which were formerly classified as N1 and thus stage II tumours [70-71].
    - For the age group 15-69 years, there is a slight annual decrease from 2004-2016 of stage II (-1.2%), III (-1.6%) and IV (-0.4%). For stage III tumours this trend is most pronounced from 2011 onwards (i.e. -3.6%).
    - For the age groups 70-79 years and 80+ years all stages show an annual increase.
    - For the age groups 15-69 years and 70-79 years, pT1 tumours are most frequently diagnosed, followed by pT2 tumours. In older patients (i.e. 80+ years), this order is different, with pT2 tumours most frequently registered, followed by pT1 tumours. Around 40% percent of the tumours in this age group (i.e. 80+ group) have an unknown pathological T category.
    - A large annual decrease of the unknown stage among all age groups is observed between 2004 and 2016. The effect being the largest for the age group 15-69 years (AAPC: -15%), and gradually declining with age (age group 70-79 years: -12%; age group 80+ years: -9%).

- **Survival** (**Figure 7**, **Table 3**, **Table 4**):
  - For all age groups, an increase in the 5-year relative survival is observed over time (**Figure 7**). The increase is most pronounced in patients of 70-79 years old.

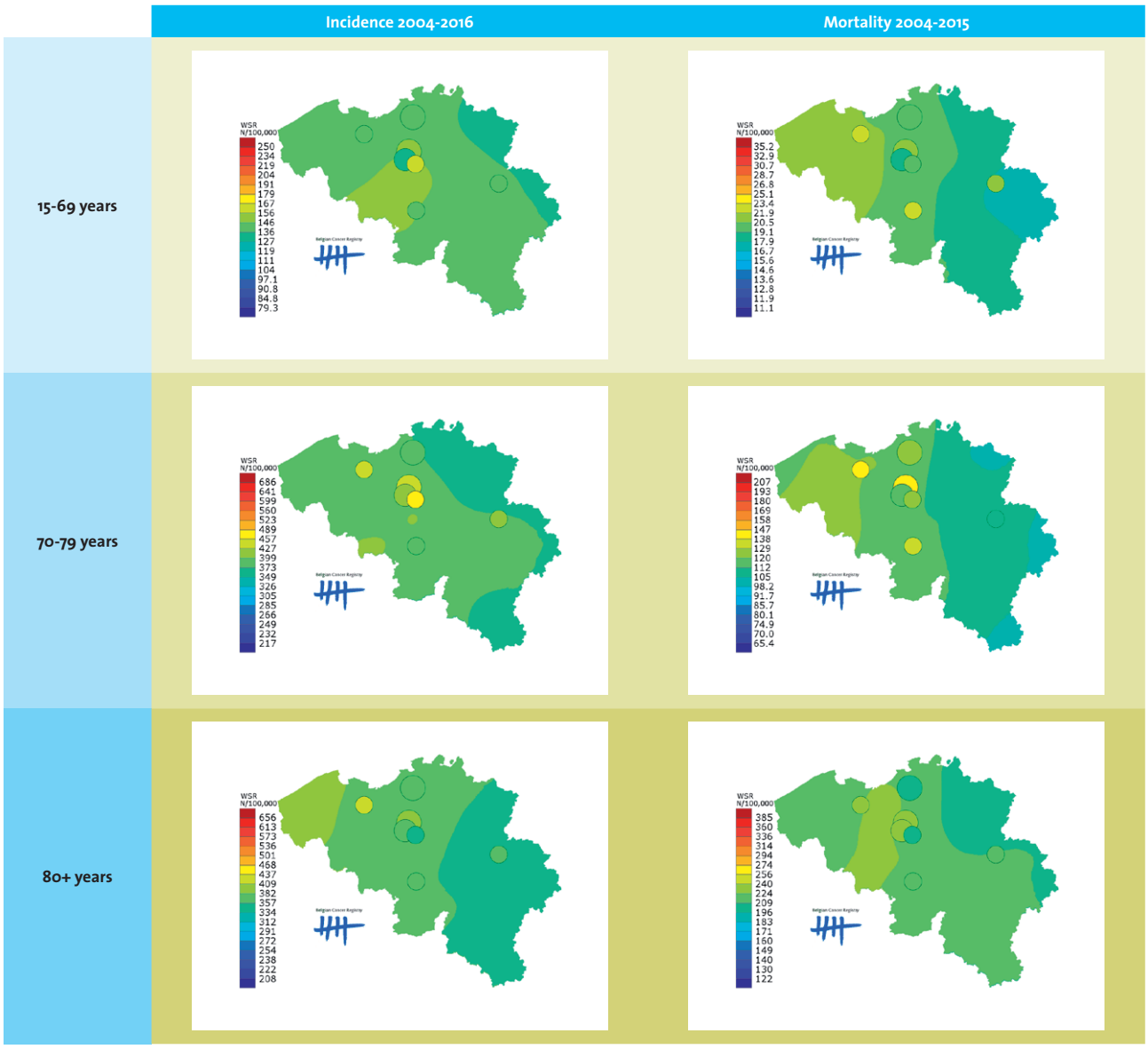
- In patients of 15-69 years old, the 5-year conditional relative survival (2004-2016) is 92%; in patients of 70-79 years old, the 5-year conditional relative survival is 87% and in patients of 80 years or older, the 5-year conditional relative survival is 81%.

Figure 1 **Breast cancer: Age-specific incidence rates (N/100,000) by sex, Belgium 2004-2016**



Source: Belgian Cancer Registry

Figure 2 Breast cancer: Age-standardised incidence and mortality (WSR) in females by age group, Belgium



Source: Belgian Cancer Registry

Figure 3 Breast cancer in females: Trends in age-standardised incidence and mortality (WSR) by age group, Belgium 2004-2016

Source: Belgian Cancer Registry

Table 2 Breast cancer: AAPC (%) by pT-category, stage and age group in Belgium

Breast cancer		Females		
Incidence		AAPC (%)	95% CI	Period
	15+ years	-0.1	[-0.5; 0.2]	2004-2016
		-0.6	[-1.9; 0.6]	2004-2008
		0.1	[-0.5; 0.7]	2008-2016
	15-69 years	-0.4	[-0.8; -0.0]	2004-2016
		-0.9	[-2.2; 0.5]	2004-2008
		-0.2	[-0.8; 0.4]	2008-2016
	70-79 years	2.0	[1.7; 2.3]	2004-2016
		1.2	[0.3; 2.0]	2004-2009
		2.6	[2.0; 3.2]	2009-2016
	80+ years	1.2	[0.6; 1.8]	2004-2016
Mortality		AAPC (%)	95% CI	Period
	15+ years	-2.5	[-2.9; -2.2]	2004-2015
		-1.5	[-2.1; -0.9]	2004-2011
		-4.3	[-5.3; -3.3]	2011-2015
	15-69 years	-3.1	[-3.5; -2.6]	2004-2015
		-2.0	[-2.9; -1.1]	2004-2010
		-4.4	[-5.4; -3.3]	2010-2015
	70-79 years	-1.4	[-2.2; -0.6]	2004-2015
		0.5	[-0.9; 1.8]	2004-2011
		-4.5	[-6.8; -2.1]	2011-2015
	80+ years	-0.6	[-1.1; 0.0]	2004-2015
Incidence by pT category		AAPC (%)	95% CI	Period
pT1 (0-2cm)	15+ years	0.3	[-0.2; 0.7]	2004-2016
		1.2	[0.6; 1.8]	2004-2013
		-2.4	[-4.3; -0.4]	2013-2016
	15-69 years	-0.1	[-0.6; 0.4]	2004-2016
		0.9	[0.3; 1.5]	2004-2013
		-3.2	[-5.2; -1.1]	2013-2016
	70-79 years	4.0	[3.4; 4.6]	2004-2016
	80+ years	2.0	[1.0; 2.9]	2004-2016
pT2 (>2-5cm)	15+ years	-0.4	[-0.9; 0.1]	2004-2016
		0.8	[-0.1; 1.6]	2004-2012
		-2.7	[-4.5; -0.9]	2012-2016
	15-69 years	-1.1	[-1.7; -0.5]	2004-2016
		-1.5	[-3.4; 0.5]	2004-2008
		3.3	[0.9; 5.8]	2008-2011
		-3.3	[-4.8; -1.8]	2011-2016
	70-79 years	1.8	[0.7; 2.9]	2004-2016
	80+ years	1.2	[0.3; 2.1]	2004-2016
pT3 (>5cm)	15+ years	0.1	[-0.8; 1.1]	2004-2016
		-3.2	[-7.3; 1.0]	2004-2007
		4.2	[1.4; 7.1]	2007-2011
		-1.0	[-3.3; 1.3]	2011-2016
	15-69 years	-0.2	[-1.1; 0.7]	2004-2016
		-3.0	[-5.8; -0.1]	2004-2008
		6.8	[3.2; 10.5]	2008-2011
		-2.0	[-4.1; 0.2]	2011-2016
	70-79 years	1.6	[-0.8; 4.0]	2004-2016
	80+ years	3.3	[-0.2; 6.9]	2004-2016
pT4 (Direct extension)	15+ years	-7.9	[-9.0; -6.8]	2004-2016
	15-69 years	-9.0	[-10.8; -7.1]	2004-2016
	70-79 years	-7.2	[-9.4; -4.9]	2004-2016
	80+ years	-4.2	[-6.0; -2.4]	2004-2016
		-0.7	[-4.8; 3.6]	2004-2010
		-7.6	[-11.4; -3.6]	2010-2016
pTx (Unknown)	15+ years	-3.5	[-4.6; -2.4]	2004-2016
		-7.3	[-9.2; -5.3]	2004-2011
		1.9	[-1.2; 5.1]	2011-2016
	15-69 years	-4.6	[-5.8; -3.3]	2004-2016
		-9.0	[-11.2; -6.8]	2004-2011
		2.1	[-1.5; 5.7]	2011-2016
	70-79 years	-1.0	[-2.5; 0.4]	2004-2016
		-3.6	[-6.7; -0.5]	2004-2010
		1.6	[-1.6; 4.9]	2010-2016
	80+ years	1.3	[0.3; 2.3]	2004-2016
Incidence by stage		AAPC (%)	95% CI	Period
Stage I	15+ years	1.1	[0.6; 1.6]	2004-2016
		0.9	[-0.4; 2.2]	2004-2009
		5.4	[3.4; 7.5]	2009-2012
		-1.8	[-3.5; -0.2]	2012-2016
	15-69 years	0.7	[0.1; 1.2]	2004-2016
		0.7	[-0.7; 2.0]	2004-2009
		5.1	[2.9; 7.3]	2009-2012
		-2.5	[-4.2; -0.8]	2012-2016
	70-79 years	4.6	[4.1; 5.2]	2004-2016
		2.0	[0.2; 3.8]	2004-2008
		9.3	[7.0; 11.5]	2008-2011
		4.1	[2.7; 5.5]	2011-2016
	80+ years	4.2	[3.0; 5.4]	2004-2016

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

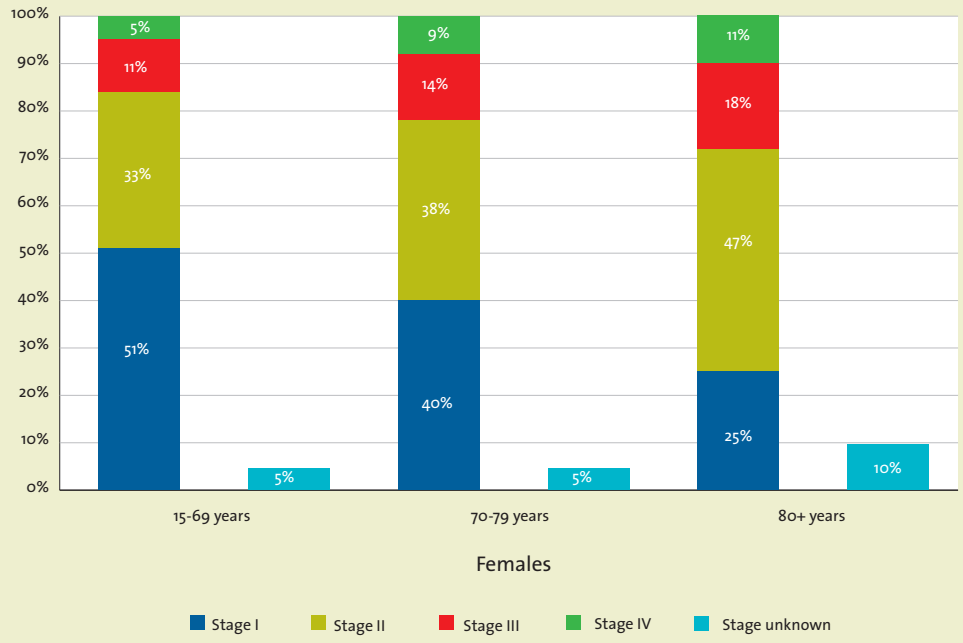
Source: Belgian Cancer Registry

Stage II	15+ years	-0.7	[-1.1; -0.4]	2004-2016
	15-69 years	-1.2	[-1.6; -0.8]	2004-2016
	70-79 years	1.5	[0.8; 2.2]	2004-2016
	80+ years	3.1	[2.5; 3.7]	2004-2016
		4.4	[3.2; 5.6]	2004-2011
		1.3	[-0.4; 3.0]	2011-2016
Stage III	15+ years	-1.4	[-2.1; -0.7]	2004-2016
		-0.3	[-1.3; 0.6]	2004-2013
		-4.6	[-7.7; -1.4]	2013-2016
	15-69 years	-1.6	[-2.3; -0.9]	2004-2016
		-0.1	[-1.4; 1.2]	2004-2011
		-3.6	[-5.4; -1.8]	2011-2016
	70-79 years	0.7	[-0.6; 2.0]	2004-2016
	80+ years	0.8	[-0.2; 1.8]	2004-2016
Stage IV	15+ years	1.7	[0.1; 3.2]	2004-2016
		1.2	[-0.4; 2.9]	2004-2014
		3.9	[-5.7; 14.4]	2014-2016
	15-69 years	-0.4	[-1.5; 0.8]	2004-2016
		-11.7	[-18.0; -5.0]	2004-2006
		5.6	[2.4; 8.9]	2006-2010
		-0.2	[-2.2; 1.9]	2010-2016
	70-79 years	2.9	[1.3; 4.5]	2004-2016
	80+ years	3.9	[1.2; 6.7]	2004-2016
Stage unknown	15+ years	-13.7	[-15.8; -11.5]	2004-2016
	15-69 years	-14.6	[-16.7; -12.4]	2004-2016
	70-79 years	-11.8	[-14.8; -8.7]	2004-2016
	80+ years	-8.9	[-11.1; -6.7]	2004-2016

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

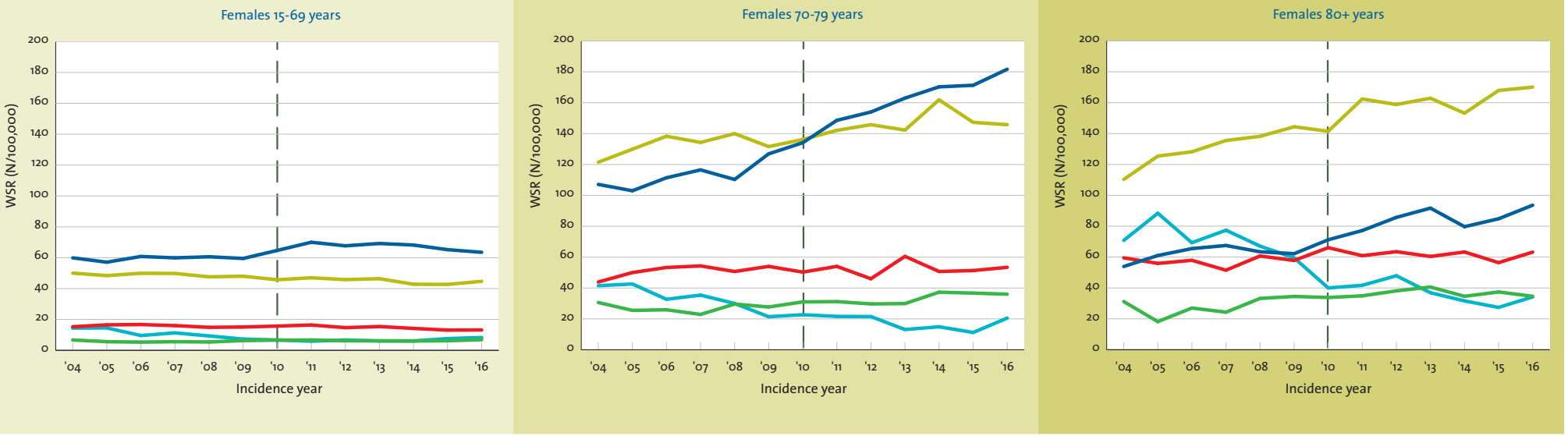
Source: Belgian Cancer Registry

Figure 4 **Breast cancer in females: Stage distribution by age group, Belgium 2010-2016**



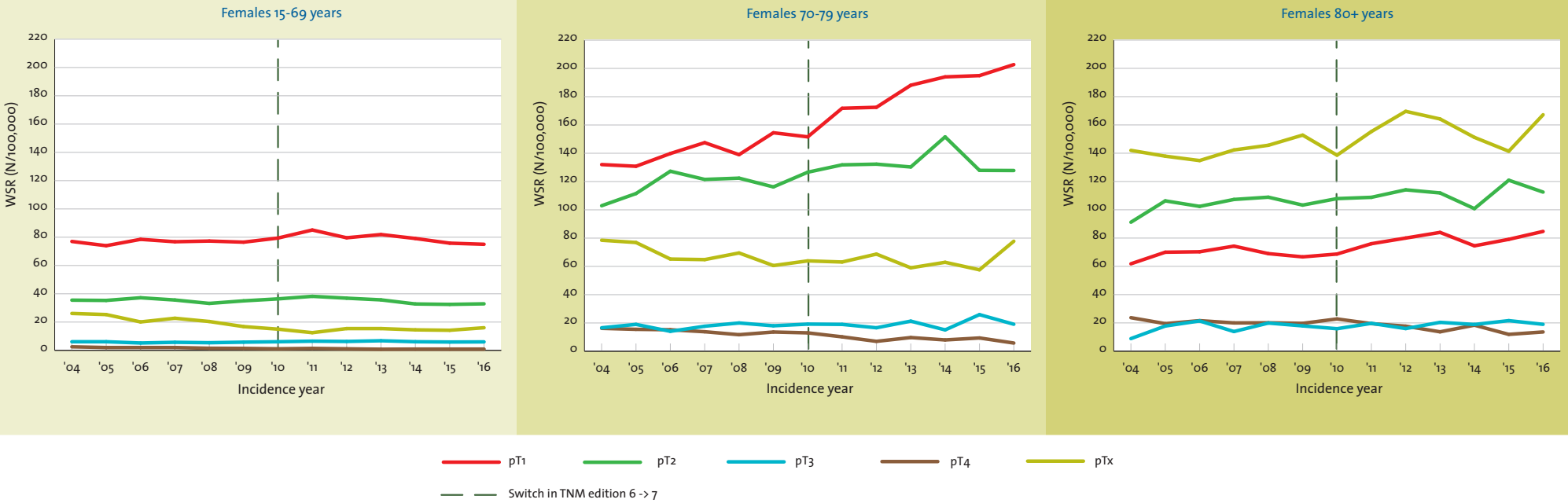
Source: Belgian Cancer Registry

Figure 5 Breast cancer in females: Trends in age-standardised incidence (WSR) by stage and age group, Belgium



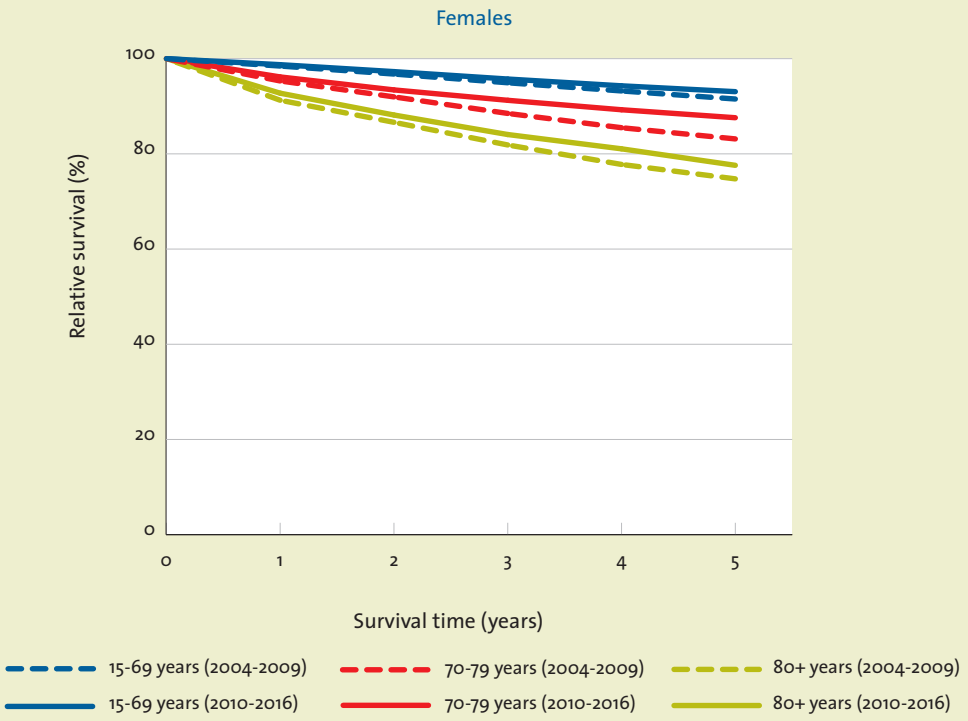
Source: Belgian Cancer Registry

Figure 6 Breast cancer in females: Trends in age-standardised incidence (WSR) by pT-category and age group, Belgium 2004-2016



Source: Belgian Cancer Registry

Figure 7 Breast cancer in females: Relative survival by age group, Belgium 2004-2009 (dashed line) versus 2010-2016 (full line)



Source: Belgian Cancer Registry

Table 3 Breast cancer in females: Relative Survival by age group (Belgium, 2004-2016)

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Females	89,382	98.6	[98.5; 98.7]	95.4	[95.2; 95.5]	92.3	[92.1; 92.5]	87.5	[87.1; 87.8]
70-79 years	Females	23,717	95.8	[95.5; 96.1]	90.0	[89.4; 90.5]	85.4	[84.6; 86.1]	78.4	[77.1; 79.7]
80+ years	Females	16,831	92.2	[91.6; 92.8]	83.2	[82.1; 84.2]	76.4	[74.9; 77.8]	68.3	[65.0; 71.8]

Source: Belgian Cancer Registry

Table 4 Breast cancer in females: Conditional Relative Survival by age group (Belgium, 2004-2016)
Unadjusted relative survival proportion to survive an additional year, conditional on surviving the first year since diagnosis, %

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Females	87,497	98.4	[98.3; 98.5]	95.1	[94.9; 95.3]	92.3	[92.1; 92.5]	88.0	[87.6; 88.3]
70-79 years	Females	22,142	96.9	[96.5; 97.2]	91.3	[90.7; 91.8]	87.4	[86.6; 88.1]	80.2	[78.6; 81.8]
80+ years	Females	14,046	95.0	[94.3; 95.6]	86.4	[85.2; 87.6]	81.0	[79.3; 82.8]	74.2	[69.6; 78.8]

Source: Belgian Cancer Registry

Keynotes

- Breast cancer is the most frequently occurring malignancy in females and is also the most important cause of cancer death in females. Therefore, the set up and stimulation of prevention and early detection measures are already encouraged since the late 90's / early 2000s. Organized screening programs in the Flemish Region started at 2001 and in the Brussels-Capital and Walloon-Region at 2002.
- Discussion about benefits and harms of mammographic screening continues. The BCR is currently involved in different research projects to investigate the link between attending mammographic screening, over-diagnosis and (breast cancer related) mortality. The outcome of these studies may advise policy makers on future screening strategies.
- Increasing age, female gender and white race are well known risk factors for the diagnosis of breast cancer. For postmenopausal females a higher body mass index (BMI) and/or peri-menopausal weight gain have been associated with a higher risk of breast cancer. Regular physical activity and weight control might in the long term also diminish breast cancer burden.
- Given the high breast cancer incidence, the number of females with a positive family history will also increase. The risk associated with a family history of breast cancer is strongly affected by the number of female first-degree relatives and age at diagnosis of the affected first-degree relatives. These females may benefit from intensified monitoring from an earlier age onwards and shorter intervals.
- The 10-year relative survival (2007-2016) in female breast cancer patients is high, reaching 88% for the youngest age group (i.e. 15-69 years) and 68% for the oldest (i.e. 80+ years) patients.

3.3.2.5 Prostate Cancer (ICD-10: C61)

Table 1 Prostate cancer: Overview of incidence, mortality, prevalence and survival in males by age group (Belgium)

Belgium	All ages together (15 years or older)			15-69 years			70-79 years			80+ years			80-89 years			90+ years		
Incidence, 2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	9,050	198.5	117.0	4,557	115.1		3,025	800.6		1,468	660.3		1,364	696.4		104	392.8	
Mortality, 2015	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	1,532	33.8	14.3	220	5.6		379	101.6		933	428.6		678	351.4		255	1,030.6	
Prevalence (5 years), 2012-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	36,589	797.9	446.0	15,990	403.1		13,687	3,496.0		6,912	3,037.1		6,382	3,198.0		530	1,891.4	
Prevalence (10 years), 2007-2016	N	CR	WSR	N	CR		N	CR		N	CR		N	CR		N	CR	
Males	66,561	1,451.6	775.5	25,078	632.3		26,166	6,683.4		15,317	6,730.2		14,039	7,034.8		1,278	4,560.9	
5-year Relative survival, 2012-2016	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI	N at risk	%	95%CI
Males	41,417	95.2	[94.6; 95.8]	21,037	96.7	[96.2; 97.3]	13,868	96.4	[95.2; 97.5]	6,512	85.6	[82.5; 88.7]	6,065	86.6	[83.5; 89.7]	452	67.1	[47.5; 89.8]

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

Source: Belgian Cancer Registry

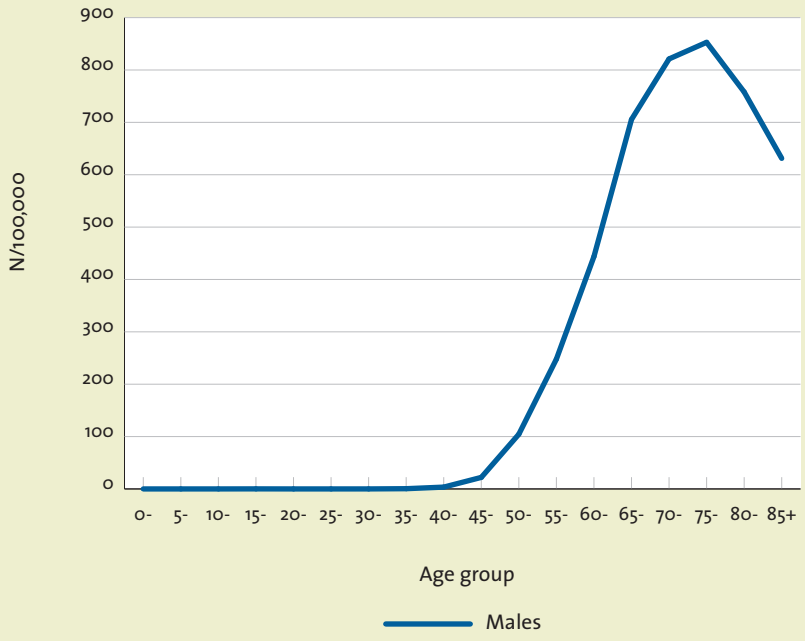
- **Incidence** (**Figure 1**, **Table 1**, **Figure 2**):
  - Prostate cancer is the most frequent cancer in males in all age groups (15-69, 70-79 and 80+ years).
  - In 2016, there were 9,050 new diagnoses in Belgium, all of them in patients aged 15 years or older. This concerns 25% of all invasive malignancies in males.
  - Half of all prostate cancers are diagnosed between the age of 15 and 69 years old. Among the older population (i.e. 70+ years old), 67% of the patients are diagnosed between the age of 70-79 years old, 30% between the age of 80-89 years old and the remaining small proportion (2.3%) is diagnosed when they are older than 90 years.
  - Over time, the incidence rates have decreased for all age groups, which is more pronounced for the older population and especially for the age group 80+ years. However, starting from 2014 a clear increase in incidence rates is observed for all age groups (**Figure 3**, **Table 2**).
  - Stage information is known for 82% of all prostate cancer patients (**Figure 4**, **Figure 5**).
    - Approximately one third of the 15-69 years old patients and half of the 70+ years old patients with a known stage are diagnosed with a stage I prostate cancer.
    - Almost a quarter of the 80+ years old patients with a known stage are diagnosed with a stage IV disease compared to 10% and 13% in patients aged 15-69 years old and 70-79 years old, respectively.
    - Changes in the definition between the 6th and 7th TNM edition in 2010 lead to a large stage migration from stage II towards stage I prostate cancers [70-71].
    - Availability of information decreases with increasing age: 13% unknown stage for the age group 15-69 years, 21% for age group 70-79 years and 29% missing information about stage for the oldest age group.
    - Trends of stage show a large decrease of unknown stages over time, especially for older patients.

- **Mortality** (**Table 1**, **Figure 2**, **Figure 3**, **Table 2**):
  - Prostate cancer is the 2nd most important cause of cancer death in males (10.2% of all cancer deaths) after lung cancer and directly followed by colorectal cancer. In patients of 70-79 years, prostate cancer mortality is ranked 3rd.
  - In 2015, 1,532 deaths due to prostate cancer were counted in Belgium. More than 85% of these patients were 70 years or older, while more than 60% of the patients were 80 years or older.
  - Mortality rates are decreasing for all age groups.

- **Prevalence** (**Table 1**):
  - Of all 85,854 persons diagnosed with prostate cancer between 2007 and 2016, 66,561 were still alive at 31 December 2016 (i.e. 10-year prevalence). 39% was aged between 70 and 79 years old, 21% between 80 and 89 years old and 1.9% was older than 90 years.

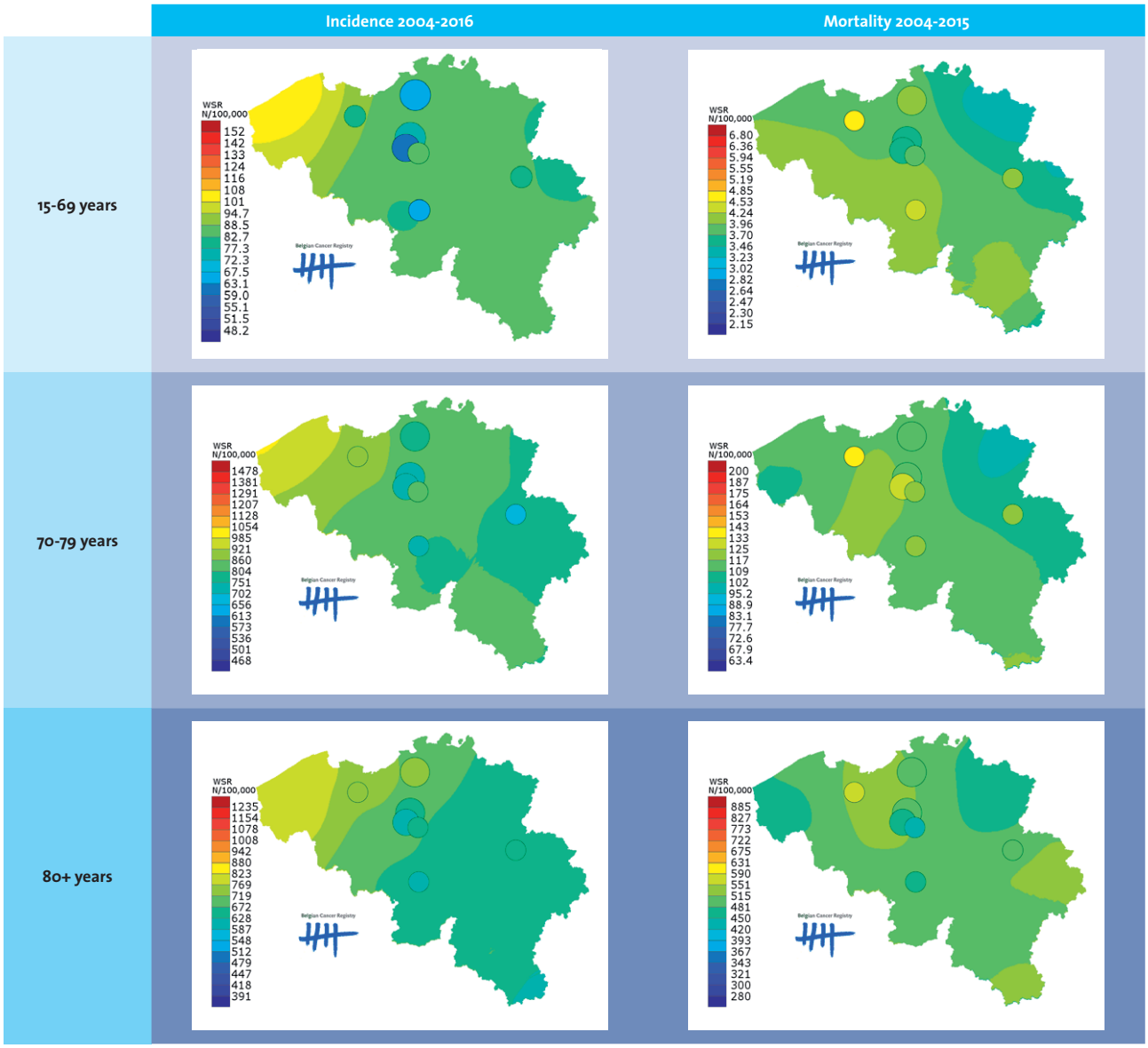
- **Survival**:
  - The 5-year relative survival proportion for the Belgian 2012-2016 cohort is 95%. An age-dependent decrease in survival can be noted, going from 97% and 96% for the age groups 15-69 years and 70-79 years old to 87% and 67% for patients of 80-89 years old and 90+ years old, respectively (**Table 1**).
  - No clear difference in relative survival is observed over time for prostate cancer. Only a small increase (around 3.3%) is seen over time in Belgium (2004-2009 compared to 2010-2016) for patients of 80 years and older (**Figure 6**).
  - The decreased survival for the age group 80+ years compared to the younger age groups becomes more pronounced with increasing number of years after diagnosis (80% 10-year relative survival) (**Table 3**).
  - The 10-year conditional relative survival is most pronounced for the age group 80+ years: 97% versus 84% for the younger (i.e. < 80 years old) and older (i.e. 80+ years old) population respectively (**Table 4**).

Figure 1 Prostate cancer: Age-specific incidence rates (N/100,000) in males, Belgium 2004-2016



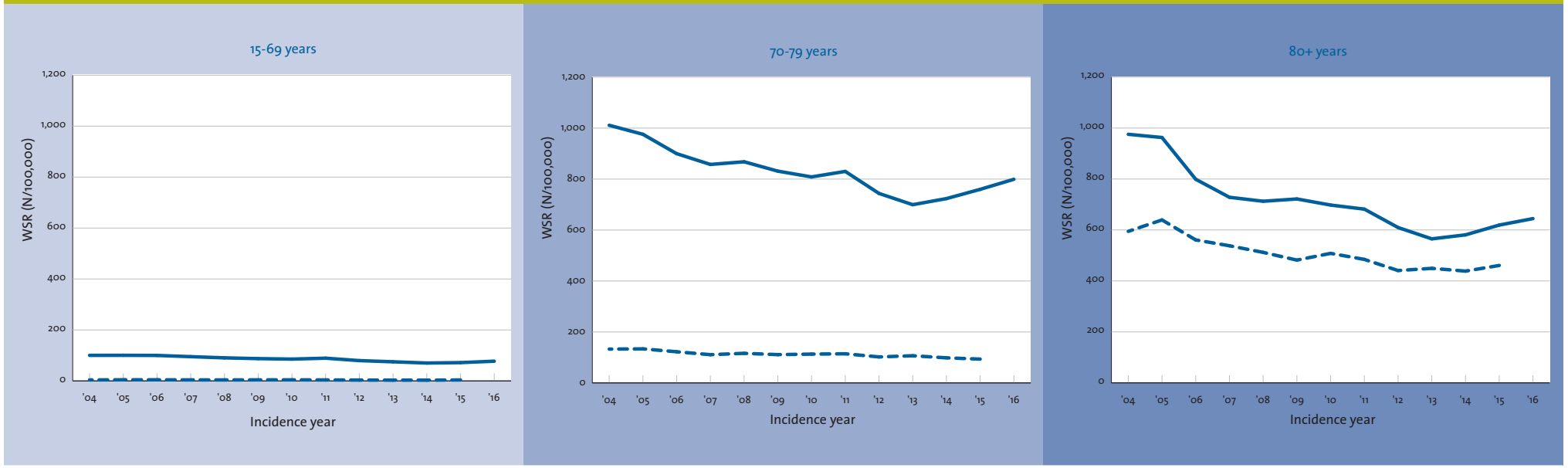
Source: Belgian Cancer Registry

Figure 2 Prostate cancer: Age-standardised incidence and mortality (WSR) by age group, Belgium



Source: Belgian Cancer Registry

Figure 3 Prostate cancer: Trends in age-standardised incidence and mortality (WSR) by age group, Belgium 2004-2016



Source: Belgian Cancer Registry

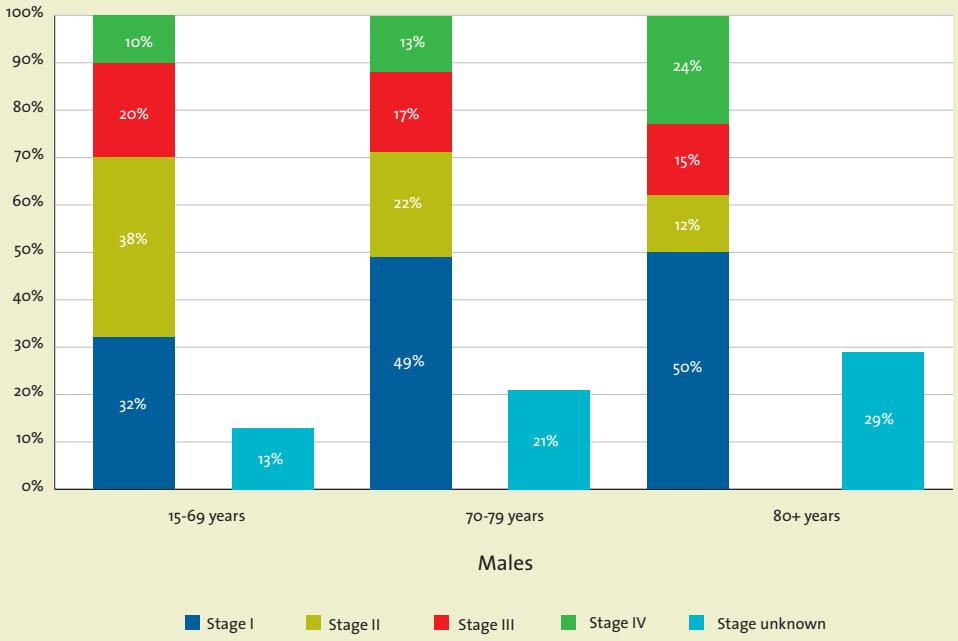
Table 2 Prostate cancer: AAPC (%) by age group in Belgium

Prostate cancer	Males		
Incidence	AAPC (%)	95% CI	Period
15+ years	-2.4	[-2.9; -1.9]	2004-2016
	-3.6	[-4.1; -3.0]	2004-2014
	3.6	[-0.0; 7.2]	2014-2016
15-69 years	-3.0	[-3.8; -2.3]	2004-2016
	-3.0	[-4.6; -1.3]	2004-2010
	-3.1	[-4.7; -1.4]	2010-2016
70-79 years	-1.7	[-2.3; -1.1]	2004-2016
	-3.3	[-3.9; -2.7]	2004-2014
	6.6	[2.5; 10.8]	2014-2016
80+ years	-3.6	[-4.5; -2.6]	2004-2016
	-9.0	[-12.2; -5.8]	2004-2007
	-3.7	[-5.0; -2.4]	2007-2014
	6.0	[0.3; 12.0]	2014-2016
Mortality	AAPC (%)	95% CI	Period
15+ years	-2.8	[-3.5; -2.1]	2004-2015
15-69 years	-2.5	[-4.1; -0.9]	2004-2015
70-79 years	-2.8	[-3.5; -2.0]	2004-2015
80+ years	-2.8	[-3.6; -1.9]	2004-2015
	-3.9	[-5.0; -2.8]	2004-2012
	0.3	[-3.1; 3.8]	2012-2015

AAPC: average annual percentage change
Period: When a joinpoint occured, 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.

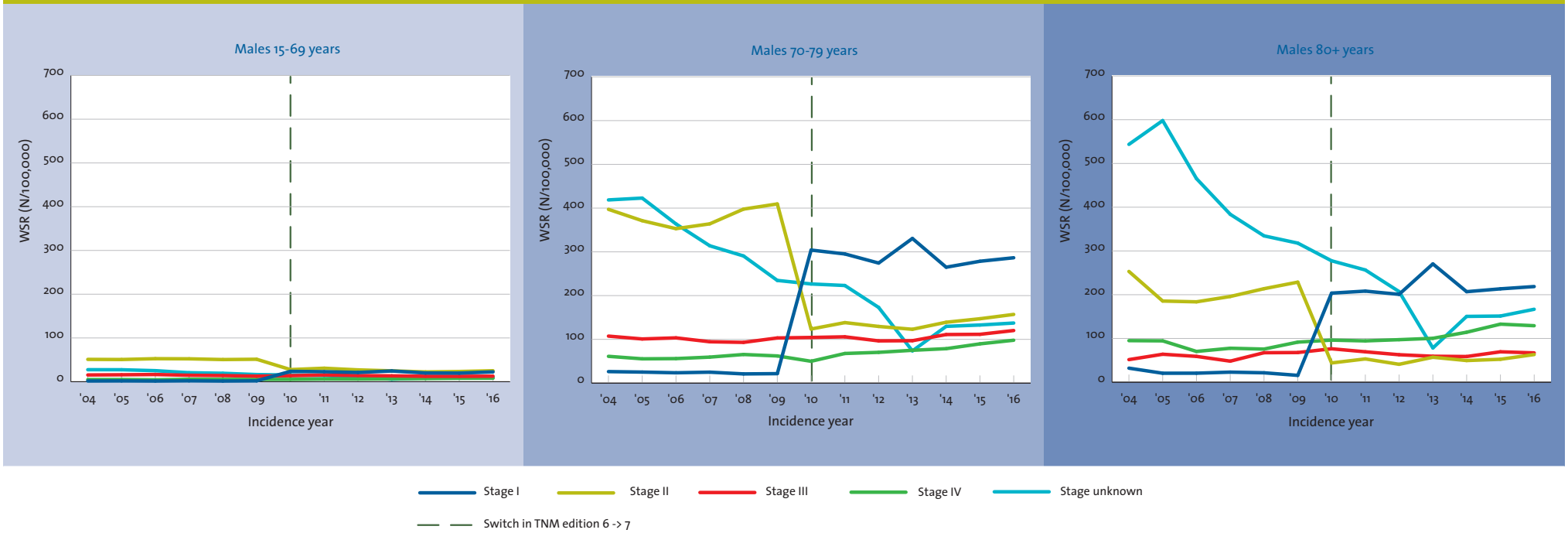
Source: Belgian Cancer Registry

Figure 4 Prostate cancer: Stage distribution by age group, Belgium 2010-2016



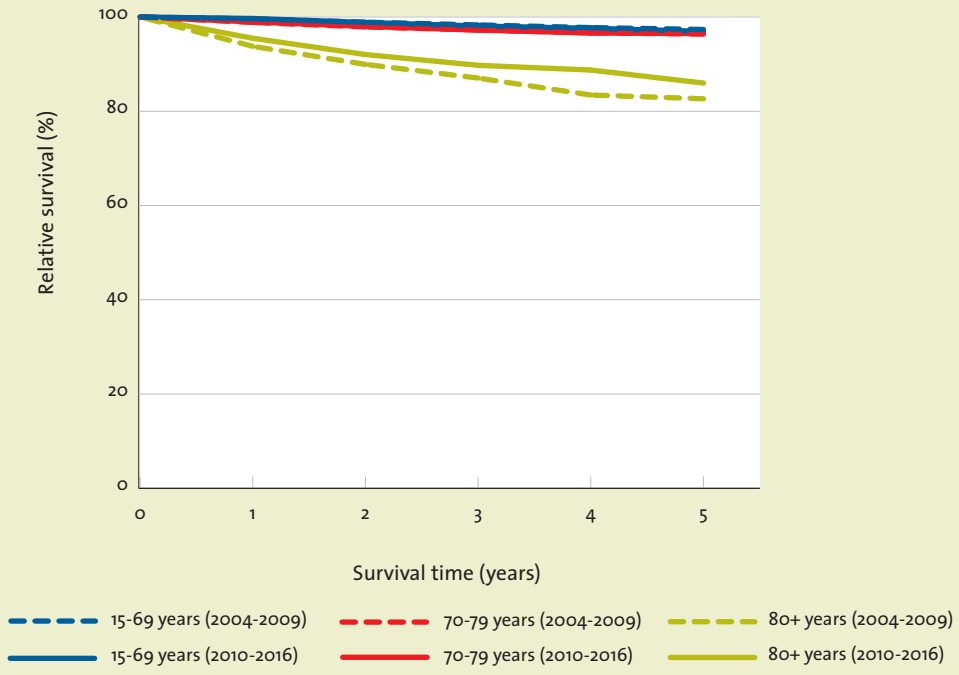
Source: Belgian Cancer Registry

Figure 5 Prostate cancer: Trends in age-standardised incidence (WSR) by stage and age group, Belgium 2004-2016



Source: Belgian Cancer Registry

Figure 6 Prostate cancer: Relative survival by age group, Belgium 2004-2009 (dashed line) versus 2010-2016 (full line)



Source: Belgian Cancer Registry

Table 3 Prostate cancer: Relative Survival by age group (Belgium, 2004-2016)

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	57,102	99.6	[99.5; 99.7]	98.2	[98.0; 98.4]	97.2	[96.9; 97.5]	96.1	[95.6; 96.6]
70-79 years	Males	40,251	98.9	[98.7; 99.1]	97.2	[96.8; 97.6]	96.4	[95.8; 97.0]	94.8	[93.6; 96.0]
80+ years	Males	16,716	94.7	[94.1; 95.3]	88.5	[87.3; 89.6]	84.4	[82.8; 86.0]	79.9	[75.7; 84.2]

Source: Belgian Cancer Registry

Table 4 Prostate cancer: Conditional Relative Survival by age group (Belgium, 2004-2016)
Unadjusted relative survival proportion to survive an additional year, conditional on surviving the first year since diagnosis, %

			1 year		3 year		5 year		10 year	
		N at risk	%	95% CI	%	95% CI	%	95% CI	%	95% CI
15-69 years	Males	55,920	99.2	[99.1; 99.3]	98.0	[97.8; 98.2]	97.1	[96.8; 97.4]	96.6	[96.0; 97.1]
70-79 years	Males	38,100	99.0	[98.8; 99.3]	97.7	[97.2; 98.1]	97.3	[96.6; 97.9]	96.9	[95.5; 98.4]
80+ years	Males	14,005	96.2	[95.5; 96.8]	90.9	[89.5; 92.1]	87.9	[85.9; 89.8]	83.7	[78.1; 89.4]

Source: Belgian Cancer Registry

Keynotes

- After a decrease in prostate cancer incidence for years, a marked increase is noted since 2014.
- Prostate cancer-related mortality is especially high for older patients due to the fact that patients of 80 years and older have a greater chance of being diagnosed with a stage IV disease. This suggests that more attention should be given to the care and follow-up of these older patients.
- Although considerable efforts have been made to reduce the number of prostate cancers with an unknown stage, staging information is still unknown for 18% of all prostate cancers, with the highest number for the 80+ years old patients (29%). However, a correct tumour staging is important since it affects stage distributions and patient survival statistics. Therefore we encourage all future efforts by the oncological care programs and the laboratories for pathological anatomy to stage prostate cancers, in particular for the older patients.

3.4 Is the cancer burden different between (elderly) males and females?

Table 1 shows the male/female (M/F) ratios of the age standardised incidence rate (WSR) in Belgium by age group for the time period 2004-2016.

- When we consider only the older patients (i.e. 70-79 years or 80+ years), the incidence is about twofold higher in males compared to females for all invasive tumours together (excl. non-melanoma skin cancer). For the youngest age group (i.e. 15-69 years), the incidence is comparable between males and females.
- Considering all cancers excluding non-melanoma skin cancer and cancers of the reproductive system, this M/F ratio increases to 1.6 for the youngest age group (i.e. 15-69 years). This may be explained by the fact that the ratio no longer includes breast and gynaecological cancers which are in general diagnosed at a relatively younger age. For the two oldest age groups, the sex-ratio is 2.3.
- In general, males have a higher risk than females. This finding is confirmed by the M/F ratios of most cancers and in all age groups. However, a few exceptions should be pointed: malignant melanoma for the 15-69 years age group and thyroid cancer for all age groups, but more distinct in the youngest (i.e. 15-69 years).
- Cancers with the highest M/F ratio are mostly cancers for which risk factors related to lifestyle (e.g. tobacco, alcohol, etc.) or occupation (e.g. asbestos, etc.) are well known. This includes cancer of head and neck, oesophagus, liver, lung, bladder and mesothelioma.
- For some cancers, such as lung cancer and mesothelioma, the M/F ratio becomes higher with increasing age.

Table 1 Male/Female ratio (WSR) by tumour type and age group, Belgium 2004-2016

		15-69 years			70-79 years			80+ years		
Label	ICD-10	Male (WSR)	Female (WSR)	M/F ratio	Male (WSR)	Female (WSR)	M/F ratio	Male (WSR)	Female (WSR)	M/F ratio
All invasive tumours (excl. Non-melanoma)	C00-C43;C45-C97, MDS, MPN	356.4	342.3	1.0	2781.6	1406.6	2.0	3033.4	1538.9	2.0
All invasive tumours (excl. Non-melanoma and sex related tumour types)	C00-C43;C45-C49; C64-C97,MDS, MPN	260.0	163.2	1.6	1935.4	848.8	2.3	2316.5	1015.1	2.3
Head and neck	C00-C14;C30-C32	28.4	8.5	3.4	97.6	25.2	3.9	82.5	24.1	3.4
Oesophagus	C15-C16.0	11.8	2.9	4.0	71.3	18.0	3.9	75.4	26.7	2.8
Stomach	C16.1-C16.9	5.0	3.4	1.5	49.1	25.0	2.0	92.3	48.1	1.9
Colon	C18-C19	26.6	19.8	1.3	285.4	174.5	1.6	407.1	269.0	1.5
Rectum	C20	14.7	8.3	1.8	117.5	55.0	2.1	139.2	69.1	2.0
Liver	C22	5.5	1.9	3.0	38.3	13.9	2.7	30.3	12.1	2.5
Gallbladder and biliary tract	C23-C24	1.6	1.2	1.3	16.3	13.5	1.2	22.0	19.1	1.2
Pancreas	C25	7.4	5.6	1.3	62.9	47.2	1.3	65.4	50.3	1.3
Lung	C34	54.8	25.6	2.1	503.4	118.8	4.2	468.0	78.9	5.9
Malignant melanoma	C43	13.5	21.7	0.6	48.6	39.7	1.2	56.8	43.8	1.3
Mesothelioma	C45	1.7	0.4	4.6	22.3	3.4	6.7	22.8	3.0	7.5
Kidney	C64	11.9	5.7	2.1	72.3	35.9	2.0	59.7	31.1	1.9
Bladder	C67	12.4	2.6	4.7	162.4	29.3	5.5	283.0	52.5	5.4
Central nervous system	C70-C72	7.2	4.8	1.5	25.0	15.7	1.6	18.0	9.1	2.0
Thyroid	C73	4.0	12.5	0.3	8.5	14.0	0.6	5.8	7.7	0.8
Haematological Malignancies	C81-C96, MDS, MPN	37.4	26.8	1.4	247.3	155.2	1.6	334.3	181.6	1.8

WSR: age-standardised rate using the World Standard Population (N/100.000 person years)

Source: Belgian Cancer Registry

4 Capita Selecta

4.1 Patient frailty and HPV status in oropharyngeal cancer: relation to age and impact on survival

Lien van Walle, Katrijn Vanschoenbeek, Tim Tambuyzer, Harlinde De Schutter and Liesbet Van Eycken

4.1.1 Introduction

Compared to their younger fellow-sufferers, older patients with cancer often show a certain degree of frailty when presenting in the oncology department, entailing a fragile wellbeing balance [72]. This frailty may impact treatment choices and, partially related to that, survival. In observational studies on real-world treatment and survival, it is therefore important to take the patient's general status and potential frailty into account as a case-mix characteristic [73].

Important aids to identify frailty in an older population that are regularly used in hospitals, are geriatric screening and assessment tools. It is advised to start with geriatric screening by means of fast and easy applicable tools such as the G8 screening tool. The G8 is a questionnaire comprising 8 items about, among others, weight, mobility, neuropsychological problems and medication use [74]. When geriatric screening reveals problems, additional information should be obtained via more extensive geriatric assessment. Geriatric assessment is a multidimensional, interdisciplinary patient evaluation combining several tests to get a detailed view on the general health status and potential frailty of a patient. The Mini Mental State Examination (MMSE), for example, is an assessment tool identifying cognitive problems, whereas the Katz scale detects problems with daily living activities such as cooking and shopping [75]. The results of these valuable tests, however, are often not registered in a standardised way. Population-based studies may therefor rely on frailty estimates as derived from alternative, often administrative, data sources. At the BCR, mostly used frailty parameters include WHO performance score, days of hospitalisation in the year preceding diagnosis and comorbidities estimated with hospital discharge data.

This chapter aims to study the general condition of patients diagnosed with oropharyngeal cancer between 2009 and 2014 in Belgium, by analysing WHO performance score, hospitalisation days in the year preceding diagnosis and comorbidities. In line with the other chapters of this publication, a distinction will be made between different age groups: 15-69 years, 70-79 years and 80+ years at time of diagnosis. As the aforementioned frailty indicators are supposed to have an impact on outcome, the relation between each parameter and the observed survival will be investigated, taking the age groups into account.

Besides patient's general condition, tumour characteristics such as cancer stage and morphology will obviously also influence survival. For oropharyngeal cancer, the presence of high-risk human papilloma virus (HPV) has gained tremendous interest over the last years. On the one hand, HPV has been identified as a principal cause of the increasing incidence rates for oropharyngeal cancers in non-smoking and non-alcohol drinking populations, mainly in younger but also in older patients [76]. On the other hand, patients affected by HPV-related cancers have been demonstrated to have better survival rates [77].

Geographical variation in oropharyngeal cancer burden associated with HPV is substantial, and the prevalence for the Belgian population is yet unknown [78]. HPV testing has increasingly been implemented in Belgium over time, especially in Head and Neck Squamous Cell Carcinoma (HNSCC) and can be carried out on tumour tissue in a laboratory for pathological anatomy or molecular biology via among others immunohistochemistry or the detection of HPV DNA [79]. Consequently, HPV test results are integrated in the reports of the pathologists, which are also sent to the BCR and which accompany the structured files. Of note, not all reports on HPV may reach the BCR. This can be the case when pathologists from one laboratory notify the cancer case, while pathologists from a different laboratory execute the HPV test and do not transfer these results to the BCR.

In addition to the first objective (i.e. focusing on the patient's general condition), this chapter also aims to study HPV in oropharyngeal cancers diagnosed in Belgium between 2010 and 2016. Again, different age groups will be considered and the impact on survival will be investigated.

4.1.2 Patients & Methods

In line with the other chapters, the focus is purely descriptive and no statistical methods were applied to compare differences between sub-populations.

Patient selection:

A total of 5,360 patients with primary oropharyngeal cancer (ICD-10: C01; C02; C05; C09; C10) diagnosed in 2009 - 2016 were identified in the BCR database. Only oropharyngeal squamous cell carcinomas and variants were selected as described by Rarecarenet [80].

Exclusion criteria were:

- patients aged <15 years
- patients officially residing outside Belgium
- cases with an uncertain incidence date or an incidence date equal to the date of death
- cases lost to follow-up at the incidence date
- patients without a unique National Number for Social Security (NNSS)
- patients with multiple oropharyngeal cancers
- cases without health insurance data recorded by the health insurance companies through the IMA-AIM

The final patient cohort after applying exclusion criteria consisted of 4,410 patients.

Analyses regarding patient's general condition were executed for patients diagnosed between 2009 and 2014 and analyses regarding HPV were executed for patients diagnosed between 2010 and 2016.

Data collection:

Main patient and tumour characteristics were directly extracted from the Belgian cancer database. This database relies on all information (notifications) from the oncological care programs (clinical network) and from all pathological anatomy laboratories related to hospitals (pathology network). Through linkage with the Crossroads Bank for Social Security (CBSS), the NNSS enables the BCR to perform active follow-up on vital status and date of death of the patients (**Figure 1**). Death certificates reach the BCR via the three different Belgian regions (Flemish Region: Agentschap Zorg en Gezondheid [16], Brussels-Capital Region: Observatorium voor Gezondheid en Welzijn van Brussel-Hoofdstad/ l'Observatoire de la Santé et du Social de Bruxelles-Capitale [17], Walloon Region: Agence pour une Vie de Qualité (AViQ) [18].

Since 2009, the BCR is authorised to link data from the Belgian cancer database with data on *reimbursed, cancer-related diagnostic and therapeutic procedures and pharmaceuticals* as registered by the health insurance companies and gathered by the InterMutualistic Agency (IMA-AIM) [1]. These IMA-AIM data also contain limited information about hospitalisations such as admission and discharge date of each hospitalisation. IMA-AIM data are available at the BCR for all patients in the cancer registration database, ranging from 1 year before up till 5 years after diagnosis.

Since 2017, the BCR is also allowed to receive hospital discharge data (Minimale ZiekenhuisGegevens/Résumé Clinique Minimum: MZG/RCM) for the cancer patients in the Belgian cancer database, ranging from one year before up till one year after diagnosis. *Medical information of hospitalisations* (both overnight and ambulatory) such as information on diagnoses and performed procedures is obtained from the hospitals through the Technische Cel/Cellule Technique (TCT).

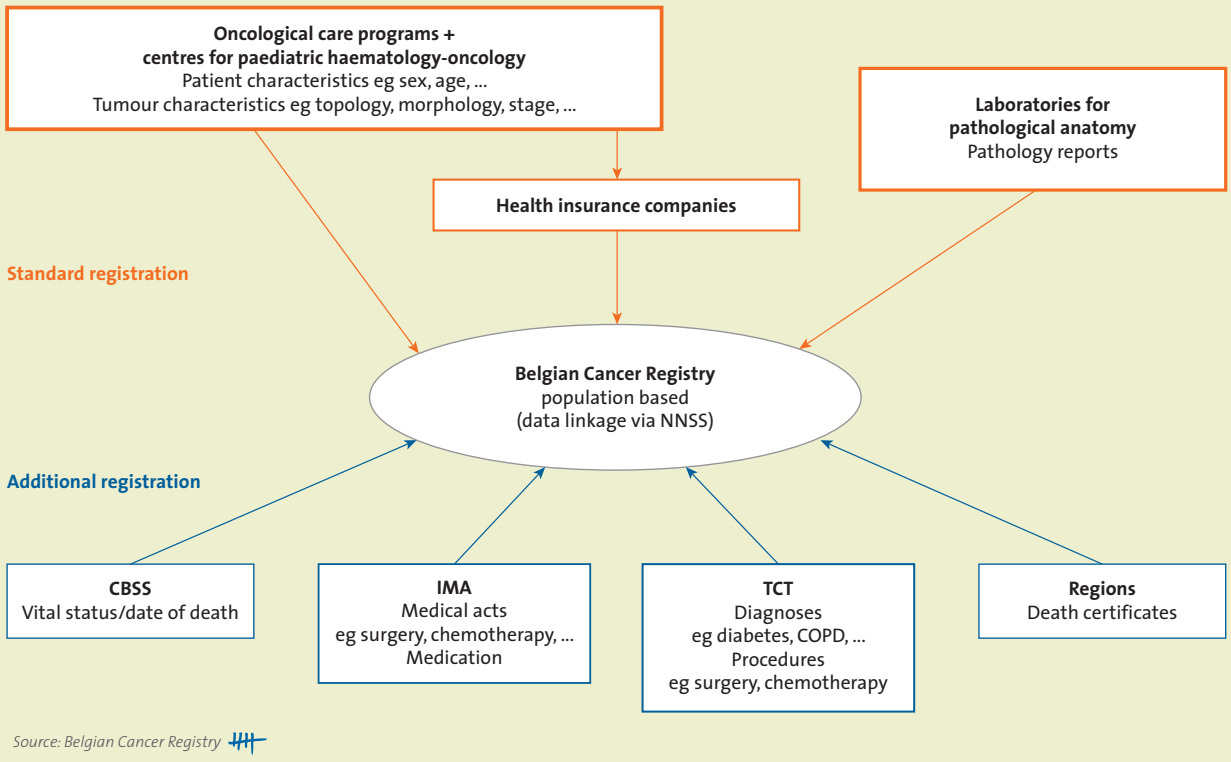
WHO score:

The WHO score is collected as part of the obligatory cancer registration dataset. This score, reflecting the general health condition of a patient, can have one of the following values: 0 (asymptomatic), 1 (symptomatic but completely ambulatory), 2 (symptomatic, <50% in bed during the day), 3 (symptomatic, >50% in bed, but not bedbound) and 4 (bedbound) [81]. When this information is not delivered to the BCR in the registration dataset, this information is considered as 'missing'.

Days of hospitalisation:

The total number of hospitalisation days in the year preceding the incidence date was obtained from the IMA-AIM data, excluding the last month before incidence date. The last month is excluded to avoid considering pathologies which can rather be related to the cancer than to frailty of the patient.

Figure 1 Data collection at the BCR



Source: Belgian Cancer Registry

Comorbidity identification:

Comorbidities as defined by a modified Charlson Comorbidity Index (CCI; [82-83]) were estimated from MZG/RCM data. All hospitalisations described in MZG/RCM and ranging between '1 year preceding the start of the treatment for oropharyngeal cancer and (including) the stay during which the first cancer treatment was delivered' were taken into account. In case no cancer treatment was administered, the incidence date was considered as a reference date to define the timeframe during which hospitalisations had to be taken into account. In contrast to the time frame for the variable 'Days of hospitalisation' (explained above), a longer time frame (with potentially more hospitalisations) was used for the variable 'Comorbidity identification'. This time frame included also the last month before incidence date and even the days between the incidence date and the start of treatment. This is because the presence of comorbidities can only be quantified based on information gathered during hospitalisations (MZG/RCM data).

The sum of the individual weighted comorbidities was classified into categories (category 0 if the sum was 0; category 1 if the sum was 1 or 2; category 2 if the sum was 3 or more). For the patients who were not admitted to a hospital within the predefined timeframe, CCI cannot be defined and the CCI is considered 'unknown'.

The fact that a patient was not hospitalised also withholds information. For example, it could imply that the patient was in a very good general condition and therefore did not need medical attention, that the patient was residing in a nursing home where most of the medical care is provided by a general physician, that the patient had a very low socioeconomic status and therefore did not have access to hospital-bound medical attention, etc.

For the patients for whom a modified CCI could be estimated, the different categories (i.e. CCI 0, 1 and 2) are presented in **table 1** as 'valid' percentage. These percentages refer to the population for which the modified CCI is known.

Identification of HPV status:

The prognostic impact of HPV status is well recognised and its impact is translated in the 8th TNM classification where a clear distinction is made between the p16+ and p16- oropharyngeal cancers. Despite this fact, information regarding HPV/p16-testing is currently not part of the obligatory standard cancer registration dataset.

For incidence years until 2014, information on HPV analyses was retrieved from the pathology reports by manual reading. If HPV testing was mentioned in a laboratory report, the HPV test result was scored as 'positive', 'negative' or 'unknown' (if the test did not lead to an unambiguous result). If HPV testing was not mentioned in a laboratory report, HPV testing was

scored as 'not performed'. For incidence years 2015-2016, this information retrieval was done semi-automatically through an in-house developed text recognition algorithm [84]. The algorithm assigned each case to one of the following categories: 'positive HPV test', 'negative HPV test' or 'not applicable'. The latter category comprises, among others, cases with no performed HPV testing or cases where an HPV test was performed but the test result was unclear.

It is important to be aware of the different methodology used according to the incidence year (2010-2014 versus 2015-2016). Furthermore, it is also crucial to realise that the data presented in **table 2** encompass a period in which an evolutionary process has taken place regarding the systematic organisation of HPV-testing in oropharyngeal cancers in Belgium.

Observed survival:

Observed survival was calculated with the Kaplan-Meier method [85]. For survival analyses, only two age groups were considered (15 – 69 years; 70+ years) in order to have sufficient patients at risk at the start of the observation period. Patients lost to follow-up after the incidence date were censored at the time of the last known contact alive.

As a summary, per patient three indicators of frailty (WHO score, days of hospitalisation before incidence date and comorbidities) as well as HPV status were identified. Additionally, the impact of all these factors on observed survival was investigated.

4.1.3 Key numbers, tables and figures

In this section, the data on patient frailty and HPV status in oropharyngeal cancer will be discussed in relation to age and survival. In the first paragraphs, the different frailty indicators defined earlier (WHO performance score, the length of hospitalisation and the modified CCI) will be elaborated, including their relation to age. Afterwards, data on HPV testing will be described based on the different age groups (15-69 years, 70-79 years and 80+ years). Lastly, results of the survival analyses will be addressed based on both the indicators of frailty and the HPV status of the patients.

Ways of describing frailty in patients with oropharyngeal cancer: descriptive numbers (Table 1)

WHO performance score

In the three consecutive age-groups, the majority of the patients with oropharyngeal cancer is symptomatic but completely ambulatory at diagnosis (each time roughly 60% both in males and females), consistent with a WHO performance score 1. Conversely, in the three consecutive age-groups, less than 19% of the patients are registered in the database as asymptomatic at diagnosis (WHO score 0). For males versus females, proportions are more or less comparable if aged younger than 80 years, but going beyond 80 years, male patients appear more frequently asymptomatic compared to their female counterparts (14.0% versus 8.2%).

Furthermore, as one would anticipate intuitively, older patients turn out to be more frequently explicitly symptomatic and partially bedbound (i.e. WHO scores ≥ 2) compared to younger patients. In this regard, a distinction with the younger patients is observed from 70 years onwards. In the 15-69 years subgroup, only 3.7 and 3.1% in males and females were registered with WHO scores ffl2. In the 70-79 and 80+ subgroups, these proportions increase to 7.0 and 8.7% in males, versus 6.1 and 4.1% in females. Roughly, one could say that in patients over 70 years of age, compared to the younger ones, the proportion of patients with WHO scores ffl2 doubles both in males and females. However, the low absolute number of patients in the older subgroups should be taken into consideration when interpreting these percentages.

Missing information at the BCR concerning the WHO performance score varies between 15.3 and 21.1%, in males and females, respectively. According to age, a missing WHO score appears most frequently in the 80+ years population, counting for 21.1% in males versus 17.8% in females.

Days of hospitalisation during the year before the diagnosis of oropharyngeal cancer

Regardless of age and sex, the majority of patients having a diagnosis of oropharyngeal cancer were not hospitalised during the year preceding the diagnosis of cancer (range 60.9 to 75.1%).

The 70-79 years subgroup appears to be the most at risk for a positive history of hospitalisation (39% in males and females). In contrast, this proportion is approximately 10% smaller in the 80+ cohort (30.7% in males and 27.4% in females) as well as in the 15-69 years subgroup (28.9% in males and 24.9% in females). A possible explanation could be that 80+ patients in general are frail. In this population of truly older patients, it is more likely that a hospitalisation is deliberately averted, and ambulatory care is preferred. Besides that, they often reside in a nursing home where basic (medical) care is already provided

on a regular basis, which probably decreases the necessity to hospitalise these patients. Conversely, younger patients (15-69 subgroup) without a history of hospitalisation are thought to represent a population in a good general health.

Modified Charlson Comorbidity Index

The proportion of patients lacking hospital discharge data in a predefined timeframe (in **table 1** referred to as 'CCI category unknown'), and thus missing information on comorbidities, reaches 19.3 and 30.1% in the 80+ males and females, respectively. In the younger population, regardless of sex, this proportion is approximately 10%.

A hypothesis for this striking difference in availability of hospital discharge data according to age, could be that in the 80+ age group, patients are more likely not to be actively treated. Older patients seem more inclined to renounce treatment intentionally, but also, they might no longer be able to make decisions autonomously (e.g. dementia), a context in which decisions will be made for them. A population renouncing treatment could be regarded as a population less frequently seeking medical attention in a hospital-bound setting, consequently resulting in a lack of hospital discharge data.

Results demonstrate that the proportion of older patients that is left untreated (i.e. no active cancer treatment; data not shown in table), is similar in the patient group without available hospital discharge data (i.e. the 'CCI unknown' population) and the patient group characterised with comorbidities (i.e. CCI 1 or 2). 38.6% of the 'CCI unknown' population and 35.0% of the population with CCI 1 or 2 did not receive active cancer treatment (data not shown). Meanwhile, in the older patients without comorbidities (i.e. the CCI 0 population) the proportion of untreated patients is only 14.5% (data not shown). This observation suggests that older patients for whom no hospital discharge data are available (i.e. CCI unknown) might represent a population more similar to patients with comorbidities (i.e. CCI 1 or 2), than to patients without (i.e. CCI 0). As such, the proportion of 80+ patients presented in **table 1** as 'CCI unknown', might in fact mainly concern patients with existing comorbidities (i.e. CCI 1 or 2).

In the younger population one should interpret an 'unknown' CCI-status differently. 8.8% of the male and 9.2% of the female patients aged 15-69 years lack information on comorbidities. There are two more or less opposite explanations that might explain why these young patients are not seeking medical attention, and are therefore lacking hospital discharge data. Firstly, patients with HNSCC and alcohol and smoking habits are generally in relatively bad condition, nevertheless they tend to neglect their health. This would suggest that the population lacking hospital discharge data refers essentially to a population with a modified CCI score ≥ 1. On the contrary, young patients not seeking medical attention could in fact also be the patients who find themselves in a good general state of health. In this view, a modified CCI score 0 might be expected.

Table 1 **Oropharyngeal cancer, Belgium 2009-2014: patient's global condition (WHO score, days of hospitalisation, modified Charlson Comorbidity Index), by sex and age category**

	Males						Females					
	15 - 69 years (N = 2,228)		70 - 79 years (N = 391)		80+ years (N = 114)		15 - 69 years (N = 763)		70 - 79 years (N = 146)		80+ years (N = 73)	
	N	%	N	%	N	%	N	%	N	%	N	%
WHO score												
0 - Asymptomatic	382	17.1	59	15.1	16	14.0	136	17.8	27	18.5	6	8.2
1 - Symptomatic but completely ambulatory	1,369	61.4	245	62.7	64	56.1	483	63.3	85	58.2	51	69.9
2 - Symptomatic, <50% in bed during the day	59	2.6	12	3.1	7	6.1	15	2.0	4	2.7	2	2.7
3 - Symptomatic, >50% in bed, but not bedbound	16	0.7	12	3.1	3	2.6	5	0.7	4	2.7	1	1.4
4 - Bedbound	10	0.4	3	0.8	0	0.0	3	0.4	1	0.7	0	0.0
Missing	392	17.6	60	15.3	24	21.1	121	15.9	25	17.1	13	17.8
Days of hospitalisation one year before incidence date												
0	1,584	71.1	238	60.9	79	69.3	573	75.1	89	61.0	53	72.6
1 - 5	353	15.8	76	19.4	13	11.4	100	13.1	28	19.2	6	8.2
6 - 15	146	6.6	40	10.2	13	11.4	42	5.5	10	6.8	5	6.8
> 15	145	6.5	37	9.5	9	7.9	48	6.3	19	13.0	9	12.3
Charlson categories												
Charlson category unknown	196	8.8	46	11.8	22	19.3	70	9.2	14	9.6	22	30.1
Charlson category known	2,032	91.2	345	88.2	92	80.7	693	90.8	132	90.4	51	69.9
-> 0	1,296	63.8	176	51.0	52	56.5	496	71.6	67	50.8	31	60.8
-> 1	579	28.5	120	34.8	24	26.1	150	21.6	49	37.1	12	23.5
-> 2	157	7.7	49	14.2	16	17.4	47	6.8	16	12.1	8	15.7

Source: Belgian Cancer Registry

In the three consecutive age-groups for both sexes, the majority of oropharyngeal cancer patients for which hospital discharge data are available are estimated to have no comorbidities (i.e. CCI 0), the valid percentages range from 50.8 to 71.6%. But, the previously mentioned hypotheses on the probable nature of an unknown CCI-status according to age should be kept in mind, since this could alter the dominating CCI per age-category. Especially in the 80+ population, where it would result in a predominating population with a CCI 1 or 2 instead of 0.

Finally, a proportional decrease of the population without comorbidities (i.e. CCI 0) is observed from 70 years onwards, compared to the 15-69 age group (though still representing 51.0 and 50.8% in males and females aged 70-79 years). In parallel, a respective increase of the population estimated with existing comorbidities (i.e. CCI 1 or 2) is noted (49.0% of the male and 49.2% of the female patients aged 70-79 years).

HPV testing in oropharyngeal cancer: descriptive numbers

Availability of data on HPV/p16-testing incidence years 2010-2014 (Table 2a and 2b)

Evolution of HPV/p16-test performance

Throughout the period 2010 to 2014, an increasing tendency of HPV/p16-testing is observed in males as well as females (**Table 2a**). This trend is seen in all three age-categories, but most pronounced in patients younger than 80 years. In male and female patients younger than 80 years, the HPV/p16-test rate rises from approximately 25% in 2010-2012 to roughly 45% for oropharyngeal tumours diagnosed in 2013-2014.

For incidence years 2015-2016, the information extraction on HPV-test results was done semi-automatically. The algorithm that was developed for this purpose systematically searched the pathology protocols, thereby categorising the protocols as 'HPV+' (HPV-test positive), 'HPV-' (HPV-test negative), or 'NA' (HPV-test not performed or HPV-test performed but test-result unknown) (**Table 2b**). Explicit information on HPV/p16-test performance (i.e. test performed versus test not performed) is not available for this period. However, indirect analysis of the available results also gives an idea of test-performance in the more recent years 2015-2016. For example, based on the observed evolution of the category 'NA' (i.e. HPV-test not performed or HPV-test performed but test-result unknown) over time, it can be concluded that test-performance clearly improved further during the more recent years.

In 2010-2012, roughly for one out of four (results vary between 23.2 and 29.3%), and in 2013-2014 for one out of two (variation between 29.0 and 47.9%) patients diagnosed with oropharyngeal cancer, a HPV/p16-test was performed (**Table 2a**). The fact that there was no systematic testing during the period of observation, introduces a selection-bias which has to be taken into account when looking at the results of the performed tests.

Table 2 Oropharyngeal cancer, Belgium 2010-2016: prevalence of HPV/p16 testing (2a) and test result (2b), by sex, age category and time period

Table 2a

	Males											
	2010 - 2012						2013 - 2014					
	15 - 69 years (N = 1.080)		70 - 79 years (N = 207)		80+ years (N = 53)		15 - 69 years (N = 791)		70-79 years (N = 119)		80+ years (N = 44)	
	N	%	N	%	N	%	N	%	N	%	N	%
HPV/p16 test performed	271	25.1	48	23.2	13	24.5	337	42.6	57	47.9	14	31.8
HPV/p16 test not performed	809	74.9	159	76.8	40	75.5	454	57.4	62	52.1	30	68.2

	Females											
	2010 - 2012						2013 - 2014					
	15 - 69 years (N = 376)		70 - 79 years (N = 71)		80+ years (N = 33)		15 - 69 years (N = 261)		70-79 years (N = 54)		80+ years (N = 31)	
	N	%	N	%	N	%	N	%	N	%	N	%
HPV/p16 test performed	110	29.3	18	25.4	8	24.2	110	42.1	24	44.4	9	29.0
HPV/p16 test not performed	266	70.7	53	74.6	25	75.8	151	57.9	30	55.6	22	71.0

Table 2b

	Males																	
	2010 - 2012						2013 - 2014						2015 - 2016					
	15 - 69 years (N = 1.080)		70 - 79 years (N = 207)		80+ years (N = 53)		15 - 69 years (N = 791)		70-79 years (N = 119)		80+ years (N = 44)		15 - 69 years (N = 299)		70 - 79 years (N = 67)		80+ years (N = 14)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
NA*	909	84.2	179	86.5	43	81.1	471	59.5	64	53.8	30	68.2	83	27.8	19	28.4	2	14.3
HPV/p16 test performed and results known	171	15.8	28	13.5	10	18.9	320	40.5	55	46.2	14	31.8	216	72.2	48	71.6	12	85.7
-> HPV+	76	44.4	18	64.3	7	70.0	134	41.9	26	47.3	7	50.0	82	38.0	15	31.3	3	25.0
-> HPV-	95	55.6	10	35.7	3	30.0	186	58.1	29	52.7	7	50.0	134	62.0	33	68.8	9	75.0

** Not applicable (test not performed or test performed. but unknown result)*

	Females																	
	2010 - 2012						2013 - 2014						2015 - 2016					
	15 - 69 years (N = 376)		70 - 79 years (N = 71)		80+ years (N = 33)		15 - 69 years (N = 261)		70-79 years (N = 54)		80+ years (N = 31)		15 - 69 years (N = 109)		70 - 79 years (N = 32)		80+ years (N = 12)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
NA*	304	80.9	61	85.9	25	75.8	155	59.4	32	59.3	22	71.0	35	32.1	10	31.3	5	41.7
HPV/p16 test performed and results known	72	19.1	10	14.1	8	24.2	106	40.6	22	40.7	9	29.0	74	67.9	22	68.8	7	58.3
-> HPV+	41	56.9	6	60.0	4	50.0	40	37.7	8	36.4	6	66.7	27	36.5	11	50.0	3	42.9
-> HPV-	31	43.1	4	40.0	4	50.0	66	62.3	14	63.6	3	33.3	47	63.5	11	50.0	4	57.1

** Not applicable (test not performed or test performed, but unknown result)*

Source: Belgian Cancer Registry

Missing results of performed HPV/p16-tests

For the period 2010-2014, the information on HPV/p16-analyses was collected from the pathology reports by manual reading. The availability of the results of performed tests increased over time (data not shown). In 2010-2012 for roughly 40% of the performed HPV-tests in males and females, the final result of the test (i.e. HPV-positive or negative) was not available at the BCR. In these cases, the test was indeed performed, but after manual checking of the database, the result of the test remained 'unknown' at the BCR. In the period 2013-2014 these 'unknown' test-results decreased to less than 10% of the performed tests.

For incidence years 2015-2016, the information extraction on HPV-test results was only done semi-automatically. The in-house developed algorithm systematically searched the pathology protocols, thereby categorising the protocols as 'HPV+', 'HPV-' or 'NA' (HPV-test not performed or HPV-test performed but test-result unknown). As such the exact proportion 'unknown' test-results at the BCR of the actually performed tests could not yet be evaluated for the more recent years 2015-2016.

Selection-bias test performance 2010-2014 (Table 2a and 3)

Typical patient features of HPV-related oropharyngeal cancer are male sex, middle age, white race, non-smoker, no history of alcohol abuse, etc. [78]. There was no significant difference in test-performance according to the sex of the patients during the period 2010-2014. In 2010-2012, no influence of age was observed. Conversely, in 2013-2014 a difference in test-performance according to age was marked, with proportionately more systematic testing in patients younger than 80 years (i.e. test-performance of 31.8 and 29.0% in the 80+ males and females, compared to roughly 45% in their younger counterparts) (**Table 2a**).

It is described in the literature that HPV-related oropharyngeal cancer preferably originates in the tonsils and the base of tongue [78]. Additional analyses to determine the test-performance according to the oropharyngeal sub-localisation were carried out, in order to identify a possible selection-bias based upon topography (**Table 3**). Firstly, results demonstrated a general rise in test-performance when comparing 2010-2012 with 2013-2014, for all oropharyngeal subsites. Secondly however, the analysis demonstrated that in 2010-2012 HPV-testing occurred more selective compared to 2013-2014. For example, in 2010-2012 in only 16.3% of the palatine cancers HPV/p16-testing was performed, compared to 24.8 and 31.2% of the base of tongue and tonsil tumours. Conversely, in 2013-2014 the tested proportion increased to 38.4% in palatine, 39.0% in base of tongue, and 50.3% in tonsil tumours. In conclusion, a general increase in test-performance was seen for all subsites and a more selective testing was noticed in 2010-2012 in oropharyngeal cancer subsites associated to HPV.

Ultimately, information on smoking or drinking history, which also contribute to the risk profile of oropharyngeal cancers and therefore could also have influenced HPV-testing, was not available at the BCR.

Table 3 Oropharyngeal cancer, Belgium 2010-2014: prevalence of HPV/p16 testing related to tumour localisation

			2010 - 2012			2013 - 2014		
			HPV/p16 test performed	HPV/p16 test not performed	Total	HPV/p16 test performed	HPV/p16 test not performed	Total
C01	base of tongue	N	99	301	**400**	124	194	**318**
		row %	24.8	75.3		39.0	61.0	
		col %	21.2	22.3		22.5	25.9	
C02	other parts of the tongue	N	7	10	**17**	1	9	**10**
		row %	41.2	58.8		10.0	90.0	
		col %	1.5	0.7		0.2	1.2	
C05	palate	N	39	201	**240**	63	101	**164**
		row %	16.3	83.8		38.4	61.6	
		col %	8.3	14.9		11.4	13.5	
C09	tonsil	N	208	459	**667**	234	231	**465**
		row %	31.2	68.8		50.3	49.7	
		col %	44.4	33.9		42.5	30.8	
C10	oropharynx	N	115	381	**496**	129	214	**343**
		row %	23.2	76.8		37.6	62.4	
		col %	24.6	28.2		23.4	28.6	
		Total	468	1,352	**1,820**	551	749	**1,300**

row% = percentages of HPV/p16 test performance within group of patients with same oropharyngeal sub-localisation
col% or column% = percentages of each specific sub-localisation within group of patients with same HPV/p16 test performance

Source: Belgian Cancer Registry

HPV/p16-positive prevalence in Belgium throughout period 2010-2016: overall evolution and influence of age and/or gender

It should be noticed that the test-results can only be interpreted correctly, if all limitations are carefully considered (i.e. test performance, missing results, selection bias; see above). As mentioned before, throughout 2010-2014 a clear decreasing tendency of the proportion of 'unknown' test-results was observed (less than 10% in 2013-2014). For the more recent years (2015-2016) the used semi-automatic methodology did not allow calculation of this proportion, but at least a comparable proportion of less than 10% unknown test-results can be assumed.

The HPV/p16-positive prevalence was computed as the percentage of HPV-positive tests when focusing on the available test results (i.e. disregarding the performed tests with an 'unknown' result). The HPV/p16-positive prevalence could be calculated throughout the period 2010-2016 (**Table 2b**).

Evolution of HPV/p16-positive prevalence

First of all, given the simultaneously observed evolution in test-performance as well as in availability of test-results at the BCR, it is difficult to correctly interpret trends in time. It is obvious that these factors could have a considerable impact on the final HPV/p16-positive proportion. For example, the tested population in 2010-2012 was approximately 25% (variation between 23.2 and 29.3%) (**Table 2a**), but in about 40% of these patients the final test-result was unknown at the BCR (data not shown). Hence, the HPV/p16-positive prevalence was calculated on the -available - results of the other 60% of patients. In 2013-2014, the tested population increased to roughly 45% (variation between 29.0 and 47.9%) (**Table 2a**), and at the same time the availability of test-results at the BCR increased to about 90%. According to the most recent available data (2015-2016), the HPV/p16-positive prevalence in Belgium seems to be <50% of the oropharyngeal tumours in males as well as in females regardless of age category. Again, there is a high risk of bias, since this result is totally unexpected from a more clinical perspective.

Influence of age and gender on HPV/p16-positive prevalence

Primarily, one should be aware of a different evolution in test-performance according to age. In particular, test-performance increased less explicitly over time (i.e. period 2010-2012 versus 2013-2014) in the 80+ population compared to the younger population (**Table 2a**). Whereas for the younger patients test-performance expanded from more or less 25% to 45%, for the older patients this rate evolved from 25% to 30%. An overall view suggests that HPV/p16-positive prevalence in Belgium increases gradually with increasing age, in males as well as in females. In 2010-2012 HPV/p16-positive prevalence for patients older than 80 years was 70.0 and 50.0% in males and females, respectively, in 2013-2014, these proportions were 50.0 and 66.7% (**Table 2b**). This impression of an age-related higher prevalence is less apparent in the more recent incidence years 2015-2016, especially in males (25.0 and 42.9% in the respective subgroups).

HPV/p16-positive prevalence in the younger age-group (15-69 years) seems to evolve throughout the period of observation to similar proportions in males and females (e.g. 38.0 versus 36.5% in 2015-2016). Conversely, in the older age-categories gender seems to play a role. Older females appear to be more likely to be HPV-positive compared to their male counterparts, i.e. HPV/p16-positive rates of 31.3 versus 50.0% in the 70-79 years subgroup and 25.0 versus 42.9% in the 80+ cohort, for males and females respectively. Relevantly, the increase in test-performance over time was similarly observed in both sexes for the period 2010-2014. The observed difference in HPV-positive prevalence according to gender can therefore be confirmed, although analyses may be hampered by low absolute numbers.

Survival of oropharyngeal cancer by patient's general condition and HPV-status

It is well known that female head and neck cancer patients generally have a better survival than males [10;86]. For newly diagnosed head and neck cancer cases in 2012-2016, the 5-year relative survival rate is 51.2% and 59.4% in males and females. This means that the survival rate of female patients is 59.4% compared to an identical group of females from the general population, whereas the survival rate of male patients is only 51.2% compared to an identical group of males from the general population. One-year relative survival data for head and neck cancer indicate that age at diagnosis plays an essential role in the early course of the disease. 1-year relative survival in males and females differs substantially according to age-group, i.e. 80.7% and 85.1% in the 15-69 years subgroup for males and females, versus 76.2% and 76.7% in the 70-79 years subgroup, and 68.0% and 64.9% in the 80+ subgroup (see chapter 3.3.1.3). The relative survival in older patients with head and neck cancer is therefore characterised by a steep fall of the curve during the first year after diagnosis, representing the high proportion of deaths during this early period. This phenomenon is particularly seen in older patients, regardless of the existence of comorbidities, suggesting an effect of age as such.

Observed survival in oropharyngeal cancer patients in function of prognostic frailty (Table 4, Figure 2)

The first part of this chapter was devoted to the analysis of different existing tools to qualify frailty, using an oropharyngeal cancer population as a specific example. While evaluating the influence of ageing on frailty parameters, also possible hypotheses on so-called 'unknown' variables were formulated (e.g. missing WHO score, unknown CCI). The next part describes the observed survival of the study population in function of the chosen frailty parameters to add a prognostic dimension to the different frailty measures. It should be noticed that the observed survival is different from the relative survival. The observed survival is an estimate of the percentage of patients diagnosed with oropharyngeal cancer that is still alive after a certain time period.

Observed survival by WHO performance score (Table 4)

1-, 3- and 5-year observed survival gradually decreases with increasing WHO performance scores. Thus, the higher the WHO score is, the higher the percentage of patients that die within the different time spans because of cancer or other reasons. This observation is valid for both older and younger patients and in both sexes.

Observed survival by the length of hospitalisations during the year prior to the cancer diagnosis (Table 4)

Middle-long (6-15 days) and especially long (>15 days) hospitalisations in the year prior to diagnosis negatively impact the observed survival of patients diagnosed with oropharyngeal cancer. This effect is noticed both in younger and older patients, and in males and females.

Interestingly, patients who were not hospitalised the year prior to the cancer diagnosis do not necessarily seem to have a better observed survival compared to those who do have a history of prior hospitalisation.

Table 4 Oropharyngeal cancer, Belgium 2009-2014: unadjusted observed survival (%) in function of patient's global condition (WHO performance status, days of hospitalisation), by sex and age category

	Males 15 -69 years							Males 70+ years						
		1 year		3 year		5 year			1 year		3 year		5 year	
	N at risk	estimate	95% CI	estimate	95% CI	estimate	95% CI	N at risk	estimate	95% CI	estimate	95% CI	estimate	95% CI
Overall	2,228	75.5	[73.7; 77.3]	50.9	[48.8; 53.1]	40.9	[38.6; 43.3]	505	60	[55.6; 64.1]	39.8	[35.4; 44.1]	28.6	[24.1; 33.2]
WHO score														
0 - Asymptomatic	382	83.5	[79.3; 86.8]	60.9	[55.7; 65.7]	48.7	[42.7; 54.4]	75	74.7	[63.2; 83.0]	53.7	[41.5; 64.4]	38.4	[25.7; 50.9]
1 - Symptomatic but completely ambulatory	1,369	75.7	[73.4; 77.9]	50.2	[47.4; 53.0]	39.5	[36.5; 42.6]	309	62.1	[56.5; 67.3]	41.4	[35.7; 46.9]	31.7	[25.8; 37.8]
2-4 - Symptomatic (ambulant to bedbound)	85	38.8	[28.5; 49.0]	16.0	[9.1; 24.7]	11.5	[5.6; 19.7]	37	29.7	[16.1; 44.6]	13.5	[4.9; 26.4]	10.8	[3.4; 23.0]
Missing	392	75	[70.4; 79.0]	51.1	[45.9; 56.1]	44.5	[39.0; 49.8]	84	52.4	[41.2; 62.4]	33.4	[23.3; 43.7]	17.4	[9.2; 27.7]
Days of hospitalisation one year before incidence date														
0	1,584	76.2	[74.1; 78.3]	52.7	[50.1; 55.2]	42.7	[39.8; 45.5]	317	62.1	[56.6; 67.2]	42.8	[37.1; 48.3]	30.6	[24.8; 36.5]
1 - 5	353	79.9	[75.3; 83.7]	54.1	[48.5; 59.3]	44.6	[38.6; 50.4]	89	65.2	[54.3; 74.1]	45.2	[34.5; 55.3]	37.0	[25.8; 48.2]
6 - 15	146	76.0	[68.2; 82.2]	47.8	[39.2; 55.8]	36.8	[27.7; 45.8]	53	54.7	[40.4; 66.9]	35.5	[22.9; 48.3]	24.4	[11.4; 40.0]
> 15	145	56.6	[48.1; 64.2]	27.4	[20.2; 35.1]	18.3	[11.4; 26.5]	46	41.3	[27.1; 54.9]	14.2	[5.9; 26.1]	7.1	[1.9; 17.3]

	Females 15 -69 years							Females 70+ years						
		1 year		3 year		5 year			1 year		3 year		5 year	
	N at risk	estimate	95% CI	estimate	95% CI	estimate	95% CI	N at risk	estimate	95% CI	estimate	95% CI	estimate	95% CI
Overall	762	81.6	[78.7; 84.2]	61	[57.3; 64.4]	51.7	[47.6; 55.7]	219	67.6	[60.9; 73.3]	45.8	[38.9; 52.4]	33.6	[26.4; 41.0]
WHO score														
0 - Asymptomatic	136	82.4	[74.8; 87.8]	62.5	[53.5; 70.3]	55.3	[45.5; 64.0]	33	81.8	[63.9; 91.4]	56.0	[36.9; 71.3]	51.7	[32.5; 67.8]
1 - Symptomatic but completely ambulatory	482	84.6	[81.1; 87.6]	63.8	[59.1; 68.1]	52.5	[47.1; 57.6]	136	69.9	[61.4; 76.8]	48.7	[39.7; 57.1]	39.9	[30.5; 49.1]
2-4 - Symptomatic (ambulant to bedbound)	23	39.1	[19.9; 58.0]	30.4	[13.5; 49.3]	19.0	[5.7; 38.3]	12	41.7	[15.2; 66.5]	16.7	[2.7; 41.3]	0.0	
Missing	121	76.9	[68.3; 83.4]	53.8	[44.2; 62.5]	51.2	[41.4; 60.1]	38	55.3	[38.3; 69.3]	36.2	[21.2; 51.3]	16.1	[5.5; 31.7]
Days of hospitalisation one year before incidence date														
0	572	83.0	[79.7; 85.9]	63.5	[59.2; 67.4]	55.8	[51.1; 60.2]	142	69.7	[61.4; 76.6]	50.3	[41.5; 58.5]	39.6	[30.1; 48.9]
1 - 5	100	86.0	[77.5; 91.5]	62.5	[51.9; 71.4]	48.5	[36.6; 59.4]	34	79.4	[61.6; 89.6]	49.5	[31.9; 64.9]	36.1	[18.8; 53.8]
6 - 15	42	76.2	[60.3; 86.4]	56.3	[39.8; 69.9]	41.3	[24.6; 57.2]	15	60.0	[31.8; 79.7]	36.6	[13.0; 60.9]	0.0	
> 15	48	60.4	[45.2; 72.6]	31.1	[17.7; 45.6]	21.8	[9.1; 37.9]	28	46.4	[27.6; 63.3]	24.1	[10.2; 41.1]	12.1	[3.1; 27.5]

Source: Belgian Cancer Registry

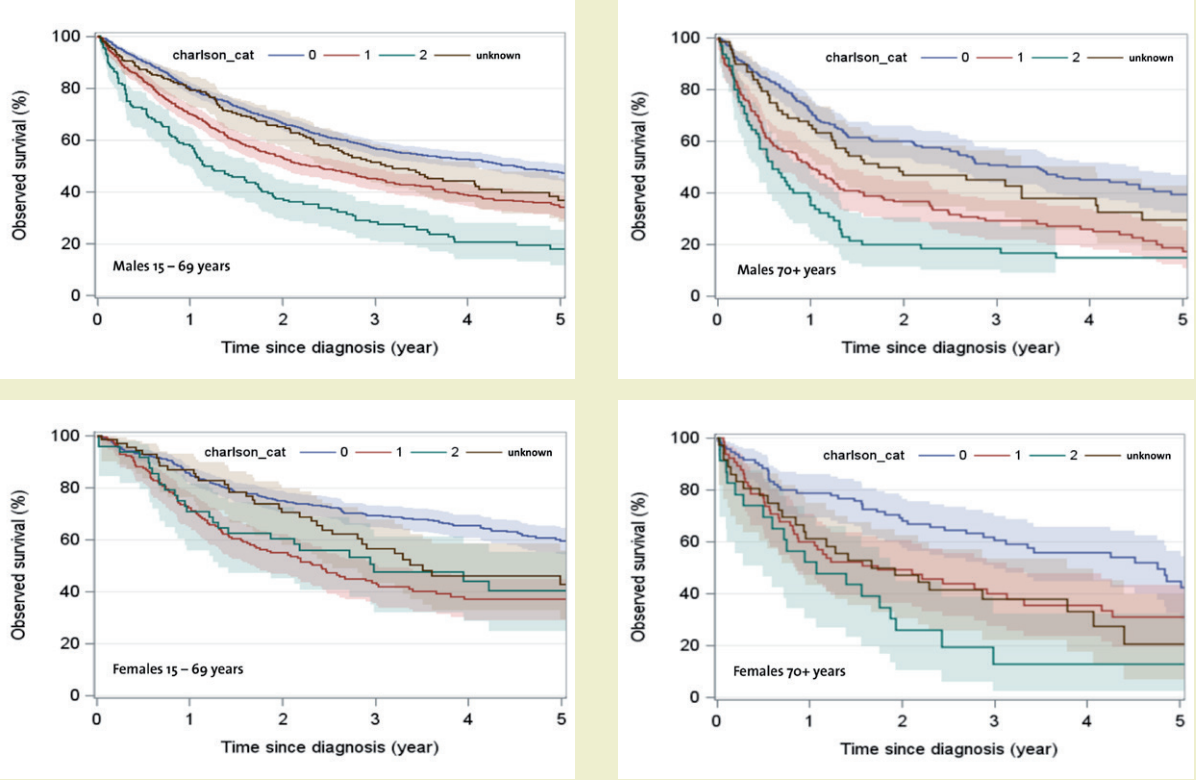
Observed survival by modified Charlson Comorbidity Index (Figure 2)

Observed survival decreases with increasing comorbidities, as indicated by a higher CCI score. This observation is valid for both older and younger patients, and in both sexes.

The ageing population with lack of information on the modified CCI score (i.e. CCI unknown) seems to have an observed survival more comparable to patients with comorbidities than to patients without comorbidities. This observation is consistent with the previously mentioned suggestion that older patients for whom no hospital discharge data are available (i.e. CCI unknown) might represent a population more similar to patients with (i.e. CCI 1 or 2), than to patients without comorbidities.

The younger population with an unknown CCI score, on the other hand, seems to have an observed survival more or less comparable to patients with a modified CCI score 1. This observation suggests that of the two earlier formulated hypotheses in the younger, probably the former (proclaiming that young patients without available hospital discharge data mainly resemble a modified CCI score $\geq$ 1) is the most accurate.

Figure 2 Oropharyngeal cancer, Belgium 2010-2014: observed survival in function of comorbidities (modified Charlson Comorbidity index), by sex and age category



Source: Belgian Cancer Registry

Observed survival in oropharyngeal cancer patients in function of HPV/p16-status (Table 5)

The second part of this chapter concerned HPV-testing in oropharyngeal cancer. Evolutions in the systematic approach of HPV-testing were described, thereby mentioning several methodological issues such as a possible selection-bias in the earlier years, the problem of missing test-results at the BCR, an increasing tendency of systematic testing in oropharyngeal cancer patients, etc. The evolution of HPV-positive prevalence was discussed, taking into account the various possible methodological influences throughout the period of observation. In the following part, data are shown that describe the survival of the reference population in function of the HPV/p16-test result. It is important to note that only if there was a HPV-test result available at the BCR, the patient could be included for the observed survival analysis. Similarly to the comorbidities, a prognostic dimension could be added to the HPV-test result.

Observed survival in function of HPV/p16-test result (Table 5)

Within the patients for whom HPV/p16-status is known, patients with HPV/p16-positive oropharyngeal cancers have a better prognosis. In the two examined age categories as well as in both sexes, 5-year observed survival rates seem to be better in the HPV-positive population. Males and females aged 15-69 years with a positive HPV/p16-test had a 5-year observed survival of 69.7 and 65.9% respectively, compared to 26.3 and 52.0% in the HPV-negative counterparts. In the population older than 70 years, 5-year observed survival in the HPV-positive patients was 46.1 and 48.6% in males and females, compared to 25.8 and 35.3% in the HPV-negative patients. In this way, it is suggested that the actual epidemiological scientific knowledge on this topic can be affirmed for the Belgian population [87].

Table 5 Oropharyngeal cancer, Belgium 2010-2015: unadjusted observed survival (%) in function of HPV/p16 test result, by sex and age category

	Males 15 -69 years							Males 70+ years						
		1 year		3 year		5 year			1 year		3 year		5 year	
	N at risk	estimate	95% CI	estimate	95% CI	estimate	95% CI	N at risk	estimate	95% CI	estimate	95% CI	estimate	95% CI
HPV/p16 test performed and results known	690	**80.1**	[76.9; 82.9]	**55.3**	[50.7; 59.7]	**44.2**	[38.0; 50.2]	170	**67.6**	[60.1; 74.1]	**46.9**	[38.2; 55.0]	**36.0**	[24.7; 47.4]
HPVstatus														
HPV+	275	**89.8**	[85.5; 92.8]	**77.0**	[70.6; 82.2]	**69.7**	[61.3; 76.7]	82	**79.3**	[68.8; 86.6]	**58.5**	[45.9; 69.2]	**46.1**	[30.2; 60.7]
HPV-	415	**73.8**	[69.3; 77.8]	**40.3**	[34.3; 46.3]	**26.3**	[18.7; 34.6]	88	**56.8**	[45.8; 66.4]	**34.4**	[21.2; 47.9]	**25.8**	[10.4; 44.3]

	Females 15 -69 years							Females 70+ years						
		1 year		3 year		5 year			1 year		3 year		5 year	
	N at risk	estimate	95% CI	estimate	95% CI	estimate	95% CI	N at risk	estimate	95% CI	estimate	95% CI	estimate	95% CI
HPV/p16 test performed and results known	249	**85.9**	[81.0; 89.7]	**65.9**	[58.8; 72.1]	**56.5**	[45.6; 66.1]	74	**71.6**	[59.9; 80.5]	**48.9**	[34.9; 61.4]	**41.4**	[26.5; 55.6]
HPVstatus														
HPV+	97	**90.7**	[82.9; 95.1]	**80.8**	[70.6; 87.7]	**65.9**	[47.6; 79.2]	32	**84.4**	[66.5; 93.2]	**64.8**	[43.7; 79.7]	**48.6**	[24.2; 69.3]
HPV-	152	**82.9**	[75.9; 88.0]	**54.8**	[44.4; 64.0]	**52.0**	[40.9; 62.1]	42	**61.9**	[45.5; 74.6]	**35.3**	[17.2; 54.0]	**35.3**	[17.2; 54.0]

Source: Belgian Cancer Registry

4.1.4 Conclusions

The first objective of this chapter was to study the general condition and potential frailty of patients diagnosed with oropharyngeal cancer between 2009 and 2014 in Belgium, by analysing WHO performance score, hospitalisation days in the year preceding diagnosis and comorbidities. These frailty indicators were investigated in relation to age and survival. The second objective was to study HPV in oropharyngeal cancers diagnosed in Belgium between 2010 and 2016. In line with the first objective, different age groups were considered and an impact on survival was investigated.

- In a hospital setting, geriatric screening and assessment are generally used to identify general health problems and potential frailty in an older cancer population. However, results of these tests are not registered in a standardised way. Therefore, in population-based studies, one has to rely on frailty estimates as derived from alternative administrative data sources. At the BCR, used frailty parameters include WHO performance score, days of hospitalisation in the year preceding diagnosis and comorbidities estimated with hospital discharge data. One has to keep in mind that these parameters are just an estimation. Geriatric screening and assessment information could potentially become a valuable addition to these estimations in the future.
- The WHO performance score, the length of hospitalisation prior to cancer diagnosis and the modified CCI score can be considered three additive measures to indicate a certain frailty.
- It is necessary to be aware that the information on the three examined measures of frailty is derived from different sources (compulsory cancer registration dataset versus IMA data versus MZG/RCM data). Each measure is linked to a specific process to gather the information. When information on a measure is missing at the BCR, depending on the underlying process, this 'missing' or 'unknown' variable withholds different information.
- Age is an indispensable factor in order to interpret the data on different ways of describing frailty.
- The analyses show that the three examined frailty parameters are more likely to be positive (i.e. WHO $\geq$ 1, a positive history of hospitalisation prior to diagnosis, CCI $\geq$ 1) in older compared to younger cancer patients. In the current analyses this age-effect was observed from the age of 70 onwards.
- MZG/RCM data were substantially more frequently lacking in the older cancer patients, resulting in less directly available information on comorbidities in this population. It was hypothesised that the older cancer patients for which no hospital discharge data were available, are probably more compatible with the presence than with the absence of comorbidities.
- Focusing on the 70-79 years subgroup, the average days of hospitalisation during the year preceding the cancer diagnosis is substantially higher compared to the rest of the population, including the subgroup older than 80 years. It was hypothesised that this observation can be explained partially by the considerable share of patients older than 80 years that abides residential care facilities, where transferring a patient to the hospital might be organised less accommodatively leading to fewer hospitalisations. This hypothesis might at the same time partially explain the considerable lack of hospital discharge data in the 80+ cohort.
- All three explored frailty parameters (WHO performance score, the length of hospitalisations and the modified CCI score) demonstrate a clear impact on survival, both in younger and older patients. Although closely related as pointed out before, the three measures have their individual background and therefore, these different estimations should all be considered as case-mix characteristics in observational studies on cancer survival.

- Regardless of age, HPV/p16-test performance reaches a rate of 50% by incidence year 2014, which implicates that this information is still not included in almost half of the available pathology reports. Apart from the test not being performed, another explanation could be that the results of additional tests (such as HPV/p16) performed in secondary laboratories (different from the laboratories that delivered the cancer case to the BCR) are not received by the BCR.
- There seems to be a general tendency towards systematic HPV/p16-testing of oropharyngeal tumours. This is noted in all age-categories, but more clearly in the younger patients. This observation is in line with recommendations made by the Belgian Health Care Knowledge Centre in 2015 [88]. A selection-bias in the earlier years of HPV/p16-testing should be taken into account when interpreting data presented in this chapter.
- There is no unambiguous influence of age on HPV/p16-positive prevalence, nevertheless the shown data suggest that HPV is at least as prevalent in older patients as in their younger counterparts.
- Relying on the available data, one could conclude that HPV/p16-positive prevalence in Belgium is <50% in oropharyngeal tumours [89] but always keeping in mind concomitant influences such as non-systematic testing and non-accessibility of test results for the BCR.
- Similar to international publications, patients with HPV/p16-positive cancer had a better observed survival, regardless of age and sex [77]. Additionally, it would be of great value to assess the impact of tobacco exposure on survival with - currently unavailable - data such as the number of pack-years of tobacco smoking [87].
- In general, the development of new strategies to obtain different types of information (MZG/RCM data versus IMA-AIM data, the development of semi-automatically text recognition algorithms, etc.) is invaluable.

4.2 Colorectal cancer: Are older patients treated differently?

Lien van Walle, Katrijn Vanschoenbeek, Tim Tambuyzer, Harlinde De Schutter and Liesbet Van Eycken

4.2.1 Introduction

Older patients with cancer compose a large and continuously increasing group of patients in our society. Even more than their younger counterparts, this group is heterogeneous as apparent from their highly variable physical, mental and social status. Such heterogeneity requires more complex and individualized clinical decision-making for cancer treatment and has major impact on the organisation of the health care system.

Since older patients with colorectal cancer are often excluded from clinical trials due to poor performance status, results from studies are not always representative for the older cancer population. Moreover, no specific evidence-based guidelines are available for this age group. When feasible, surgery is the most successful treatment for non-metastasized colorectal cancer. However, emergency surgery is to be avoided as it is frequently associated with high operative death rates. This can be prevented in some cases by considering surgery as an option in the initial therapeutic planning of older patients. Benefits from other therapies such as (combination) chemotherapy need to be well balanced against potentially limited life expectancy and reduced quality of life. Careful monitoring and early interventions are even more essential in this patient group than in the younger cancer population [90]. Besides the advice and decision-making of clinicians, the patient's concerns about the consequences of the cancer treatment may also influence treatment choice [91]. For younger cancer patients with familial and social obligations (e.g. the care for their children), there is often a focus on life extension. For older patients with incurable cancer, one focuses often more on the quality of life than on the quantity of life [92].

This chapter aims to describe the real-world clinical management of older patients (≥ 70 years) with colon and rectal cancer compared to younger patients (15 – 69 years). In the following paragraphs, details are provided on the treatment schemes, the proportion of patients discussed at a multidisciplinary team meeting (MOC-COM) and the centre volumes for surgically treated patients.

4.2.2 Patients & Methods

Patient selection:

A total of 63,354 patients with colon cancer (ICD-10: C18-C19) and 26,024 patients with rectum cancer (ICD-10: C20) diagnosed in 2004 – 2014 were identified in the BCR database. Cancers of the appendix (ICD-10: C18.1) were not included in the study.

Exclusion criteria were:

- patients aged <15 years
- patients officially residing outside Belgium
- cases with an uncertain incidence date or an incidence date equal to the date of death
- cases lost to follow-up at the incidence date
- patients without a unique National Number for Social Security (NNSS)
- cases without health insurance data recorded by the health insurance companies through the InterMutualistic Agency (IMA-AIM)

For patients with more than one colorectal tumour within the time frame 2004 - 2014, only the first tumour was withheld. The final patient cohort after applying exclusion criteria consisted of 60,637 patients with colon cancer and 25,491 patients with rectal cancer.

Data collection:

The BCR uses the NNSS of the patients to couple the cancer registration data with nomenclature data (or medical claims data) of the Health Insurance Companies, compiled by IMA-AIM (see **figure 1** of chapter 4.1). IMA-AIM data serve as a source of information regarding diagnostic procedures, treatments and MOC-COM. In addition, this data source allows the allocation of patients to the centre which performed the surgery (if applicable), as needed for the volume distribution analysis.

Identification of treatment schemes:

As direct links to the pathology, for which a medical or diagnostic act is charged, are lacking in the description of the nomenclature codes, time frames are used to enlarge the probability that an act was performed within the context of the colorectal cancer treatment.

For *surgery*, nomenclature codes corresponding to tumour-directed surgery within the time period 1 month before until 9 months after the incidence date, were selected. Both local excisions and radical surgeries to eradicate the primary tumour were considered. Surgery of metastases was not taken into account. In case both radical surgery and local excision were performed within this time frame, priority was given to the radical surgery. For rectal cancer, an additional distinction was made between radical surgeries with stoma and radical surgeries without (or with only temporary) stoma.

Systemic therapy was defined by the Anatomical Therapeutic Chemical (ATC) code L01 [93]. This includes chemotherapy, monoclonal antibodies and protein kinase inhibitors. Neo-adjuvant systemic therapy was defined by a time frame ranging from maximum 1 month before the incidence date until surgery (excluding the date of surgery itself), whereas adjuvant systemic therapy was considered from the day of surgery until 6 months after the surgery date. When no surgery was performed, systemic therapy was studied between 1 month before until 9 months after the incidence date.

Nomenclature codes for *radiotherapy* are identified by the same time frames as systemic therapy.

Chemoradiotherapy was defined within the same time frames as systemic therapy by chemo-related L01 codes and nomenclatures for radiotherapy, both administered at the same day. In theory, chemoradiotherapy can be seen as a systemic treatment, given the chemotherapy component, but in this study it is considered as a separate category.

Each patient was assigned to exactly one treatment scheme.

Possible treatment schemes for patients with a colon cancer are:

- 'Surgery only', further subdivided in 'only local excision' and 'only radical resection'
- 'Systemic therapy only'
- 'Multimodal approach', comprising a combination of systemic therapy and surgery (e.g. neo-adjuvant systemic therapy followed by radical surgery is referred to as ST < RS)
- 'Other treatment', comprising treatment options for colon cancer which are deviating from the guidelines (e.g. local excision followed by systemic therapy)
- 'No treatment' if cancer treatment (tumour-directed surgery, systemic treatment or radiotherapy) was absent

Possible treatment schemes for patients with a rectum cancer are:

- 'Surgery only', further subdivided in 'only local excision' and 'only radical resection'
- 'Systemic therapy only'
- 'Chemoradiotherapy only'
- 'Multimodal approach', comprising radical surgery in combination with radiotherapy, systemic therapy or chemoradiotherapy
- 'Other treatment', comprising treatment options for rectum cancer which are deviating from the guidelines (e.g. local excision followed by chemoradiotherapy)
- 'No treatment' if cancer treatment (tumour-directed surgery, systemic treatment or radiotherapy) was absent

In this way, the corresponding cancer treatment strategy was defined for each patient. For rectal cancer, the treatment strategy was studied in function of clinical/pathological stage. For colon cancer, it was studied in function of the so-called combined stage. To determine the combined stage, known pathological stage prevailed over known clinical stage, except when there was clinical proof of distant metastasis. When only the clinical stage was known, this stage determined the combined stage. Obviously, when neither the pathological stage nor the clinical stage was known, the combined stage was unknown too. Secondly, it was checked whether the patient was discussed during a MOC-COM or not. Thirdly, each surgically treated patient was assigned to the centre which performed surgery in order to analyse centre volume distribution.

4.2.3 Key numbers, tables and figures

In the forthcoming parts of this section, older patients (≥ 70 years) will be compared with younger patients (15 – 69 years) for each type of cancer (colon and rectal cancer). The data presented for each type of cancer involve the different thera-

peutic approaches, analysed by stage. Because in the case of colon cancer the clinical stage is missing in the BCR database in a substantial number of the included patients, analyses were performed using the combined stage. For rectal cancer, analyses were mainly performed using the clinical stage, unless specified otherwise. At the end of each section (colon and rectal cancer), evolution in MOC-COM and the relation between surgical centre volumes and age will be shortly addressed.

Colon Cancer

Surgical approach (Table 1)

Table 1 illustrates how frequently surgery is a part of the therapeutic approach in the management of colon cancer, regardless of the stage. 'No surgery' refers to the population for which no tumour-directed surgery was found within the predefined timeframe.

When 'surgery' versus 'no surgery' ratios are compared, similar ratio values can be found for the corresponding age groups of both sexes. Looking at the three consecutive age categories, in the 80+ years population a 5% increase of the no surgery subgroup is noted (i.e. 15.4 and 15.7% in males and females). It should be stressed that these results are merely observational. Stage distribution in the different age-subgroups, for example, is essential for an optimal interpretation and is not shown in **table 1**. The average stage distribution of colon cancer in Belgium for 2010-2016 by age group is illustrated earlier in this publication (See 3.3.2.1 **Figure 4**), this distribution appears more or less similar in each age category.

In conclusion, within the operated patients (i.e. 'Surgery'), the proportion of radical surgery is generally high (>90%), regardless of age and gender (**Table 1**).

Table 1 Cancer of the colon, Belgium 2004 - 2014: surgical treatment by sex and age category

	Males						Females					
	15 - 69 years (N = 13,176)		70 - 79 years (N = 11,446)		80+ years (N = 7,516)		15 - 69 years (N = 9,705)		70 - 79 years (N = 9,083)		80+ years (N = 9,711)	
	N	%	N	%	N	%	N	%	N	%	N	%
Surgery	11,874	90.1	10,229	89.4	6,360	84.6	8,714	89.8	8,159	89.8	8,182	84.3
->LE*	817	6.9	655	6.4	433	6.8	474	5.4	349	4.3	430	5.3
-> RS**	11,057	93.1	9,574	93.6	5,927	93.2	8,240	94.6	7,810	95.7	7,752	94.7
No surgery	1,302	9.9	1,217	10.6	1,156	15.4	991	10.2	924	10.2	1,529	15.7

** Local excision*
*** Radical surgery*

Source: Belgian Cancer Registry

Differential therapeutic approach in function of combined stage: influence of age (Table 2, Figure 1&2)

In the following part, the different therapeutic approaches will be analysed by combined stage of cancer. A specific analysis of the 'no treatment' population is also added.

Stage I colon cancer

In all age groups, stage I colon cancer solely treated with surgery applies to at least 90% of the patients (**Figure 1**&**2**). 10 to 15% of this purely surgical management of stage I colon cancer relates to a local excision, in all age categories and in both sexes, opposed to radical surgery that is selected in the remainder of the cases (**Table 2**).

Stage II colon cancer

In stage II disease, the landscape changes substantially, with a prominent decrease of the 'surgery only' proportion in the younger population (48.8 and 46.9% in males and females aged 15-69 years), while still representing 90.8 and 89.7% in males and females of the 80+ years group (**Table 2**).

Analyses demonstrate that for stage II colon cancer, the choice of adding systemic treatment to the local treatment is clearly influenced by age, a young age facilitating this approach (45.3 and 48.6% in males and females aged 15-69 years) versus older age precluding it (25.5 and 23.8% in males and females in the 70-79, and 5.1% in both males and females in the 80+ years population) (**Table 2**, **Figure 1**&**2**). When referring to the national guidelines produced by the College of Oncology, it is stated there that adjuvant chemotherapy can be considered for stage II colon cancer with the decision being based on risk assessment [94-95]. This risk assessment is commonly guided by the use of web-based calculators that predict the potential benefit of adjuvant therapy. Parameters consistently considered for this risk assessment are number of positive lymph nodes, tumour stage, tumour grade and age.

Table 2 Cancer of the colon, Belgium 2004-2014: treatment scheme by sex, age category and combined stage

Males

	15 - 69 years (N = 13,176)										70 – 79 years (N = 11,446)										80+ years (N = 7,516)									
	Stage I (N = 2,355)		Stage II (N = 3,421)		Stage III (N = 3,370)		Stage IV (N = 2,899)		Stage Unknown (N = 1,131)		Stage I (N = 1,971)		Stage II (N = 3,391)		Stage III (N = 2,823)		Stage IV (N = 2,123)		Stage Unknown (N = 1,138)		Stage I (N = 1,078)		Stage II (N = 2,459)		Stage III (N = 1,780)		Stage IV (N = 1,194)		Stage Unknown (N = 1,005)	
Treatment scheme	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No treatment	27	1.1	30	0.9	22	0.7	101	3.5	122	10.8	29	1,5	38	1,1	30	1,1	166	7,8	236	20,7	31	2.9	69	2.8	46	2.6	247	20.7	436	43.4
-> died within 9 months after incidence	2	7.4	3	10	6	27.3	71	70.3	64	52.5	14	48,3	20	52,6	13	43,3	149	89,8	176	74,6	12	38.7	36	52.2	26	56.5	220	89.1	298	68.3
Surgery only	2,115	89.8	1,720	48.8	278	8.2	147	5.1	500	44.2	1.782	90,4	2.389	70,5	626	22,2	308	14,5	508	44,8	1001	92.9	2,232	90.8	1,197	67.2	426	35.7	392	39.0
-> Only LE*	325	15.4	5	0.3	5	1.8	10	6.8	219	43.8	207	11,6	10	0,4	10	1,6	27	8,8	203	40,0	136	13.6	9	0.4	10	0.8	23	5.4	174	44.4
-> Only RS**	1,790	84.6	1,715	99.7	273	98.2	137	93.2	281	56.2	1.575	88,4	2.379	99,6	616	98,4	281	91,2	305	60,0	865	86.4	2,223	99.6	1,187	99.2	403	94.6	218	55.6
Multimodal approach	138	5.9	1,549	45.3	2,907	86.3	1,745	60.2	195	17.2	93	4,7	866	25,5	2.054	72,8	1.042	49,1	131	11,5	24	2.2	125	5.1	503	28.3	274	22.9	34	3.4
-> ST***< RS	15	10.9	21	1.4	20	0.7	53	3.0	6	3.1	7	7,5	30	3,5	10	0,5	38	3,6	2	1,5	1	4.2	4	3.2	11	2.2	14	5.1	4	11.8
-> RS < ST	111	80.4	1,488	96.1	2,810	96.7	1,468	84.1	181	92.8	69	74,2	807	93,2	2.006	97,7	904	86,8	121	92,4	15	62.5	111	88.8	473	94.0	245	89.4	27	79.4
-> ST < RS < ST	12	8.7	40	2.6	77	2.6	224	12.8	8	4.1	17	18,3	29	3,3	38	1,9	100	9,6	8	6,1	8	33.3	10	8.0	19	3.8	15	5.5	3	8.8
ST only	1	0.0	26	0.8	44	1.3	647	22.3	187	16.5	9	0,5	18	0,5	27	1	437	20,6	160	14,1	1	0.1	6	0.2	7	0.4	182	15.2	93	9.3
Other treatment****	74	3.1	96	2.8	119	3.5	259	8.9	127	11.2	58	2,9	80	2,4	86	3	170	8,0	103	9,1	21	1.9	27	1.1	27	1.5	65	5.4	50	5

** Local excision*
*** Radical surgery*
**** Systemic therapy*
***** ST < LE < ST; ST/RT < SURG; ST/RT < SURG < ST; LE < ST; LE < ST/RT; RT < SURG; SURG < ST/RT; SURG < RT*

Source: Belgian Cancer Registry

Females

	15 - 69 years (N = 9,705)										70 – 79 years (N = 9,083)										80+ years (N = 9,711)									
	Stage I (N = 1,489)		Stage II (N = 2,569)		Stage III (N = 2,719)		Stage IV (N = 2,156)		Stage Unknown (N =772)		Stage I (N = 1,423)		Stage II (N = 2,883)		Stage III (N = 2,376)		Stage IV (N = 1,571)		Stage Unknown (N = 830)		Stage I (N = 1,221)		Stage II (N = 3,417)		Stage III (N = 2,491)		Stage IV (N = 1,342)		Stage Unknown (N = 1,240)	
Treatment scheme	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No treatment	29	1,9	31	1,2	14	0,5	66	3,1	76	9,8	15	1,1	30	1	15	0,6	117	7,4	157	18,9	54	4,4	147	4,3	72	2,9	347	25,9	621	50,1
-> died within 9 months after incidence	2	6,9	5	16,1	2	14,3	48	72,7	26	34,2	4	26,7	11	36,7	6	40	108	92,3	110	70,1	23	42,6	89	60,5	42	58,3	305	87,9	424	68,3
Surgery only	1.333	89,5	1.204	46,9	143	5,3	119	5,5	356	46,1	1.317	92,6	2.089	72,5	593	25,0	225	14,3	375	45,2	1138	93,2	3.065	89,7	1.843	74,0	542	40,4	479	38,6
-> Only LE*	182	13,7	5	0,4	2	1,4	11	9,2	149	41,9	130	9,9	4	0,2	2	0,3	10	4,4	115	30,7	154	13,5	21	0,7	6	0,3	35	6,5	164	34,2
-> Only RS**	1.151	86,3	1.199	99,6	141	98,6	108	90,8	207	58,1	1.187	90,1	2.085	99,8	591	99,7	215	95,6	260	69,3	984	86,5	3.044	99,3	1.837	99,7	507	93,5	315	65,8
Multimodal approach	85	5,7	1.249	48,6	2.443	89,8	1.297	60,2	155	20,1	55	3,9	687	23,8	1.697	71,4	780	49,6	108	13,0	17	1,4	174	5,1	551	22,1	232	17,3	37	3,0
-> ST***< RS	6	7,1	27	2,2	13	0,5	39	3,0	6	3,9	3	5,5	21	3,1	15	0,9	27	3,5	3	2,8	1	5,9	17	9,8	11	2,0	9	3,9	3	8,1
-> RS < ST	70	82,4	1.196	95,8	2.378	97,3	1.063	82,0	137	88,4	42	76,4	640	93,2	1.657	97,6	685	87,8	98	90,7	12	70,6	140	80,5	522	94,7	214	92,2	30	81,1
-> ST < RS < ST	9	10,6	26	2,1	52	2,1	195	15,0	12	7,7	10	18,2	26	3,8	25	1,5	68	8,7	7	6,5	4	23,5	17	9,8	18	3,3	9	3,9	4	10,8
ST only	6	0,4	27	1,1	38	1,4	512	23,7	133	17,2	3	0,2	27	0,9	23	1	343	21,8	141	17	1	0,1	12	0,4	7	0,3	166	12,4	69	5,6
Other treatment****	36	2,4	51	2	81	3	162	7,5	52	6,7	33	2,3	50	1,7	48	2	106	6,7	49	5,9	11	0,9	19	0,6	18	0,7	55	4,1	34	2,7

** Local excision*
*** Radical surgery*
**** Systemic therapy*
***** ST < LE < ST; ST/RT < SURG; ST/RT < SURG < ST; LE < ST; LE < ST/RT; RT < SURG; SURG < ST/RT; SURG < RT*

Source: Belgian Cancer Registry

Stage III colon cancer

In locally advanced disease, i.e. stage III, results indicate that a multimodal approach is more generally applied regardless of age. This is consistent with the national guidelines released by the College of Oncology, where stage III colon cancer constitutes a strong indication for adjuvant chemotherapy (if no major contra-indication) [94-95]. In males and females aged 15-69 years, 86.3 and 89.8%, respectively, received a multimodal approach, which in 96.7 and 97.3% of the cases consisted of radical surgery followed by adjuvant systemic treatment (**Table 2**). Compared to the younger age-group, in the 70-79 year olds a multimodal treatment is less frequently opted for, resulting in 72.8 and 71.4% of the males and females, respectively. The most obvious exception however is the 80+ cohort, where multimodal treatment is prescribed in 28.3 and 22.1% of the males and females (**Table 2**, **Figure 1**&**2**). Conversely, in these truly older patients, therapy limited to surgery alone is opted for in 67.2 and 74.0% of males and females, compared to 8.2 and 5.3% in the 15-69 year olds.

Stage IV colon cancer

According to the national guidelines, the approach of metastatic colon cancer is divers. An important element in the decision process is the possible resectability of metastases [94-95]. The data do not allow to make a distinction in the stage IV patients on this criterion. Also, these analyses did not take metastasis-directed surgery into account. When surgery was registered, it refers to primary-tumour directed surgery.

The analyses demonstrate a shift in therapy-choice according to age. A multimodal approach (i.e. a combination of surgery of the primary tumour and systemic treatment) clearly prevails in the younger age group (60.2% in both males and females), followed by the option of systemic treatment only (22.3 and 23.7% in males and females) (**Table 2**, **Figure 1**&**2**). These results seem in conformity with the guidelines. The therapeutic approach shifts to a more heterogeneous picture in the 80+ group. In these truly older patients, 35.7 and 40.4% in males versus females are managed with surgery only (i.e. primary-tumour directed surgery), representing the predominant choice. It seems plausible that in this context (stage IV) a purely primary-tumour directed surgery probably mainly represents a supportive or symptomatic decision (e.g. Hartmann's procedures). Another interpretation is the generally more precarious situation of older patients. The post-operative mortality rates in patients older than 80 years is clearly higher [96], which results more often in waiving of systemic treatment. A multimodality therapy is still applied for 22.9 and 17.3% of the truly older males and females, and a purely systemic treatment in 15.2 versus 12.4%, respectively (**Table 2**).

No active treatment

Patients who received no primary tumour-directed surgery, systemic treatment or radiotherapy within the respectively appointed timeframes (4.2.2. Patients and Methods), were assigned to the 'no treatment' group. The medical decision 'not to treat' appears most apparent in stage IV disease, and is clearly most pronounced in the 80+ years group (**Figure 1**&**2**). In stage IV disease, proportions are 3.5 and 3.1% in males and females aged 15-69 years, 7.8 and 7.4% in the 70-79 years subgroup (males and females), whereas they reach 20.7 and 25.9% in the 80+ years group (**Table 2**). However, it should be remarked that patients with no active anti-tumour therapy (i.e. 'no treatment' group) could still be given other types of treatments. Supportive care measures for instance, were not specifically analysed, but they are an invaluable part of cancer treatment. It is noteworthy that a considerable proportion of the stage IV population not receiving an active anti-tumour treatment, effectively died within 9 months after incidence date (around 70% for patients aged between 15 and 69 years and up to 90% for patients aged 80+).

Stage unknown

Patients for whom no stage is available at the BCR constitute a particular group. The analyses demonstrate that the predominant therapeutic approach in this setting is 'surgery only', in all age categories (**Figure 1**&**2**). In the patients younger than 80 years, this option is chosen in roughly 45% compared to about in 39% of the patients older than 80. When looking more into detail at this surgical approach, it is striking that the proportion of local excisions is relatively high when the stage is unknown (values ranging between 30.7 and 43.8% for all age categories and both sexes), in contrast to the situation where the stage is known (where radical surgery clearly predominates) (**Table 2**). This finding might indicate that this 'unknown stage' group that is managed with surgery only, probably includes a considerable amount of cases with limited disease (where a local excision could be appropriate).

Furthermore, when there is no information on stage available, a relatively high proportion of untreated persons is observed (i.e. 'no treatment') (**Figure 1**&**2**). In all three age categories this 'no treatment' population seems at least to duplicate when the stage is not available at the BCR, compared to when the stage at diagnosis is known (**Table 2**). In addition, there is a

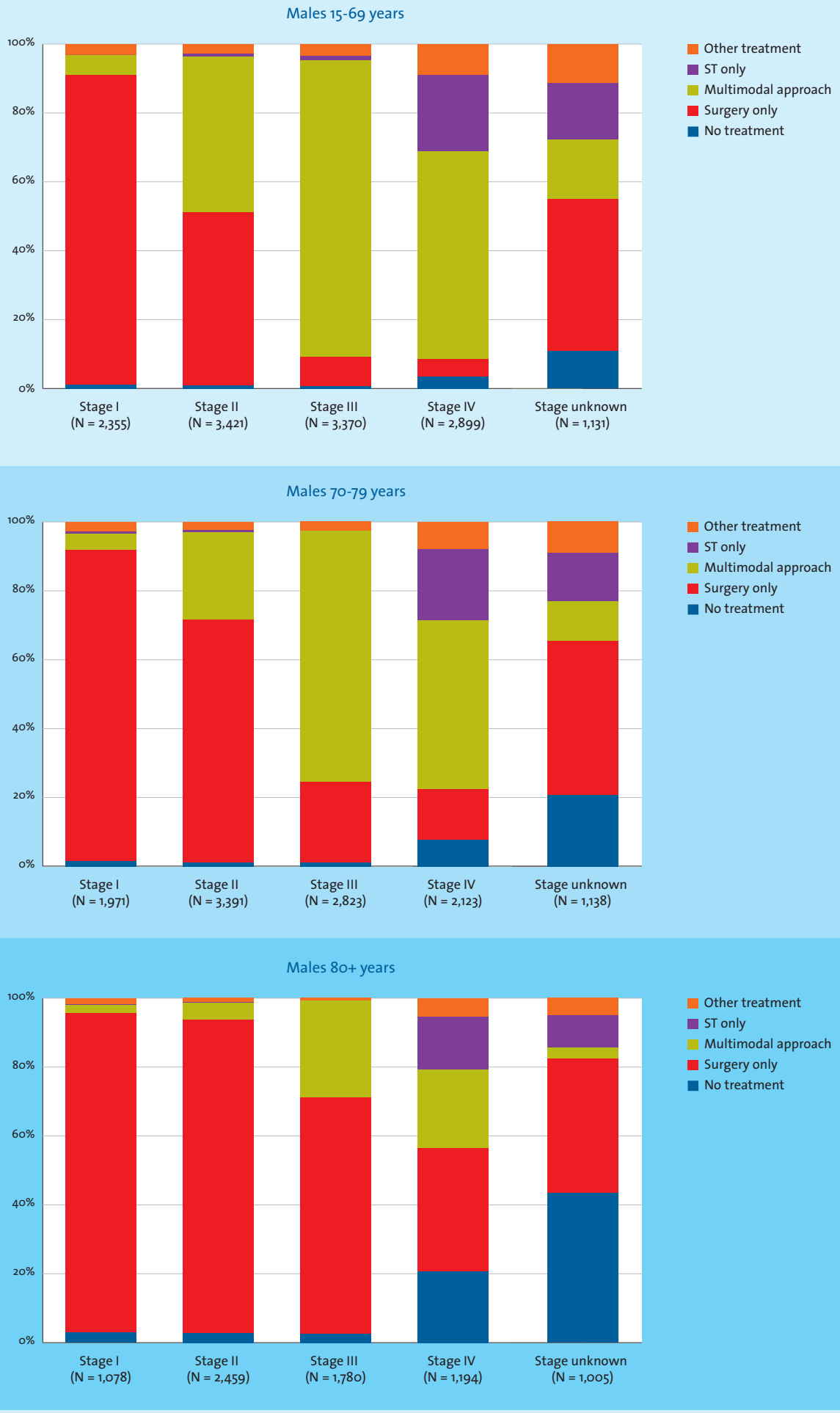
clear influence of age. In the 15-69 age group, this population represents 10.8 and 9.8% in males and females, in the 70-79 year olds 20.7 and 18.9%, and finally 43.4 and 50.1% in male and female 80+ patients. In case of the truly older patients it can therefore be assumed that when there is no stage available at the BCR, this indirectly reflects the therapeutic attitude being more conservative in general. In that way no availability of stage is the result of lack of proper staging examinations, maybe even lack of a discussion at a multidisciplinary oncological consult (MOC-COM), and ultimately is consistent with no specific tumour directed treatment (i.e. 'no treatment' group).

Differential therapeutic approach in function of combined stage: influence of age and sex (Figure 1&2)

The histograms of the different therapeutic approaches exhibit a generally similar scenario for males and females. The 15-69 and the 70-79 years subgroups are also more or less comparable. In contrast, as outlined in detail in the previous part, the distribution of therapies for the 80+ years subgroup is clearly different. Most remarkable in these truly older patients is that a pure surgical approach is more prominently present throughout all the stages (e.g. still 35.7 and 40.4% for stage IV in males and females).

In this situation, a supportive/symptomatic/palliative surgical approach (e.g. Hartmann's procedures) is frequently performed. Nevertheless, another interpretation is the generally more precarious situation of older patients by which an intentionally multimodal approach more frequently needs to be revised, resulting in waiving of systemic treatment. The high post-operative mortality rates in patients older than 80 years that were recently highlighted also affirm this hypothesis [96].

Figure 1 Cancer of the colon, Belgium 2004-2014, males: treatment (%) by age category and combined stage



Source: Belgian Cancer Registry

Figure 2 Cancer of the colon, Belgium 2004-2014, females: treatment (%) by age category and combined stage

Source: Belgian Cancer Registry

Multidisciplinary oncological consults (MOC-COM): influence of age (Table 3)

The data show that for most patients and in all age categories a MOC-COM is held within 2 months following the incidence date with proportions ranging from 56.0% to 65.6% in 2004-2009 and from 75.5% to 82.4% in 2010-2014 (**Table 3**). Altogether, a MOC-COM was organised for roughly 85% of all patients diagnosed in 2010-2014, which is remarkably higher than in 2004-2009 (approximately 65% of all patients). This is, among other causes, due to the increasing awareness that MOC-COM discussions improve the quality of cancer care by strengthening the communication between different health care professionals [97]. In addition, in 2008 and 2010 there have been changes in hospital financing. In 2008, financial compensation was added for the oncologists attending or coordinating the initial MOC-COM meetings. In 2010, financial support was also added for possible follow-up MOC-COM meetings.

There is also an influence of age. The data reveal that for older patients, it is less likely that a MOC-COM is organised (i.e. 'no MOC-COM'). This age effect is most striking from 80 years onwards and is noted in both time periods. In 2010-2014, 16.8 and 18.7% of the male and female patients in the 80+ cohort were not discussed at a MOC-COM.

Table 3 Cancer of the colon, Belgium 2004-2014: discussion in MOC-COM, by sex, age category and incidence period

Males	incidence 2004-2009						incidence 2010-2014					
	15 - 69 years (N = 6,651)		70 - 79 years (N = 6,207)		80+ years (N = 3,663)		15 - 69 years (N = 6,525)		70 - 79 years (N = 5,239)		80+ years (N = 3,853)	
MOC-COM	N	%	N	%	N	%	N	%	N	%	N	%
No MOC-COM	1,933	29.1	1,961	31.6	1,366	37.3	669	10.3	616	11.8	646	16.8
MOC-COM 0 - 2m	4,247	63.9	3,846	62.0	2,135	58.3	5,354	82.1	4,244	81.0	2,960	76.8
MOC-COM 2 - 6m	377	5.7	353	5.7	137	3.7	446	6.8	349	6.7	220	5.7
MOC-COM 6 - 9m	94	1.4	47	0.8	25	0.7	56	0.9	30	0.6	27	0.7

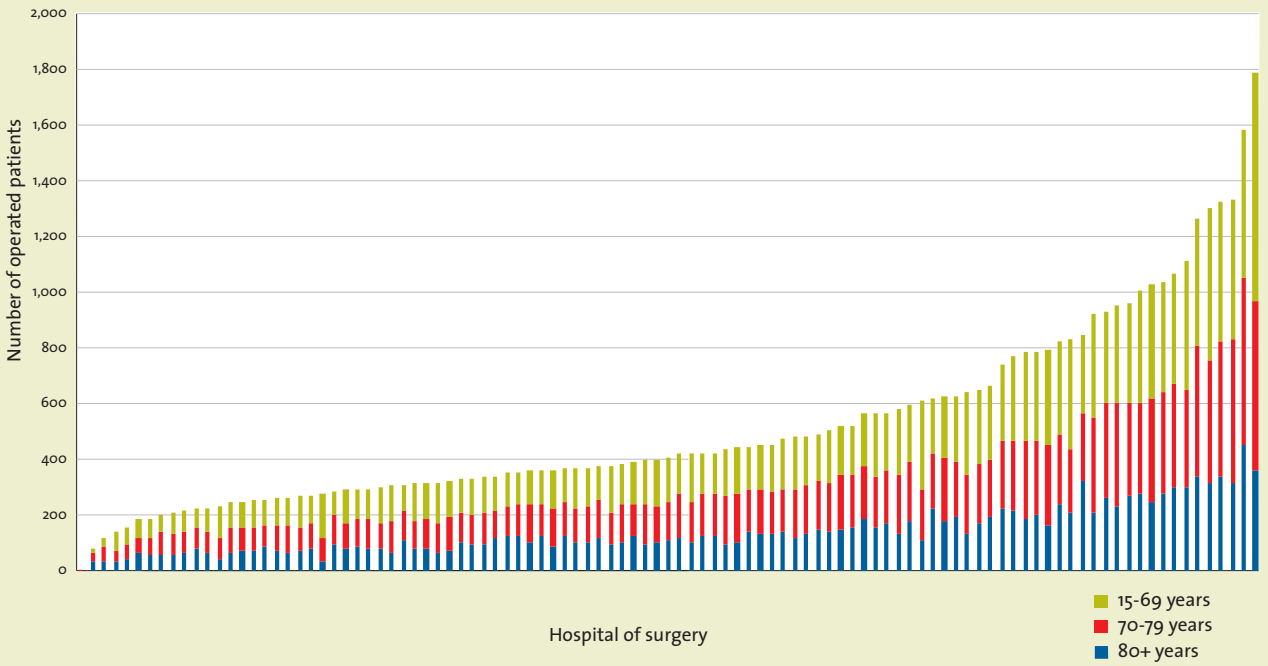
Females	incidence 2004-2009						incidence 2010-2014					
	15 - 69 years (N = 4,973)		70 - 79 years (N = 5,053)		80+ years (N = 4,992)		15 - 69 years (N = 4,732)		70 - 79 years (N = 4,030)		80+ years (N = 4,719)	
MOC-COM	N	%	N	%	N	%	N	%	N	%	N	%
No MOC-COM	1,373	27.6	1,620	32.1	1,976	39.6	474	10.0	471	11.7	881	18.7
MOC-COM 0 - 2m	3,261	65.6	3,118	61.7	2,794	56.0	3,901	82.4	3,296	81.8	3,562	75.5
MOC-COM 2 - 6m	272	5.5	276	5.5	186	3.7	334	7.1	233	5.8	251	5.3
MOC-COM 6 - 9m	67	1.3	39	0.8	36	0.7	23	0.5	30	0.7	25	0.5

Source: Belgian Cancer Registry

Surgical centre volume distribution 2004-2014: proportional age-distribution according to the volume (Figure 3, Table 4)

Centre volume distribution for colon cancer surgery in Belgium is skew (ranging from an annual minimum of 1 to a maximum of 181 operated patients per centre for the observed period) (**Table 4**). Furthermore, the data suggest that there is no trend in the range of operated patients per centre throughout the years. In practical terms, throughout the period 2004-2014, there continue to exist surgical centres that only operate a very small number of patients per year. In parallel, the maximum number of operated patients per centre increased slightly, but this can be explained by the growing population and the consequently growing absolute number of colorectal tumours over time. The proportional age-distribution of colon cancer patients treated per centre seems to be independent of the volume of the surgical centre. When expressing for each surgical centre the share of patients aged 15-69 years, 70-79 years and 80 years or older, these proportions are similar for all centres, and count for on average 37.5%, 35.0% and 27.5%, respectively (**Figure 3**). The median age of the operated colon cancer patient for the observed period is 73 years.

Figure 3 Cancer of the colon, Belgium 2004-2014: centre volume distribution of surgically treated patients, by age category



Source: Belgian Cancer Registry

Table 4 Cancer of the colon, Belgium, 2004-2014: annual centre volume distribution (all age categories combined)

All hospitals	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Min volume	5	7	8	1	5	5	4	11	5	10	8
Max volume	140	165	153	176	181	177	163	152	166	152	179
Average volume	43.5	44.9	44.8	46.3	46.7	46.8	46.6	47.7	47.7	49	46.6
Median volume	37	37	36	36	37	37	35	38	37	40	45

Source: Belgian Cancer Registry

Rectal Cancer

Surgical approach (Table 5)

Table 5 illustrates how frequently surgery is a part of the therapeutic approach in the management of rectal cancer, regardless of the stage. The surgery versus the no surgery ratio seems roughly comparable for both sexes. For patients younger than 80 years, surgery is part of the primary treatment in 85.0 to 88.6%. When the patients are older than 80 years, this proportion decreases with more than 10 percent in both sexes (72.6 and 68.3% in males and females). These results are observational and don't consider the stage distribution in the different age subgroups. The average stage distribution of rectal cancer in Belgium for 2010-2016 by age group, appears generally more or less similar in each age category (See 3.3.2.2 **Figure 4**), but in the 80+ cohort there is a small increase of unknown stages compared to the other age categories (13 and 17% in 80+ males and females versus approximately 10% in their younger counterparts in both sexes).

The proportion of radical surgery within operated rectal cancer patients is generally high in both sexes and in all age categories, ranging from 83.9 to 90.6%. However, in both sexes, a decrease of about 5% is seen in the 80+ years population.

Within the radically operated patients, age seems to influence the likelihood of a permanent stoma, i.e. approximately one out of four patients in the 15-69 years subgroup (24.7 in males and 22.3% in females) evolving to one out of three in patients older than 70 years (28.9 and 27.3% in 70-79 year olds, 31.1 and 34.3% in 80+ males and females) (**Table 5**).

Table 5 Table 5: Cancer of the rectum, Belgium 2004-2014: surgical treatment by sex and age category

	Males						Females					
	15 - 69 years (N = 7,885)		70 - 79 years (N = 4,882)		80+ years (N = 2,655)		15 - 69 years (N = 4,549)		70 - 79 years (N = 2,899)		80+ years (N = 2,621)	
	N	%	N	%	N	%	N	%	N	%	N	%
Surgery	6,983	88.6	4,236	86.8	1,927	72.6	3,996	87.8	2,463	85.0	1,791	68.3
-> LE*	655	9.4	408	9.6	311	16.1	422	10.6	265	10.8	281	15.7
-> RS**	6,328	90.6	3,828	90.4	1,616	83.9	3,574	89.4	2,198	89.2	1,510	84.3
-> RS (stoma)	1,561	24.7	1,108	28.9	503	31.1	798	22.3	599	27.3	518	34.3
-> RS (temporary / no stoma)	4,767	75.3	2,720	71.1	1,113	68.9	2,776	77.7	1,599	72.7	992	65.7
No surgery	902	11.4	646	13.2	728	27.4	553	12.2	436	15.0	830	31.7

** local excision*
*** radical surgery*

Source: Belgian Cancer Registry

Differential therapeutic approach in function of clinical/pathological stage: influence of age (Table 6, Figure 4, 5, 6 & 7)

In the following paragraphs, the different therapeutic approaches will be analysed by stage of cancer. **Table 6** shows the treatment schemes for males and females for the three consecutive age-categories and by clinical stage. **Figure 6**&**7** display the different adjuvant therapy approaches in primarily operated patients, by pathological stage. Also, an individual analysis of the 'no treatment' population is added.

Stage I rectal cancer

Stage I rectal cancer (i.e. cT1-2 No Mo) should be managed surgically conform the (inter)national guidelines [94;98-99]. According to the data (period of interest being 2004-2014) clinically stage I rectal cancer solely treated with surgery occurred in 56.5 and 54.8% (males and females), 66.1 and 65.6%, and 71.4 and 67.2% of the three consecutive age categories (**Table 6**). In a distinct subgroup of very early stage I rectal cancer, cT1No with low grade (G1/G2), local excisional procedures (e.g. transanal endoscopic microsurgery (TEM)) are appropriate as a single treatment modality [98-99]. The data in table 6 show that 24% of the pure surgically managed stage I rectal cancers refer to a local excision in the 15-69 years group, both in males and females. In the 80+ years group the proportion of local excisions increases to 29.0% in males and 37.2% in females.

Table 6 Cancer of the rectum, Belgium 2004-2014: treatment scheme by sex, age category and clinical stage

	Males																											
	15 - 69 years (N = 7,885)										70 -79 years (N = 4,882)										80+ years (N = 2,655)							
	Stage I		Stage II		Stage III		Stage IV		Stage Unknown		Stage I		Stage II		Stage III		Stage IV		Stage Unknown		Stage I		Stage II		Stage III		Stage IV		Stage Unknown	
	(N = 718)		(N = 945)		(N = 2,616)		(N = 1,208)		(N = 2,398)		(N = 519)		(N = 685)		(N = 1,357)		(N = 629)		(N = 1,692)		(N = 280)		(N = 355)		(N = 541)		(N = 305)		(N = 1,174)	
Treatment scheme	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No treatment	10	1.4	14	1.5	16	0.6	29	2.4	135	5.6	9	1.7	24	3.5	23	1.7	60	9.5	105	6.2	26	9.3	39	11.0	57	10.5	73	23.9	247	21.0
-> died within 9 months after incidence	3	30.0	4	28.6	3	18.8	25	86.2	43	31.9	2	22.2	15	62.5	15	65.2	54	90.0	62	59.0	15	57.7	21	53.8	29	50.9	59	80.8	157	63.6
Surgery only	406	56.5	64	6.8	58	2.2	30	2.5	856	35.7	343	66.1	107	15.6	101	7.4	42	6.7	725	42.8	200	71.4	123	34.6	108	20.0	53	17.4	645	54.9
-> Only LE*	96	23.6	3	4.7	7	12.1	8	26.7	339	39.6	67	19.5	4	3.7	5	5.0	6	14.3	154	21.2	58	29.0	7	5.7	9	8.3	15	28.3	135	20.9
-> Only RS**	310	76.4	61	95.3	51	87.9	22	73.3	517	60.4	276	80.5	103	96.3	96	95.0	36	85.7	571	78.8	142	71.0	116	94.3	99	91.7	38	71.7	510	79.1
Multimodal approach	263	36.6	812	85.9	2,423	92.6	515	42.6	1,139	47.5	132	25.4	502	73.3	1130	83.3	198	31.5	652	38.5	24	8.6	150	42.3	287	53.0	45	14.8	158	13.5
-> RT*** < RS	35	13.3	79	9.7	152	6.3	6	1.2	41	3.6	21	15.9	111	22.1	96	8.5	10	5.1	77	11.8	9	37.5	77	51.3	97	33.8	8	17.8	44	27.8
-> CRT**** < RS	53	20.2	254	31.3	496	20.5	43	8.3	162	14.2	27	20.5	177	35.3	386	34.2	18	9.1	110	16.9	2	8.3	38	25.3	117	40.8	3	6.7	25	15.8
-> RS < ST*****	66	25.1	78	9.6	103	4.3	173	33.6	446	39.2	37	28.0	50	10.0	51	4.5	74	37.4	262	40.2	9	37.5	8	5.3	15	5.2	24	53.3	69	43.7
-> RS < CRT	57	21.7	33	4.1	44	1.8	24	4.7	128	11.2	25	18.9	20	4.0	26	2.3	5	2.5	63	9.7	2	8.3	6	4.0	5	1.7	2	4.4	6	3.8
-> RT < RS < ST	14	5.3	59	7.3	173	7.1	46	8.9	65	5.7	8	6.1	32	6.4	60	5.3	20	10.1	42	6.4	1	4.2	10	6.7	10	3.5	4	8.9	4	2.5
-> CRT < RS < ST	38	14.4	309	38.1	1,455	60.0	223	43.3	297	26.1	14	10.6	112	22.3	511	45.2	71	35.9	98	15.0	1	4.2	11	7.3	43	15.0	4	8.9	10	6.3
ST only	0	0.0	6	0.6	13	0.5	322	26.7	112	4.7	1	0.2	5	0.7	8	0.6	154	24.5	60	3.5	1	0.4	5	1.4	4	9.3	73	23.9	29	2.5
CRT only	1	0.1	14	1.5	42	1.6	121	10.0	40	1.7	6	1.2	19	2.8	43	3.2	53	8.4	42	2.5	4	1.4	6	1.7	20	3.7	24	7.9	17	1.4
Other treatment******	38	5.3	35	3.7	64	2.4	191	15.8	116	4.8	28	5.4	28	4.1	52	3.8	122	19.4	108	6.4	25	8.9	32	9.0	65	12.0	37	12.1	78	6.6

** Local Excision*
*** Radical surgery*
**** Radiotherapy*
***** Chemoradiotherapy*
****** Systemic therapy*
******* RT<LE; CRT<LE; ST<LE; LE<ST; LE< RT; LE<CRT; RT<LE<ST; CRT<LE<ST; ST<LE<ST; ST<LE<CRT; ST<LE<RT; ST<RS; RS<RT; ST<RS<ST; CRT<RS<CRT; RT<RS<CRT; ST<RS<CRT; CRT<RS<RT; RT<RS<RT; RT*

Source: Belgian Cancer Registry

Table 6 Cancer of the rectum, Belgium 2004-2014: treatment scheme by sex, age category and clinical stage

	Females																											
	15 - 69 year (N = 4,549)										70 -79 years (N = 2,899)										80+ years (N =2,621)							
	Stage I		Stage II		Stage III		Stage IV		Stage Unknown		Stage I		Stage II		Stage III		Stage IV		Stage Unknown		Stage I		Stage II		Stage III		Stage IV		Stage Unknown	
	(N = 434)		(N = 501)		(N = 1,438)		(N = 649)		(N = 1,527)		(N = 331)		(N = 355)		(N = 776)		(N = 365)		(N = 1,072)		(N = 244)		(N = 351)		(N = 498)		(N = 285)		(N = 1,243)	
Treatment scheme	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No treatment	8	1.8	4	0.8	16	1.1	23	3.5	89	5.8	4	1.2	12	3.4	15	1.9	39	10.7	69	6.4	29	11.9	65	18.5	48	9.6	98	34.4	312	25.1
-> died within 9 months after incidence	2	25.0	1	25.0	4	25.0	14	60.9	18	20.2	1	25.0	8	66.7	8	53.3	33	84.6	46	66.7	15	51.7	38	58.5	35	72.9	86	87.8	218	69.9
Surgery only	238	54.8	48	9.6	30	2.1	7	1.1	631	41.3	217	65.6	65	18.3	56	7.2	28	7.7	473	44.1	164	67.2	126	35.9	134	26.9	40	14.0	654	52.6
-> Only LE*	58	24.4	0	0.0	1	3.3	0	0.0	276	43.7	66	30.4	4	6.2	6	10.7	5	17.9	121	25.6	61	37.2	14	11.1	6	4.5	4	10.0	133	20.3
-> Only RS**	180	75.6	48	100.0	29	96.7	7	100.0	355	56.3	151	69.6	61	93.8	50	89.3	23	82.1	352	74.4	103	62.8	112	88.9	128	95.5	36	90.0	521	79.7
Multimodal approach	174	40.1	414	82.6	1303	90.6	274	42.2	658	43.1	87	26.3	248	69.9	639	82.3	102	27.9	408	38.1	30	12.3	110	31.3	239	48.0	36	12.6	148	11.9
-> RT*** < RS	20	11.5	36	8.7	66	5.1	1	0.4	22	3.3	14	16.1	46	18.5	75	11.7	5	4.9	40	9.8	15	50.0	54	49.1	95	39.7	3	8.3	55	37.2
-> CRT**** < RS	29	16.7	112	27.1	283	21.7	21	7.7	92	14.0	11	12.6	95	38.3	221	34.6	10	9.8	73	17.9	4	13.3	25	22.7	83	34.7	6	16.7	31	20.9
-> RS < ST*****	41	23.6	43	10.4	53	4.1	102	37.2	264	40.1	21	24.1	25	10.1	29	4.5	46	45.1	174	42.6	7	23.3	13	11.8	19	7.9	19	52.8	48	32.4
-> RS < CRT	46	26.4	21	5.1	22	1.7	6	2.2	98	14.9	28	32.2	13	5.2	10	1.6	4	3.9	43	10.5	3	10.0	2	1.8	4	1.7	2	5.6	2	1.4
-> RT < RS < ST	6	3.4	29	7.0	86	6.6	21	7.7	31	4.7	8	9.2	14	5.6	33	5.2	7	6.9	19	4.7	1	3.3	6	5.5	18	7.5	2	5.6	6	4.1
-> CRT < RS < ST	32	18.4	173	41.8	793	60.9	123	44.9	151	22.9	5	5.7	55	22.2	271	42.4	30	29.4	59	14.5	0	0.0	10	9.1	20	8.4	4	11.1	6	4.1
ST only	1	0.2	6	1.2	4	0.3	175	27.0	60	3.9	0	0.0	7	2.0	5	0.6	106	29.0	43	4.0	1	0.4	4	1.1	3	0.6	54	18.9	25	2.0
CRT only	1	0.2	9	1.8	41	2.9	74	11.4	25	1.6	4	1.2	10	2.8	29	3.7	36	9.9	24	2.2	1	0.4	10	2.8	22	4.4	19	6.7	11	0.9
Other treatment******	12	2.8	20	4.0	44	3.1	96	14.8	64	4.2	19	5.7	13	3.7	32	4.1	54	14.8	55	5.1	19	7.8	36	10.3	52	10.4	38	13.3	93	7.5

** Local Excision*
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****** Systemic therapy*
******* RT<LE; CRT<LE; ST<LE; LE<ST; LE< RT; LE<CRT; RT<LE<ST; CRT<LE<ST; ST<LE<ST; ST<LE<CRT; ST<LE<RT; ST<RS; RS<RT; ST<RS<ST; CRT<RS<CRT; RT<RS<CRT; ST<RS<CRT; CRT<RS<RT; RT<RS<RT; RT*

Source: Belgian Cancer Registry

According to the national guidelines, neoadjuvant therapy is recommended in all cases of non-metastatic rectal cancer, except for the patients with T1-2 rectal cancer in whom an adequate total mesorectal excision (TME) is performed [94;98;100]. For the period 2004-2014, a multimodal approach (i.e. any combination of surgery with radiotherapy and/or systemic treatment) was documented in 36.6 and 40.1% of clinically stage I males and females aged 15-69 years. This proportion decreases to 8.6 and 12.3% for the males and females older than 80 years. This amount is substantial (especially in the younger population) and does not seem conform the previously stated guidelines. For the clinically stage I patients who received a multimodal approach, the respective pathological stages were therefore analysed. In 21.7%, 38.0% and 1.9% of the 'clinical' stage I cases, the corresponding registered 'pathological' were stage II, III and IV, respectively (data not shown). This means that in more than 60% of these at first sight seemingly over-treated clinical stage I rectal cancers, based on the pathological stage, a multimodal approach was indeed indicated. Nevertheless, an upfront neo-adjuvant approach (which is decided based upon clinical staging) was practiced in 19.5 and 20.1% of clinical stage I males and females younger than 70 years (**Table 6**). In these cases, one can assume that either there were clinical arguments in favour to treat more aggressively, but also the possibility of misclassification has to be taken into account to explain these numbers.

Stage II rectal cancer

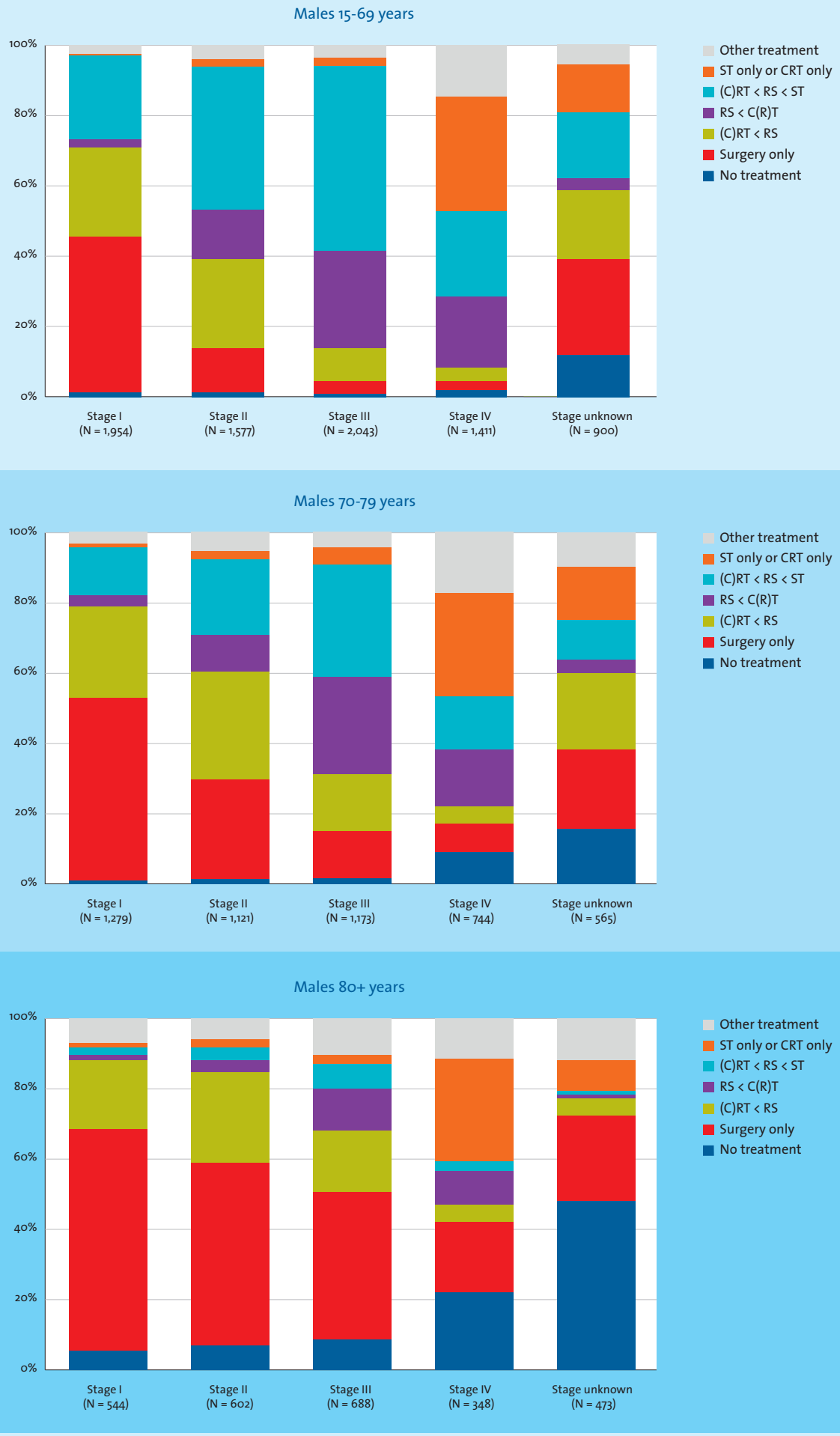
According to the national guidelines and if no metastases are found, the patient is oriented to surgery. In patients with operable rectal cancer, preoperative (chemo-)radiotherapy should be considered [94;98;100].

In clinically stage II disease (i.e. cT3-4 No Mo), the data show a prominent decrease of the 'surgery only' proportion (**Figure 4**&**5**). However, an explicit influence of age is observed. The data demonstrate that in the three consecutive age categories, 6.8 and 9.6% (males and females aged 15-69 years), 15.6 and 18.3% (males and females aged 70-79 years), and finally in the truly older patients 34.6 and 35.9% (males and females aged 80+) were managed pure surgically (**Table 6**).

Indeed, a multimodal approach in general (i.e. any combination of surgery with radiotherapy and/or systemic treatment) in clinical stage II rectal cancer is offered to 85.9% males and 82.6% females aged 15-69 years. In persons older than 80 years, these proportions drop to 42.3% in males and 31.3% in females (**Table 6**).

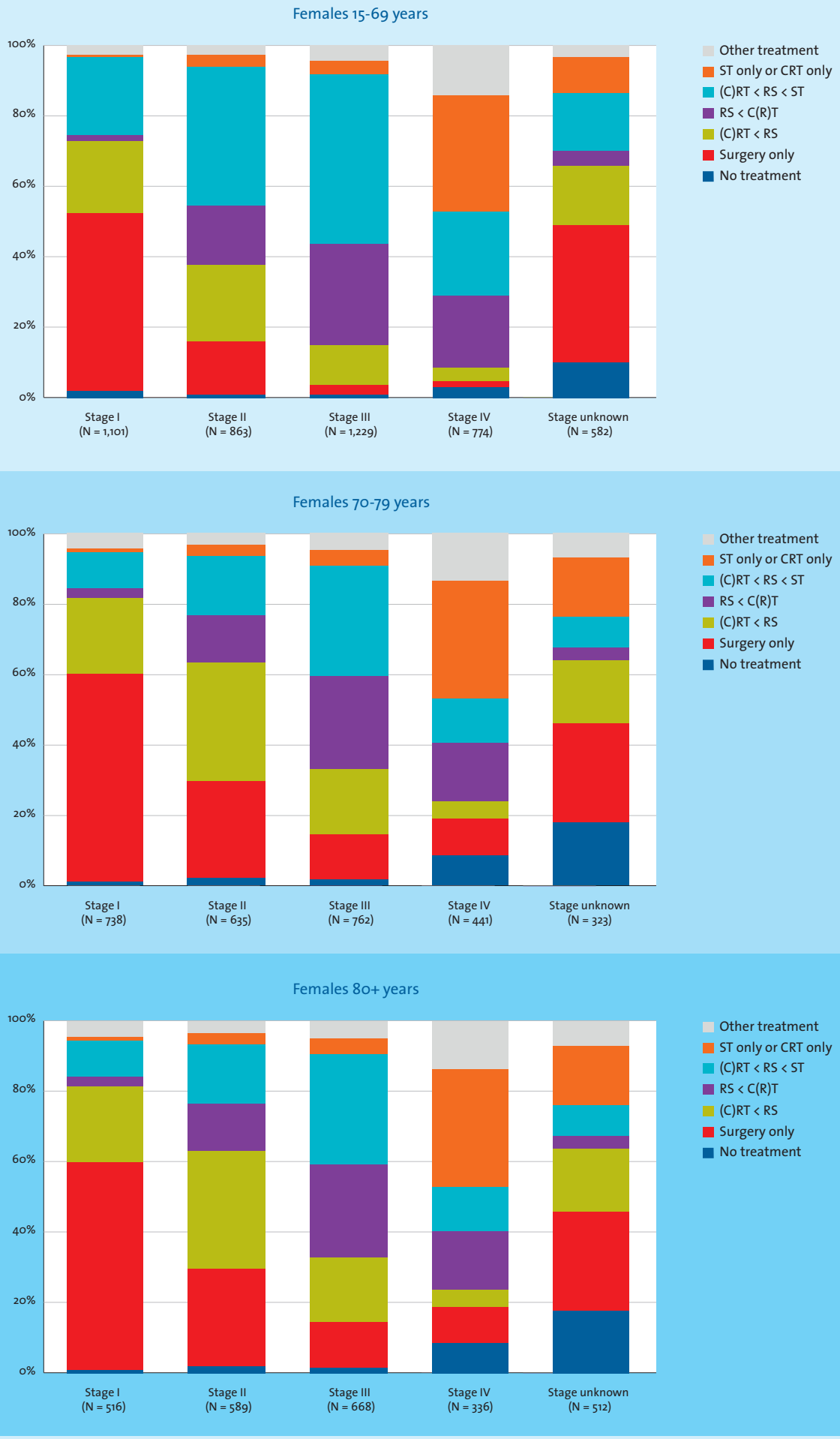
When focusing on the therapeutic choice to start preoperative (chemo-)radiotherapy (i.e. neoadjuvant (chemo-)radiotherapy) in clinical stage II rectal cancer, a comparable impact of age is noted. Neoadjuvant (chemo-)radiotherapy is prescribed at least twice as much in the age group younger than 70 years (74.2 and 69.9% in males and females) compared to the older counterpart (27.6 and 27.0% in males and females older than 80 years) (**Figure 4**&**5**).

Figure 4 Cancer of the rectum, Belgium 2004-2014, males: treatment (%) by age category and clinical stage



Source: Belgian Cancer Registry

Figure 5 Cancer of the rectum, Belgium 2004-2014, females: treatment (%) by age category and clinical stage



Source: Belgian Cancer Registry

The choice to add adjuvant (chemo-)radiotherapy (regardless of previous neoadjuvant treatment) after surgery appears even more subject to age than the choice to start upfront neoadjuvant therapy. This phenomenon is already seen above the age of 70 years, but manifestly beyond 80 years (**Figure 4**&**5**). In pathological stage II rectal cancer patients aged 15-69 years, in 63% of both males and females adjuvant therapy is prescribed, compared to 39 and 37% (males and females) in the 70-79 age-group, and 10 and 11% (males and females) in the patients older than 80 years (**Figure 6**&**7**). These findings are in line with the national guidelines, as the decision to add adjuvant chemotherapy in stage II rectal cancer should be based on risk assessment which also considers the age of the patient [94;98].

Stage III rectal cancer

A multimodal approach in clinical stage III rectal cancer was offered to 92.6 and 90.6% of the males and females aged 15-69 years. These numbers evolve to 53.0% in males and 48.0% in females older than 80 years (**Table 6**).

Neoadjuvant (chemo-)radiotherapy was prescribed in 87.0 and 85.4% (males and females) in the age group younger than 70 years, compared to 49.2 and 43.4% of the males and females older than 80 years (**Figure 4**&**5**). This observation illustrates that the impact of age on the decision to start preoperative treatment is clearly smaller in the context of clinical stage III compared to stage II rectal cancer.

Figure 6 Cancer of the rectum, Belgium 2004-2014, males: treatment schemes for operated patients, by age category and pathological stage (II and II)

Source: Belgian Cancer Registry

Figure 7 Cancer of the rectum, Belgium 2004-2014, females: treatment schemes for operated patients, by age category and pathological stage (II and III)

Source: Belgian Cancer Registry

According to the guidelines, stage III rectal cancer is a strong indication for adjuvant chemotherapy (if no major contraindication) [94;98]. In pathological stage III rectal cancer patients aged 15-69 years, in 89 and 91% of males and females adjuvant therapy (with or without neoadjuvant therapy) is prescribed, compared to 71 and 69% (males and females) in the 70-79 age-group, and 27 and 24% (males and females) in the patients older than 80 years (**Figure 6**&**7**). Thus, it could be concluded that the influence of age on the decision to add adjuvant (chemo-)radiotherapy (regardless of previous neoadjuvant treatment) after surgery in stage III rectal cancer is in the same order of magnitude as in stage II.

Focusing on the 80+ cohort, a discrete disparity between the sexes concerning the administration of systemic treatment (as defined in the Methods section) was observed. In stage III, 13.3% of the males compared to 12.0% of the females were treated with 'systemic therapy only' or received a multimodal approach comprising systemic therapy (**Table 6**). If these percentages were added up with the proportions of patients that received chemoradiotherapy (as part of multimodal approach or 'Chemoradiotherapy only'), a clearer difference between the sexes was found. In stage III, these proportions were 39.6% in males compared to 33.9% in females.

Stage IV rectal cancer

In line with the management of colon cancer, the approach of metastatic rectal cancer is divers. Also, similarly, an important element in the decision process is the possible resectability of metastases [94;98;100]. The data do not allow us to make a distinction in the stage IV patients based on the resectability of metastases. The analyses did not take metastasis-directed surgery into account and 'surgery' always refers to primary-tumour directed surgery. In a stage IV population, a primary-tumour directed surgery could either represent a more aggressive radical approach, or conversely, indicate a more sup-

portive or symptomatic intent. Another possible explanation is the more delicate situation of older patients by which an intentionally multimodal approach more frequently needs to be revised, resulting in the exclusion of systemic treatment [96]. In general, chemotherapy is advised, the choice of regimen based on the performance status [94;98;100].

Age beyond 80 years seems to introduce diversity in the management. In the population younger than 80 years, a multimodal approach is clearly prioritized for stage IV (ranging from 27.9 to 42.6% in both sexes), with 'systemic treatment only' as second pillar (counting for 26.7 to 29.0%). In patients of 80 years and older, therapeutic strategies are more dispersed. The landscape covers 'systemic treatment only' (23.9 and 18.9% in males and females), 'surgery only' (17.4 and 14.0%), a multimodal approach (14.8 and 12.6%), and finally 'no treatment' (23.9 and 34.4%) (**Table 6**).

No active treatment

The decision 'not to treat' clearly appears subject to age. Already in stage I-III rectal cancer, at least one out of ten patients (range 9.3 to 18.5% overriding the stages and in both sexes) in the 80+ years group doesn't receive any treatment (**Table 6**). In the younger age groups, this proportion is about 1-4%.

In stage IV disease, age older than 70 years seems a first tipping point with roughly 10% of the population waiving any treatment (compared to approximately 3% in their younger counterparts). In the 80+ years group, this category represents 23.9 and 34.4% of the males and females (**Table 6**).

Additionally, regardless of their age, more than 80% of stage IV rectal cancer patients renouncing treatment, died within 9 months after diagnosis.

As explained in the section on colon cancer, 'no active anti-tumour therapy' evidently does not mean that these patients did not receive any treatment. Analyses did not take into account supportive care measures for instance, but evidently, they are an invaluable part of cancer treatment.

Stage unknown

Regardless of age, a substantial proportion of rectal cancer without available clinical stage is managed with 'surgery only' (range 35.7 to 54.9% overriding the age categories and in both sexes) (**Table 6, Figure 4**&**5**). Analogous to the findings in colon cancer, when analysing the type of surgery performed, the percentage of local excisions is generally higher in this population (range 20.3 to 43.7%) in comparison to the population with available stage (**Table 6**). Given the higher amount of local excisions or polypectomies, this group without available clinical stage, seems to partially cover less advanced diseases.

On the other hand, a multimodal treatment was prescribed in about 40% (range 38.1 to 47.5% looking at both sexes) of the patients younger than 80 years registered at the BCR with unknown clinical stage, indicating that these patients presumably had more advanced disease (**Table 6**).

In the 80+ cohort, renouncement of therapy represents 21.0 and 25.1% in males and females for which no stage is available (**Table 6**). In this context, the lack of information on clinical stage could be interpreted within a more general renouncement of medical attention (see also section on colon cancer).

Differential therapeutic approach in function of clinical stage: general influence of age and sex (Figure 4&5)

The histograms of the different therapeutic approaches by clinical stage according to age, reveal no significant differences between the management of rectal cancer in males and females.

Furthermore, the 15-69 and the 70-79 years subgroups are roughly comparable, in contrast with the distribution of therapies for the 80+ years subgroup. A shift is noted of predominantly multimodal therapeutic variants in the younger population to a situation where a pure surgical approach together with abstinence of treatment is more prevailing in the older patients.

Multidisciplinary oncological consult (MOC-COM): influence of age (Table 7)

Regardless of age a substantial increase in systematic MOC-COM is observed. In 2010-2014, in >90% and >80% of the population younger and older than 80 years, respectively, a MOC-COM was organized. However, patients of 80 years and older remain more undiscussed at MOC-COM than the rest of the population for both defined incidence periods (2004-2009 and 2010-2014). These findings are in line with those of patients with colon cancer.

Table 7 Cancer of the rectum, Belgium 2004-2014: discussion in MOC-COM, by sex, age category and incidence period

Males	incidence 2004-2009						incidence 2010-2014					
	15 - 69 years (N = 3,961)		70 - 79 years (N = 2,654)		80+ years (N = 1,331)		15 - 69 years (N = 3,924)		70 - 79 years (N = 2,228)		80+ years (N = 1,324)	
MOC-COM	N	%	N	%	N	%	N	%	N	%	N	%
No MOC-COM	965	24.4	662	24.9	486	36.5	327	8.3	175	7.9	185	14.0
MOC-COM 0 - 2m	2,361	59.6	1,610	60.7	733	55.1	3,045	77.6	1,746	78.4	1,017	76.8
MOC-COM 2 - 6m	577	14.6	351	13.2	105	7.9	508	12.9	284	12.7	113	8.5
MOC-COM 6 - 9m	58	1.5	31	1.2	7	0.5	44	1.1	23	1	9	0.7

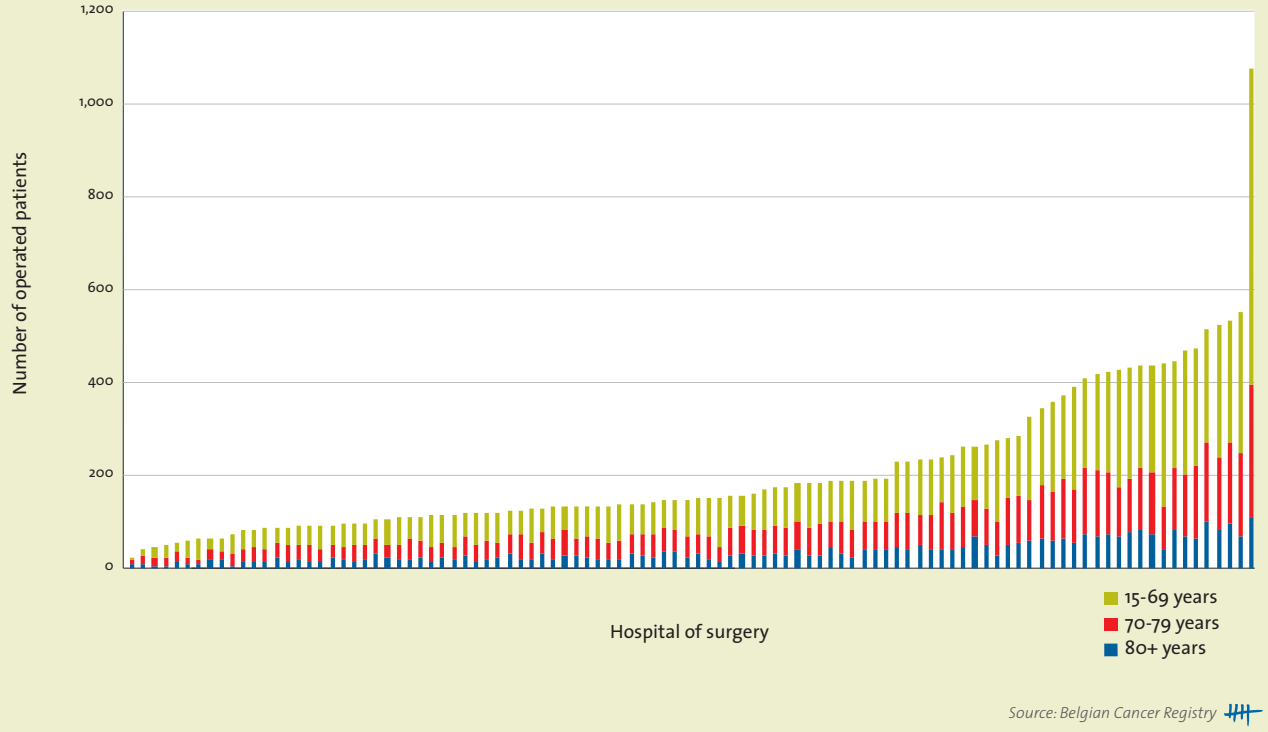
Females	incidence 2004-2009						incidence 2010-2014					
	15 - 69 years (N = 2,376)		70 - 79 years (N =1,642)		80+ years (N = 1,379)		15 - 69 years (N = 2,173)		70 - 79 years (N = 1,257)		80+ years (N = 1,242)	
MOC-COM	N	%	N	%	N	%	N	%	N	%	N	%
No MOC-COM	582	24.5	471	28.7	516	37.4	199	9.2	105	8.4	211	17.0
MOC-COM 0 - 2m	1,411	59.4	951	57.9	754	54.7	1,692	77.9	979	77.9	921	74.2
MOC-COM 2 - 6m	354	14.9	209	12.7	102	7.4	258	11.9	163	13	100	8.1
MOC-COM 6 - 9m	29	1.2	11	0.7	7	0.5	24	1.1	10	0.8	10	0.8

Source: Belgian Cancer Registry

Surgical centre volume distribution 2004-2014: proportional age-distribution according to the volume (Figure 8, Table 8)

Centre distribution for rectal cancer surgery in Belgium is skew (ranging from an annual minimum of 1 to a maximum of 114 operated patients per centre for the observed period). Looking at the evolution of this range in number of operated patients per centre throughout the years, there seem to continue to exist surgical centres that only operate a very small number of patients per year (**Table 8**). The maximum number of operated patients per centre seems to have grown over the years, albeit not exponentially. The proportional age-distribution of rectal cancer patients treated per centre in general seems to be independent of the volume of the surgical centre. When calculating for each surgical centre, the share of patients aged 15-69 years, 70-79 years and 80 years or older, a discrete difference between the 'smaller' and 'larger' volume centres is observed (data not shown). The average proportions in the smaller centres are 48.0%, 32.7% and 19.2%, for the three consecutive age categories. In the larger centres, the average distribution was 50.9%, 31.6% and 17.5% respectively. The median age of the surgically treated rectal cancer patient for the observed period is 69 years.

Figure 8 Cancer of the rectum, Belgium 2004-2014: centre volume distribution of surgically treated patients, by age category



Source: Belgian Cancer Registry

Table 8 Cancer of the rectum, Belgium 2004-2014: annual centre volume distribution (all age categories combined)

All hospitals	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Min volume	1	2	2	1	2	1	1	1	2	1	2
Max volume	81	93	81	91	105	98	114	110	98	102	106
Average volume	16.8	17.6	18.9	18.9	19.5	18.9	19.3	19	19.4	19.6	20.9
Median volume	13	13	13	15	14	15	14	15	15	14	16

Source: Belgian Cancer Registry

4.2.4 Conclusions

This chapter aimed to describe the real-world clinical management of older patients (≥ 70 years) with colon and rectal cancer compared to younger patients (15 – 69 years) in Belgium. The comparisons were made for each cancer type (colon and rectal cancer) based on cancer treatment, discussion of the cancer cases during MOC-COM and (briefly) the surgical centres.

- The data presented in this chapter are population-based and provide an overview of the Belgian situation for the period of interest (2004-2014). These analyses are based on coupling the cancer registration data with reimbursement data gathered by IMA-AIM. The right selection of nomenclature codes of interest (regarding surgery, radiotherapy, systemic therapy etc.) is crucial to enable this research. Several limiting factors such as completeness and evolution of nomenclature codes in time should be kept in mind when interpreting results.
- Generally, the results demonstrate that the sex of the patient almost never influences the therapeutic approach for patients with colon or rectal cancer.
- The proportional age-distribution of colorectal cancer patients treated per surgical centre seems to be independent of the volume of the centre. In general, surgical centres that only operate a very small number of colorectal patients per year seem to continue to exist over the studied period.
- Both in the management of colon and rectal cancer, surgery is part of the therapeutic strategy for the majority of patients, regardless of the stage. However, the 'no surgery' proportion of patients increases with age, and appears approximately 5 (colon) to 10% (rectum) higher in patients older than 80 years compared to younger patients. This observation can be explained by various factors. For example, differences in stage distribution according to age-groups, the operability of the patients (existence of comorbid conditions), the individual wish of the patients, etc.
- For rectal cancer, a 5% higher proportion of local excisions is observed in the older patients when compared to younger patients. Moreover, data demonstrate an increased likelihood of a permanent stoma in the 70+ patient population. These observations are in line with other publications [101-102]. It should be noticed that Hartmann's operations, currently mainly performed for palliative intentions, were included in the analysis as 'permanent stoma surgery'. This could explain the increased proportion of permanent stoma in the older patients.
- Compared to surgery-based uniformity in clinical stage I colon cancer, data show that the management of clinical stage I rectal cancer appears more diverse and especially more multimodal. These results are not in line with our national recommendations [94-95;98;100]. Additional analysis showed that at least 60% of the seemingly overtreated clinical stage I rectal cancers in fact were documented with more advanced pathological stages, justifying a multimodal treatment. Still, an upfront neo-adjuvant approach was practiced in about 20% of clinical stage I patients younger than 70 years. A possible explanation can be that there were clinical arguments in favour to treat more aggressively, but also the possibility of misclassification of the tumour (i.e. wrong clinical stage reporting) has to be taken into account to explain these numbers. Clearly, thorough future research is needed in order to gain more insight in the treatment decisions made.
- In deciding whether to add adjuvant therapy to the local treatment of locally advanced (stage II-III) colorectal cancer, age plays an important role. A young age facilitates this approach whereas older age tends to preclude it. The importance of adequate selection criteria for adjuvant (chemo)therapy is an actual and crucial issue [103].
- Neoadjuvant (chemo-)radiotherapy is essential in the management of locally advanced rectal cancer (clinical stages II-III). It is prescribed in at least 80% of the population younger than 80 years. In this age group, neoadjuvant treatment is offered twice as much when compared to the older counterparts.
- The data demonstrate that at older ages, purely surgical approaches are more represented, regardless of the stage. This finding is even more pronounced in colon cancer than in rectal cancer. As mentioned before, in this situation, a supportive/symptomatic/palliative intervention (e.g. Hartmann's procedures) needs to be kept in mind. Nevertheless, another interpretation is the generally more precarious situation of older patients by which an intentionally multimodal approach more frequently needs to be revised, resulting in waiving of systemic treatment. The high post-operative mortality rates in patients older than 80 years that were recently highlighted also affirm this hypothesis [96].

- The general consensus of previous studies that older patients with colorectal cancer receive a different approach compared to younger patients is affirmed by the results [102;104]. Data show that older patients are often treated less aggressively, as illustrated in terms of the preferred type of surgery, the choice of an (neo)adjuvant approach, the option to renounce treatment.
- Renouncement of therapy is obviously more present in the older patients, especially in stage IV disease. Moreover, the decision not to treat appears a more represented strategy in females compared to males (in stage IV rectal cancer: 23.9% in males versus 34.4% in females; in stage IV colon cancer: 20.7% in males versus 25.9% in females).
- The vast majority of colorectal cancer patients is discussed at a MOC-COM. Patients of 80 years and older remain more often undiscussed at a MOC-COM. In 2010-2014 in >90% of the population younger and >80% of the 80+ population, a MOC-COM was implemented.

5 Appendix: Cancer burden in Belgium (2016)

Belgium: Males, number of invasive tumours by primary site and age group in 2016

Belgium: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C00	Lip	37	-	-	-	-	-	-	-	-	1	1	3	2	3	9	4	7	4	3
C01	Base of tongue	124	1	-	-	-	-	-	-	-	1	5	18	16	26	23	13	9	9	3
C02	Tongue	178	-	-	-	-	1	2	1	-	6	14	14	29	36	37	13	15	8	2
C03	Gum	54	-	-	-	-	-	-	-	-	-	1	3	9	12	7	7	6	3	6
C04	Floor of mouth	123	-	-	-	-	-	-	-	1	1	12	12	22	24	26	14	5	3	3
C05	Palate	76	-	1	-	-	-	1	-	-	3	1	12	17	16	9	6	6	2	2
C06	Mouth, NOS	63	-	-	-	-	-	-	1	-	2	3	8	11	12	6	10	5	3	2
C07	Parotid gland	69	-	-	-	-	1	2	2	1	2	6	7	4	3	15	7	3	12	4
C08	Salivary glands, NOS	16	-	-	-	-	-	1	-	1	-	1	2	2	4	1	1	1	-	2
C09	Tonsil	209	-	-	-	-	-	-	-	-	1	11	37	43	43	31	22	12	6	3
C10	Oropharynx	152	-	-	-	-	-	-	-	1	3	5	22	28	38	24	17	10	4	-
C11	Nasopharynx	45	1	-	1	-	-	-	1	3	6	6	3	4	8	6	4	2	-	-
C12	Pyriform sinus	165	-	-	-	-	-	-	-	1	2	3	13	30	35	43	23	8	7	-
C13	Hypopharynx	72	-	-	-	-	-	-	-	-	1	2	9	8	16	14	13	6	3	-
C14	Lip, oral cavity and pharyn,x NOS	17	-	-	-	-	-	-	-	-	-	-	1	3	3	6	4	-	-	-
C15	Oesophagus	802	-	-	-	-	-	-	-	4	3	24	62	98	145	157	98	87	75	49
C16	Stomach	853	-	-	-	-	1	3	1	8	19	24	43	94	110	101	118	115	114	102
C17	Small intestine	208	-	-	-	-	-	2	2	4	7	14	11	22	25	30	35	21	25	10
C18	Colon	3,130	-	1	7	5	1	4	13	13	26	66	105	228	373	462	547	481	469	329
C19	Rectosigmoid junction	94	-	-	-	-	-	-	-	1	1	5	4	12	13	21	9	9	13	6
C20	Rectum	1,490	-	-	1	-	2	5	6	14	22	43	78	150	196	242	237	195	176	123
C21	Anus and anal canal	71	-	-	-	-	-	1	1	1	2	-	6	6	14	11	9	7	7	6
C22	Liver and intrahepatic bile ducts	668	4	-	-	-	-	-	3	3	13	13	35	59	111	137	118	76	64	32
C23	Gallbladder	30	-	-	-	-	-	-	-	-	-	-	1	2	-	3	7	5	7	5
C24	Biliary tract, NOS	209	-	-	-	-	-	-	1	1	8	9	10	17	22	28	31	34	26	22
C25	Pancreas	888	-	-	-	1	-	-	2	5	9	25	56	64	112	141	136	146	110	81
C26	Other ill-defined digestive organs	33	-	-	-	-	-	-	-	-	-	-	1	2	5	8	6	3	4	4
C30	Nasal cavity and middle ear	34	-	-	-	-	-	-	1	-	1	1	4	5	5	5	4	3	2	3
C31	Accessory sinuses	61	-	-	-	-	1	-	2	2	2	2	5	10	10	7	7	3	6	4
C32	Larynx	510	-	-	-	-	-	-	-	4	7	17	35	70	87	104	76	52	29	29
C33	Trachea	5	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	1	1	1
C34	Bronchus and lung	5,439	-	-	-	1	2	-	7	16	29	89	277	471	819	962	929	844	619	374
C37	Thymus	29	-	-	-	-	-	-	-	2	2	-	5	4	1	8	2	1	4	-
C38	Heart, mediastinum and pleura	30	1	-	-	-	-	-	-	-	2	1	2	2	3	2	4	7	3	3
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	37	-	1	7	4	5	1	3	3	4	2	-	2	2	2	-	-	1	-
C41	Bone and articular cartilage, NOS	40	-	-	-	-	2	3	1	4	2	2	4	4	4	4	2	5	1	2
C43	Malignant melanoma of skin	1,283	-	-	-	4	11	18	34	41	68	112	115	128	154	160	152	116	101	69
C44	Malignant neoplasms of skin	4,418	1	-	-	-	3	7	8	10	20	45	97	135	227	384	615	829	904	1,133

Belgium: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C45	Mesothelioma	217	-	-	-	-	-	-	-	1	-	3	2	7	26	33	37	50	33	25
C46	Kaposi's sarcoma	39	-	-	-	-	1	-	1	5	4	2	3	5	3	4	4	1	1	5
C47,C49	Soft tissues	198	6	-	4	2	3	1	3	9	12	10	9	13	20	26	20	20	17	23
C48	Retroperitoneum and peritoneum	22	1	1	-	-	-	-	-	1	-	3	1	2	5	3	2	2	1	-
C50	Breast	111	-	-	-	-	-	-	1	-	1	5	3	11	11	19	16	13	17	14
C60	Penis	94	-	-	-	-	-	-	1	-	2	4	3	12	10	12	18	15	13	4
C61	Prostate	9,050	-	-	-	-	-	-	-	1	14	87	335	816	1,349	1,955	1,634	1,391	958	510
C62	Testis	403	4	-	-	13	34	78	107	47	43	33	13	14	5	4	5	3	-	-
C63	Male genital organs, NOS	15	-	-	-	-	-	-	-	-	-	1	2	2	2	3	-	2	-	3
C64	Kidney	1,182	9	4	-	-	-	2	8	18	35	53	89	124	149	220	176	125	101	69
C65	Renal pelvis	133	-	-	-	-	-	-	-	-	1	4	6	7	8	22	18	30	26	11
C66	Ureter	118	-	-	-	-	-	-	-	-	-	-	3	6	8	20	22	27	23	9
C67	Bladder	1,841	1	-	-	-	-	-	1	6	15	25	61	108	159	265	318	311	314	257
C68	Urinary organs, NOS	53	-	-	-	-	-	-	-	1	-	-	1	3	5	8	11	7	8	9
C69	Eye and adnexa	71	9	-	-	1	-	-	-	3	1	1	8	-	12	4	11	7	6	8
C70	Meninges	10	-	-	-	-	-	-	-	-	-	-	-	1	-	1	2	3	-	3
C71	Brain	501	7	7	15	5	9	13	17	19	26	22	38	50	65	63	52	42	32	19
C72	Spinal cord, cranial nerves and CNS, NOS	20	1	-	-	2	1	2	1	2	3	-	3	2	1	2	-	-	-	-
C73	Thyroid gland	266	-	-	-	2	5	8	4	16	13	32	28	30	34	39	24	17	8	6
C74	Adrenal gland	36	3	-	-	-	-	-	3	2	2	4	4	2	5	6	4	-	1	-
C75	Endocrine glands, NOS	18	-	-	2	2	-	1	-	1	5	1	2	1	-	3	-	-	-	-
C81	Hodgkin lymphoma	210	2	4	4	15	21	22	14	9	13	15	12	15	23	14	10	5	7	5
C82-C86	Non-Hodgkin lymphoma	1,138	1	2	3	13	7	14	20	25	39	47	57	80	117	141	185	137	142	108
C88	Malignant immunoproliferative diseases	207	-	-	-	1	-	1	4	5	4	2	17	18	24	31	29	30	31	10
C90	Multiple myeloma	501	-	-	-	-	-	-	3	6	5	19	24	46	48	64	96	81	59	50
C91	Lymphoid leukaemia	673	26	16	7	9	10	5	3	7	12	22	41	60	81	83	91	68	86	46
C92	Myeloid leukaemia	359	2	1	2	6	5	9	6	9	11	13	24	27	43	44	43	47	36	31
C93	Monocytic leukaemia	87	1	2	-	1	-	-	1	-	-	2	1	-	5	9	20	26	15	4
C94-C95	Leukaemia other	20	-	1	2	1	-	-	-	3	-	-	1	4	2	1	-	2	1	2
C96	Lymphoid, haematopoietic and related tissue, NOS	21	8	4	-	-	-	-	1	1	-	2	-	1	-	-	1	1	-	2
C76	Other and ill-defined sites	9	-	-	-	-	-	-	-	-	-	-	2	-	3	2	-	2	-	-
C80	Unknown primary site	421	-	-	-	-	-	-	1	4	4	11	28	33	41	61	64	50	65	59
MPN	Myeloproliferative neoplasms	393	-	-	-	-	2	-	4	8	9	23	30	26	48	55	52	62	45	29
MDS	Myelodysplastic syndromes	462	1	2	3	-	3	-	2	2	1	5	9	13	39	73	69	79	88	73
Total		40,661	90	47	58	88	131	206	296	355	551	1,016	1,980	3,352	5,070	6,526	6,334	5,791	4,959	3,811
Total excl. non-melanoma		36,243	89	47	58	88	128	199	288	345	531	971	1,883	3,217	4,843	6,142	5,719	4,962	4,055	2,678
Total excl. non-melanoma and MDS, MPN		35,388	88	45	55	88	123	199	282	335	521	943	1,844	3,178	4,756	6,014	5,598	4,821	3,922	2,576

Source: Belgian Cancer Registry

Belgium: Males, age-specific and age-standardised incidence rates of cancer, by primary site in 2016 (N/100,000 person years)

Belgium: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C00	Lip	37	-	-	-	-	-	-	-	-	0.3	0.2	0.7	0.5	0.9	3.0	1.9	4.1	3.1	3.2	0.7	0.5	0.3	0.04
C01	Base of tongue	124	0.3	-	-	-	-	-	-	-	0.3	1.2	4.4	4.2	7.8	7.8	6.3	5.2	7.1	3.2	2.2	1.8	1.3	0.16
C02	Tongue	178	-	-	-	-	0.3	0.6	0.3	-	1.6	3.5	3.4	7.6	10.9	12.5	6.3	8.7	6.3	2.1	3.2	2.6	1.9	0.23
C03	Gum	54	-	-	-	-	-	-	-	-	-	0.2	0.7	2.4	3.6	2.4	3.4	3.5	2.4	6.3	1.0	0.7	0.5	0.06
C04	Floor of mouth	123	-	-	-	-	-	-	-	0.3	0.3	3.0	2.9	5.8	7.2	8.8	6.8	2.9	2.4	3.2	2.2	1.8	1.3	0.18
C05	Palate	76	-	0.3	-	-	-	0.3	-	-	0.8	0.2	2.9	4.5	4.8	3.0	2.9	3.5	1.6	2.1	1.4	1.1	0.8	0.10
C06	Mouth, NOS	63	-	-	-	-	-	-	0.3	-	0.5	0.7	1.9	2.9	3.6	2.0	4.9	2.9	2.4	2.1	1.1	0.9	0.7	0.08
C07	Parotid gland	69	-	-	-	-	0.3	0.6	0.6	0.3	0.5	1.5	1.7	1.1	0.9	5.1	3.4	1.7	9.4	4.2	1.2	1.0	0.7	0.08
C08	Salivary glands, NOS	16	-	-	-	-	-	0.3	-	0.3	-	0.2	0.5	0.5	1.2	0.3	0.5	0.6	-	2.1	0.3	0.2	0.2	0.02
C09	Tonsil	209	-	-	-	-	-	-	-	-	0.3	2.7	9.0	11.3	13.0	10.5	10.7	7.0	4.7	3.2	3.8	3.1	2.2	0.29
C10	Oropharynx	152	-	-	-	-	-	-	-	0.3	0.8	1.2	5.3	7.4	11.5	8.1	8.3	5.8	3.1	-	2.7	2.3	1.6	0.21
C11	Nasopharynx	45	0.3	-	0.3	-	-	-	0.3	0.8	1.6	1.5	0.7	1.1	2.4	2.0	1.9	1.2	-	-	0.8	0.7	0.6	0.06
C12	Pyriform sinus	165	-	-	-	-	-	-	-	0.3	0.5	0.7	3.2	7.9	10.6	14.5	11.2	4.6	5.5	-	3.0	2.4	1.7	0.24
C13	Hypopharynx	72	-	-	-	-	-	-	-	-	0.3	0.5	2.2	2.1	4.8	4.7	6.3	3.5	2.4	-	1.3	1.0	0.7	0.10
C14	Lip, oral cavity and pharyn,x NOS	17	-	-	-	-	-	-	-	-	-	-	0.2	0.8	0.9	2.0	1.9	-	-	-	0.3	0.2	0.2	0.03
C15	Oesophagus	802	-	-	-	-	-	-	-	1.1	0.8	6.0	15.0	25.8	43.8	53.1	47.7	50.5	58.8	51.7	14.5	11.0	7.6	0.96
C16	Stomach	853	-	-	-	-	0.3	0.8	0.3	2.2	5.0	6.0	10.4	24.7	33.2	34.1	57.4	66.7	89.4	107.5	15.4	11.3	7.6	0.87
C17	Small intestine	208	-	-	-	-	-	0.6	0.6	1.1	1.9	3.5	2.7	5.8	7.5	10.1	17.0	12.2	19.6	10.5	3.8	2.9	2.0	0.25
C18	Colon	3,130	-	0.3	2.2	1.6	0.3	1.1	3.6	3.5	6.9	16.5	25.4	60.0	112.6	156.2	266.3	278.9	367.9	346.9	56.5	40.5	26.9	3.23
C19	Rectosigmoid junction	94	-	-	-	-	-	-	-	0.3	0.3	1.2	1.0	3.2	3.9	7.1	4.4	5.2	10.2	6.3	1.7	1.3	0.9	0.11
C20	Rectum	1,490	-	-	0.3	-	0.6	1.4	1.7	3.8	5.8	10.7	18.9	39.5	59.1	81.8	115.4	113.1	138.1	129.7	26.9	20.0	13.6	1.68
C21	Anus and anal canal	71	-	-	-	-	-	0.3	0.3	0.3	0.5	-	1.5	1.6	4.2	3.7	4.4	4.1	5.5	6.3	1.3	1.0	0.7	0.08
C22	Liver and intrahepatic bile ducts	668	1.2	-	-	-	-	-	0.8	0.8	3.4	3.2	8.5	15.5	33.5	46.3	57.4	44.1	50.2	33.7	12.1	9.2	6.4	0.85
C23	Gallbladder	30	-	-	-	-	-	-	-	-	-	-	0.2	0.5	-	1.0	3.4	2.9	5.5	5.3	0.5	0.4	0.2	0.03
C24	Biliary tract, NOS	209	-	-	-	-	-	-	0.3	0.3	2.1	2.2	2.4	4.5	6.6	9.5	15.1	19.7	20.4	23.2	3.8	2.8	1.9	0.21
C25	Pancreas	888	-	-	-	0.3	-	-	0.6	1.4	2.4	6.2	13.6	16.8	33.8	47.7	66.2	84.7	86.3	85.4	16.0	11.7	7.8	0.94
C26	Other ill-defined digestive organs	33	-	-	-	-	-	-	-	-	-	-	0.2	0.5	1.5	2.7	2.9	1.7	3.1	4.2	0.6	0.4	0.3	0.04
C30	Nasal cavity and middle ear	34	-	-	-	-	-	-	0.3	-	0.3	0.2	1.0	1.3	1.5	1.7	1.9	1.7	1.6	3.2	0.6	0.5	0.3	0.04
C31	Accessory sinuses	61	-	-	-	-	0.3	-	0.6	0.5	0.5	0.5	1.2	2.6	3.0	2.4	3.4	1.7	4.7	4.2	1.1	0.9	0.6	0.08
C32	Larynx	510	-	-	-	-	-	-	-	1.1	1.9	4.2	8.5	18.4	26.3	35.2	37.0	30.2	22.7	30.6	9.2	7.2	5.0	0.66
C33	Trachea	5	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	0.6	0.8	1.1	0.1	0.1	0.0	0.00
C34	Bronchus and lung	5,439	-	-	-	0.3	0.6	-	1.9	4.3	7.7	22.2	67.1	123.9	247.1	325.3	452.2	489.5	485.6	394.3	98.2	72.2	48.5	6.07
C37	Thymus	29	-	-	-	-	-	-	-	0.5	0.5	-	1.2	1.1	0.3	2.7	1.0	0.6	3.1	-	0.5	0.4	0.3	0.04
C38	Heart, mediastinum and pleura	30	0.3	-	-	-	-	-	-	-	0.5	0.2	0.5	0.5	0.9	0.7	1.9	4.1	2.4	3.2	0.5	0.4	0.3	0.03
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	37	-	0.3	2.2	1.2	1.4	0.3	0.8	0.8	1.1	0.5	-	0.5	0.6	0.7	-	-	0.8	-	0.7	0.7	0.7	0.05
C41	Bone and articular cartilage, NOS	40	-	-	-	-	0.6	0.8	0.3	1.1	0.5	0.5	1.0	1.1	1.2	1.4	1.0	2.9	0.8	2.1	0.7	0.6	0.5	0.05
C43	Malignant melanoma of skin	1,283	-	-	-	1.2	3.2	5.0	9.4	11.1	18.0	28.0	27.9	33.7	46.5	54.1	74.0	67.3	79.2	72.7	23.2	18.9	13.9	1.55
C44	Malignant neoplasms of skin	4,418	0.3	-	-	-	0.9	1.9	2.2	2.7	5.3	11.2	23.5	35.5	68.5	129.8	299.4	480.8	709.1	1.194.5	79.8	51.7	31.1	2.86

Belgium: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C45	Mesothelioma	217	-	-	-	-	-	-	-	0.3	-	0.7	0.5	1.8	7.8	11.2	18.0	29.0	25.9	26.4	3.9	2.7	1.7	0.20
C46	Kaposi's sarcoma	39	-	-	-	-	0.3	-	0.3	1.4	1.1	0.5	0.7	1.3	0.9	1.4	1.9	0.6	0.8	5.3	0.7	0.6	0.5	0.05
C47,C49	Soft tissues	198	1.8	-	1.3	0.6	0.9	0.3	0.8	2.4	3.2	2.5	2.2	3.4	6.0	8.8	9.7	11.6	13.3	24.2	3.6	2.9	2.3	0.22
C48	Retroperitoneum and peritoneum	22	0.3	0.3	-	-	-	-	-	0.3	-	0.7	0.2	0.5	1.5	1.0	1.0	1.2	0.8	-	0.4	0.3	0.3	0.03
C50	Breast	111	-	-	-	-	-	-	0.3	-	0.3	1.2	0.7	2.9	3.3	6.4	7.8	7.5	13.3	14.8	2.0	1.4	1.0	0.11
C60	Penis	94	-	-	-	-	-	-	0.3	-	0.5	1.0	0.7	3.2	3.0	4.1	8.8	8.7	10.2	4.2	1.7	1.3	0.8	0.11
C61	Prostate	9,050	-	-	-	-	-	-	-	0.3	3.7	21.7	81.2	214.7	407.1	661.0	795.4	806.7	751.5	537.7	163.4	120.0	80.7	10.35
C62	Testis	403	1.2	-	-	4.0	9.8	21.6	29.5	12.7	11.4	8.2	3.2	3.7	1.5	1.4	2.4	1.7	-	-	7.3	7.6	7.2	0.55
C63	Male genital organs, NOS	15	-	-	-	-	-	-	-	-	-	0.2	0.5	0.5	0.6	1.0	-	1.2	-	3.2	0.3	0.2	0.1	0.01
C64	Kidney	1,182	2.8	1.2	-	-	-	0.6	2.2	4.9	9.3	13.2	21.6	32.6	45.0	74.4	85.7	72.5	79.2	72.7	21.3	16.6	11.9	1.46
C65	Renal pelvis	133	-	-	-	-	-	-	-	-	0.3	1.0	1.5	1.8	2.4	7.4	8.8	17.4	20.4	11.6	2.4	1.6	1.1	0.12
C66	Ureter	118	-	-	-	-	-	-	-	-	-	-	0.7	1.6	2.4	6.8	10.7	15.7	18.0	9.5	2.1	1.4	0.9	0.11
C67	Bladder	1,841	0.3	-	-	-	-	-	0.3	1.6	4.0	6.2	14.8	28.4	48.0	89.6	154.8	180.4	246.3	271.0	33.2	23.0	14.7	1.72
C68	Urinary organs, NOS	53	-	-	-	-	-	-	-	0.3	-	-	0.2	0.8	1.5	2.7	5.4	4.1	6.3	9.5	1.0	0.7	0.4	0.05
C69	Eye and adnexa	71	2.8	-	-	0.3	-	-	-	0.8	0.3	0.2	1.9	-	3.6	1.4	5.4	4.1	4.7	8.4	1.3	1.1	0.9	0.08
C70	Meninges	10	-	-	-	-	-	-	-	-	-	-	-	0.3	-	0.3	1.0	1.7	-	3.2	0.2	0.1	0.1	0.01
C71	Brain	501	2.2	2.1	4.7	1.6	2.6	3.6	4.7	5.1	6.9	5.5	9.2	13.2	19.6	21.3	25.3	24.4	25.1	20.0	9.0	7.7	6.2	0.64
C72	Spinal cord, cranial nerves and CNS, NOS	20	0.3	-	-	0.6	0.3	0.6	0.3	0.5	0.8	-	0.7	0.5	0.3	0.7	-	-	-	-	0.4	0.4	0.3	0.03
C73	Thyroid gland	266	-	-	-	0.6	1.4	2.2	1.1	4.3	3.4	8.0	6.8	7.9	10.3	13.2	11.7	9.9	6.3	6.3	4.8	4.1	3.2	0.35
C74	Adrenal gland	36	0.9	-	-	-	-	-	0.8	0.5	0.5	1.0	1.0	0.5	1.5	2.0	1.9	-	0.8	-	0.7	0.6	0.5	0.05
C75	Endocrine glands, NOS	18	-	-	0.6	0.6	-	0.3	-	0.3	1.3	0.2	0.5	0.3	-	1.0	-	-	-	-	0.3	0.3	0.3	0.03
C81	Hodgkin lymphoma	210	0.6	1.2	1.3	4.7	6.1	6.1	3.9	2.4	3.4	3.7	2.9	3.9	6.9	4.7	4.9	2.9	5.5	5.3	3.8	3.6	3.4	0.28
C82-C86	Non-Hodgkin lymphoma	1,138	0.3	0.6	0.9	4.0	2.0	3.9	5.5	6.8	10.3	11.7	13.8	21.0	35.3	47.7	90.1	79.5	111.4	113.9	20.6	15.7	11.2	1.26
C88	Malignant immunoproliferative diseases	207	-	-	-	0.3	-	0.3	1.1	1.4	1.1	0.5	4.1	4.7	7.2	10.5	14.1	17.4	24.3	10.5	3.7	2.8	1.9	0.23
C90	Multiple myeloma	501	-	-	-	-	-	-	0.8	1.6	1.3	4.7	5.8	12.1	14.5	21.6	46.7	47.0	46.3	52.7	9.0	6.7	4.4	0.54
C91	Lymphoid leukaemia	673	8.0	4.7	2.2	2.8	2.9	1.4	0.8	1.9	3.2	5.5	9.9	15.8	24.4	28.1	44.3	39.4	67.5	48.5	12.2	9.7	7.7	0.78
C92	Myeloid leukaemia	359	0.6	0.3	0.6	1.9	1.4	2.5	1.7	2.4	2.9	3.2	5.8	7.1	13.0	14.9	20.9	27.3	28.2	32.7	6.5	5.1	3.8	0.40
C93	Monocytic leukaemia	87	0.3	0.6	-	0.3	-	-	0.3	-	-	0.5	0.2	-	1.5	3.0	9.7	15.1	11.8	4.2	1.6	1.1	0.8	0.08
C94-C95	Leukaemia other	20	-	0.3	0.6	0.3	-	-	-	0.8	-	-	0.2	1.1	0.6	0.3	-	1.2	0.8	2.1	0.4	0.3	0.3	0.02
C96	Lymphoid, haematopoietic and related tissue, NOS	21	2.5	1.2	-	-	-	-	0.3	0.3	-	0.5	-	0.3	-	-	0.5	0.6	-	2.1	0.4	0.4	0.5	0.03
C76	Other and ill-defined sites	9	-	-	-	-	-	-	-	-	-	-	0.5	-	0.9	0.7	-	1.2	-	-	0.2	0.1	0.1	0.01
C80	Unknown primary site	421	-	-	-	-	-	-	0.3	1.1	1.1	2.7	6.8	8.7	12.4	20.6	31.2	29.0	51.0	62.2	7.6	5.4	3.6	0.42
MPN	Myeloproliferative neoplasms	393	-	-	-	-	0.6	-	1.1	2.2	2.4	5.7	7.3	6.8	14.5	18.6	25.3	36.0	35.3	30.6	7.1	5.4	3.7	0.42
MDS	Myelodysplastic syndromes	462	0.3	0.6	0.9	-	0.9	-	0.6	0.5	0.3	1.2	2.2	3.4	11.8	24.7	33.6	45.8	69.0	77.0	8.3	5.7	3.7	0.40
Total		40,661	27.7	13.9	18.4	27.4	37.9	56.9	81.7	96.0	145.7	253.8	479.8	881.8	1,529.9	2,206.4	3,083.5	3,358.4	3,889.9	4,017.9	734.3	543.4	372.5	36.05
Total excl. non-melanoma		36,243	27.4	13.9	18.4	27.4	37.0	55.0	79.5	93.3	140.4	242.6	456.3	846.3	1,461.4	2,076.6	2,784.1	2,877.6	3,180.8	2,823.4	654.5	491.7	341.4	34.16
Total excl. non-melanoma and MDS, MPN		35,388	27.1	13.3	17.4	27.4	35.6	55.0	77.8	90.6	137.8	235.6	446.8	836.1	1,435.1	2,033.3	2,725.2	2,795.9	3,076.5	2,715.9	639.1	480.6	334.0	33.62

CR: crude (all ages) incidence rate (N/100,000 person years)
ESR and WSR: age standardised incidence rate, using the European or World Standard Population (N/100,000 person years)
CRi: Cumulative Risk (0-74 years)

Source: Belgian Cancer Registry

Belgium: Females, number of invasive tumours by primary site and age group in 2016

Belgium: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C00	Lip	19	-	-	-	-	-	-	-	-	-	-	-	1	3	2	3	3	-	7
C01	Base of tongue	42	-	-	-	-	-	-	-	-	2	-	4	7	9	11	5	-	2	2
C02	Tongue	87	-	-	-	-	-	-	3	-	-	4	3	11	16	17	14	5	8	6
C03	Gum	28	-	-	-	1	-	-	-	-	-	-	3	3	2	3	3	3	1	9
C04	Floor of mouth	52	-	-	-	-	-	-	-	-	-	2	7	8	11	10	6	5	3	-
C05	Palate	49	-	-	-	-	-	2	1	-	-	1	-	6	11	10	4	6	4	4
C06	Mouth, NOS	33	-	-	-	-	-	-	-	-	2	-	5	2	3	1	3	6	6	5
C07	Parotid gland	53	-	-	1	-	1	3	-	-	3	1	4	1	6	5	8	7	4	9
C08	Salivary glands, NOS	15	-	-	-	-	-	-	-	-	2	1	1	-	2	3	-	2	-	4
C09	Tonsil	88	-	-	-	-	-	-	-	-	2	2	7	13	23	13	10	7	6	5
C10	Oropharynx	56	-	-	-	-	-	-	-	-	1	2	4	7	15	12	10	4	-	1
C11	Nasopharynx	18	-	-	-	1	2	-	2	-	2	2	1	2	3	-	2	1	-	-
C12	Pyriform sinus	29	-	-	-	-	-	-	-	-	-	-	4	4	9	7	-	2	3	-
C13	Hypopharynx	15	-	-	-	-	-	1	-	-	-	-	-	2	3	4	2	2	1	-
C14	Lip, oral cavity and pharyn,x NOS	4	-	-	-	-	-	-	-	-	-	-	-	2	-	1	-	-	-	1
C15	Oesophagus	298	-	-	-	-	-	-	1	-	-	5	13	33	43	55	39	37	26	46
C16	Stomach	548	-	-	-	1	-	3	3	8	10	31	23	38	46	66	57	72	79	111
C17	Small intestine	137	-	-	-	-	-	1	1	5	3	7	8	16	16	13	18	18	14	17
C18	Colon	2,777	-	-	3	2	12	13	17	26	38	61	106	184	231	342	393	399	418	532
C19	Rectosigmoid junction	60	-	-	-	-	-	-	-	-	1	1	4	10	7	1	8	9	8	11
C20	Rectum	917	-	-	-	-	-	3	10	9	26	30	61	79	100	97	118	125	124	135
C21	Anus and anal canal	129	-	-	-	-	-	-	-	4	5	9	14	17	27	15	10	7	9	12
C22	Liver and intrahepatic bile ducts	269	1	-	-	-	1	1	4	2	3	9	9	19	32	46	42	32	41	27
C23	Gallbladder	67	-	-	-	-	-	-	-	1	-	1	1	1	7	5	11	15	11	14
C24	Biliary tract, NOS	155	-	-	-	-	-	-	-	-	-	4	5	12	17	16	22	26	25	28
C25	Pancreas	891	-	-	-	1	-	4	4	7	7	30	41	80	114	123	106	139	112	123
C26	Other ill-defined digestive organs	34	-	-	-	-	-	-	-	1	1	1	1	1	5	5	6	3	6	4
C30	Nasal cavity and middle ear	10	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	2	4	1
C31	Accessory sinuses	14	-	-	-	1	-	-	1	-	1	1	-	1	1	1	-	2	2	3
C32	Larynx	77	-	-	-	-	-	-	-	1	1	3	6	16	11	12	12	4	7	4
C33	Trachea	4	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	1	1	-
C34	Bronchus and lung	2,735	-	-	-	2	-	6	5	13	29	95	199	349	478	460	416	315	206	162
C37	Thymus	19	-	-	-	-	-	1	1	2	-	1	3	2	1	2	4	1	1	-
C38	Heart, mediastinum and pleura	15	-	1	2	-	-	-	-	1	-	-	1	-	2	1	2	3	-	2
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	27	1	-	2	6	3	3	1	1	3	2	2	1	-	1	-	-	-	1
C41	Bone and articular cartilage, NOS	23	-	1	1	1	-	-	2	-	1	2	3	-	2	3	3	3	-	1
C43	Malignant melanoma of skin	1,786	-	-	2	4	24	54	81	110	146	179	177	183	182	158	138	102	118	128
C44	Malignant neoplasms of skin	3,062	1	-	-	1	3	7	10	9	26	54	83	120	160	248	351	457	556	976

Belgium: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C45	Mesothelioma	54	-	-	-	-	-	-	1	-	-	3	-	4	3	9	9	9	13	3
C46	Kaposi's sarcoma	9	-	-	-	-	-	1	1	-	-	2	-	-	-	1	-	2	1	1
C47,C49	Soft tissues	178	10	1	5	2	3	3	4	3	5	12	9	17	14	17	27	17	16	13
C48	Retroperitoneum and peritoneum	75	-	-	-	-	-	1	-	3	-	2	7	8	10	7	7	12	11	7
C50	Breast	10,735	-	-	-	-	7	46	166	282	538	975	1.265	1.137	1.366	1.393	1.043	943	808	766
C51	Vulva	231	-	-	-	-	-	2	3	5	10	7	15	14	25	26	23	29	33	39
C52	Vagina	51	1	-	-	-	-	-	-	-	2	1	4	4	3	8	7	9	5	7
C53	Cervix uteri	640	-	-	-	1	3	22	37	62	68	77	58	75	66	48	43	39	23	18
C54	Corpus uteri	1,438	-	-	-	-	-	-	4	5	14	45	74	125	188	243	244	220	160	116
C55	Uterus	13	-	-	-	-	-	-	-	2	2	-	1	1	1	-	-	1	3	2
C56	Ovary	752	-	2	1	3	7	6	7	9	24	43	62	83	74	98	96	97	80	60
C57	Female genital organs, NOS	90	-	-	-	-	-	1	-	-	2	3	6	10	9	9	15	14	8	13
C58	Placenta	5	-	-	-	-	1	3	1	-	-	-	-	-	-	-	-	-	-	-
C64	Kidney	633	8	1	-	1	2	2	8	14	14	17	34	48	68	89	93	73	92	69
C65	Renal pelvis	93	-	-	-	-	-	-	-	-	1	2	3	2	9	7	11	21	17	20
C66	Ureter	54	-	-	-	-	-	-	-	-	-	1	-	3	7	5	5	13	8	12
C67	Bladder	506	-	-	-	-	1	1	1	-	4	6	18	26	36	64	62	75	99	113
C68	Urinary organs, NOS	8	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1	-	2	2
C69	Eye and adnexa	74	4	-	-	-	-	1	1	-	2	1	9	6	7	7	8	15	6	7
C70	Meninges	8	-	-	-	-	-	-	-	-	-	-	-	-	2	3	-	-	1	2
C71	Brain	346	7	11	8	5	-	4	13	13	15	18	12	26	42	52	44	32	28	16
C72	Spinal cord, cranial nerves and CNS, NOS	19	1	1	-	-	2	-	1	1	-	1	2	-	4	2	1	2	1	-
C73	Thyroid gland	776	-	-	2	4	27	27	64	70	84	84	93	82	57	65	48	29	19	21
C74	Adrenal gland	44	7	1	1	1	2	5	1	1	2	2	2	4	2	4	2	6	-	1
C75	Endocrine glands, NOS	21	-	-	-	-	-	-	3	1	3	2	-	-	3	3	2	2	1	1
C81	Hodgkin lymphoma	145	1	-	7	14	16	16	16	12	5	8	4	8	5	9	5	7	4	8
C82-C86	Non-Hodgkin lymphoma	886	1	1	2	4	6	12	15	17	12	28	43	72	74	136	119	135	111	98
C88	Malignant immunoproliferative diseases	155	-	-	-	-	-	-	1	2	2	3	14	20	13	20	16	21	26	17
C90	Multiple myeloma	400	-	-	-	-	-	-	1	-	2	11	15	30	38	55	71	60	64	53
C91	Lymphoid leukaemia	395	10	10	5	5	4	4	2	2	4	9	18	41	33	53	63	54	42	36
C92	Myeloid leukaemia	307	4	5	5	2	1	5	5	6	10	17	13	21	26	32	39	42	31	43
C93	Monocytic leukaemia	57	1	-	-	-	-	-	-	-	1	3	1	5	1	7	8	6	18	6
C94-C95	Leukaemia other	9	-	-	1	-	-	-	1	-	-	-	-	-	1	-	1	-	1	4
C96	Lymphoid, haematopoietic and related tissue, NOS	17	3	3	-	1	-	2	-	-	1	1	-	1	2	2	-	-	1	-
C76	Other and ill-defined sites	12	-	-	-	-	-	-	-	-	-	2	-	-	1	3	1	-	-	5
C80	Unknown primary site	400	-	-	-	1	-	1	4	1	4	10	21	28	39	42	36	52	78	83
MPN	Myeloproliferative neoplasms	396	-	-	-	-	2	1	4	14	12	14	15	32	40	46	61	61	59	35
MDS	Myelodysplastic syndromes	361	-	1	-	2	-	-	1	-	3	7	11	16	20	46	36	63	74	81
Total		35,035	61	39	48	67	130	268	513	725	1,161	1,958	2,634	3,181	3,888	4,383	4,074	3,986	3,750	4,169
Total excl. non-melanoma		31,973	60	39	48	66	127	261	503	716	1,135	1,904	2,551	3,061	3,728	4,135	3,723	3,529	3,194	3,193
Total excl. non-melanoma and MDS, MPN		31,216	60	38	48	64	125	260	498	702	1,120	1,883	2,525	3,013	3,668	4,043	3,626	3,405	3,061	3,077

Belgium: Females, age-specific and age-standardised incidence rates of cancer, by primary site in 2016 (N/100,000 person years)

Belgium: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C00	Lip	19	-	-	-	-	-	-	-	-	-	-	-	0.3	0.9	0.6	1.3	1.4	-	3.4	0.3	0.2	0.1	0.02
C01	Base of tongue	42	-	-	-	-	-	-	-	-	0.5	-	1.0	1.8	2.6	3.5	2.1	-	1.0	1.0	0.7	0.6	0.4	0.06
C02	Tongue	87	-	-	-	-	-	-	0.8	-	-	1.0	0.7	2.9	4.7	5.4	6.0	2.3	4.2	2.9	1.5	1.1	0.8	0.11
C03	Gum	28	-	-	-	0.3	-	-	-	-	-	-	0.7	0.8	0.6	1.0	1.3	1.4	0.5	4.4	0.5	0.3	0.2	0.02
C04	Floor of mouth	52	-	-	-	-	-	-	-	-	-	0.5	1.7	2.1	3.2	3.2	2.6	2.3	1.6	-	0.9	0.7	0.5	0.07
C05	Palate	49	-	-	-	-	-	0.6	0.3	-	-	0.3	-	1.6	3.2	3.2	1.7	2.7	2.1	2.0	0.9	0.6	0.4	0.05
C06	Mouth, NOS	33	-	-	-	-	-	-	-	-	0.5	-	1.2	0.5	0.9	0.3	1.3	2.7	3.1	2.4	0.6	0.4	0.2	0.02
C07	Parotid gland	53	-	-	0.3	-	0.3	0.8	-	-	0.8	0.3	1.0	0.3	1.8	1.6	3.4	3.2	2.1	4.4	0.9	0.6	0.5	0.05
C08	Salivary glands, NOS	15	-	-	-	-	-	-	-	-	0.5	0.3	0.2	-	0.6	1.0	-	0.9	-	2.0	0.3	0.2	0.1	0.01
C09	Tonsil	88	-	-	-	-	-	-	-	-	0.5	0.5	1.7	3.4	6.7	4.1	4.3	3.2	3.1	2.4	1.5	1.1	0.8	0.11
C10	Oropharynx	56	-	-	-	-	-	-	-	-	0.3	0.5	1.0	1.8	4.4	3.8	4.3	1.8	-	0.5	1.0	0.8	0.6	0.08
C11	Nasopharynx	18	-	-	-	0.3	0.6	-	0.6	-	0.5	0.5	0.2	0.5	0.9	-	0.9	0.5	-	-	0.3	0.3	0.3	0.03
C12	Pyriform sinus	29	-	-	-	-	-	-	-	-	-	-	1.0	1.0	2.6	2.2	-	0.9	1.6	-	0.5	0.4	0.3	0.03
C13	Hypopharynx	15	-	-	-	-	-	0.3	-	-	-	-	-	0.5	0.9	1.3	0.9	0.9	0.5	-	0.3	0.2	0.1	0.02
C14	Lip, oral cavity and pharyn,x NOS	4	-	-	-	-	-	-	-	-	-	-	-	0.5	-	0.3	-	-	-	0.5	0.1	0.0	0.0	0.00
C15	Oesophagus	298	-	-	-	-	-	-	0.3	-	-	1.3	3.2	8.6	12.6	17.4	16.6	16.8	13.6	22.5	5.2	3.4	2.3	0.30
C16	Stomach	548	-	-	-	0.3	-	0.8	0.8	2.2	2.7	8.0	5.7	9.9	13.5	20.9	24.3	32.7	41.2	54.2	9.6	5.9	4.1	0.44
C17	Small intestine	137	-	-	-	-	-	0.3	0.3	1.4	0.8	1.8	2.0	4.2	4.7	4.1	7.7	8.2	7.3	8.3	2.4	1.7	1.2	0.14
C18	Colon	2.777	-	-	1.0	0.6	3.5	3.6	4.7	7.1	10.3	15.7	26.1	48.1	67.6	108.5	167.4	181.2	218.2	259.9	48.5	29.1	19.7	2.29
C19	Rectosigmoid junction	60	-	-	-	-	-	-	-	-	0.3	0.3	1.0	2.6	2.0	0.3	3.4	4.1	4.2	5.4	1.0	0.7	0.4	0.05
C20	Rectum	917	-	-	-	-	-	0.8	2.8	2.5	7.0	7.7	15.0	20.6	29.3	30.8	50.2	56.8	64.7	66.0	16.0	10.4	7.2	0.83
C21	Anus and anal canal	129	-	-	-	-	-	-	-	1.1	1.4	2.3	3.4	4.4	7.9	4.8	4.3	3.2	4.7	5.9	2.3	1.7	1.3	0.15
C22	Liver and intrahepatic bile ducts	269	0.3	-	-	-	0.3	0.3	1.1	0.5	0.8	2.3	2.2	5.0	9.4	14.6	17.9	14.5	21.4	13.2	4.7	3.1	2.2	0.27
C23	Gallbladder	67	-	-	-	-	-	-	-	0.3	-	0.3	0.2	0.3	2.0	1.6	4.7	6.8	5.7	6.8	1.2	0.6	0.4	0.05
C24	Biliary tract, NOS	155	-	-	-	-	-	-	-	-	-	1.0	1.2	3.1	5.0	5.1	9.4	11.8	13.0	13.7	2.7	1.6	1.0	0.12
C25	Pancreas	891	-	-	-	0.3	-	1.1	1.1	1.9	1.9	7.7	10.1	20.9	33.3	39.0	45.1	63.1	58.5	60.1	15.5	10.0	6.8	0.81
C26	Other ill-defined digestive organs	34	-	-	-	-	-	-	-	0.3	0.3	0.3	0.2	0.3	1.5	1.6	2.6	1.4	3.1	2.0	0.6	0.4	0.3	0.03
C30	Nasal cavity and middle ear	10	-	-	-	-	-	-	-	-	-	-	0.2	-	-	0.3	0.4	0.9	2.1	0.5	0.2	0.1	0.1	0.00
C31	Accessory sinuses	14	-	-	-	0.3	-	-	0.3	-	0.3	0.3	-	0.3	0.3	0.3	-	0.9	1.0	1.5	0.2	0.2	0.1	0.01
C32	Larynx	77	-	-	-	-	-	-	-	0.3	0.3	0.8	1.5	4.2	3.2	3.8	5.1	1.8	3.7	2.0	1.3	1.0	0.7	0.10
C33	Trachea	4	-	-	-	-	-	-	-	-	-	-	0.2	0.3	-	-	-	0.5	0.5	-	0.1	0.0	0.0	0.00
C34	Bronchus and lung	2,735	-	-	-	0.6	-	1.7	1.4	3.5	7.8	24.4	49.0	91.2	139.8	145.9	177.1	143.1	107.5	79.2	47.7	34.5	24.4	3.16
C37	Thymus	19	-	-	-	-	-	0.3	0.3	0.5	-	0.3	0.7	0.5	0.3	0.6	1.7	0.5	0.5	-	0.3	0.3	0.2	0.03
C38	Heart, mediastinum and pleura	15	-	0.3	0.7	-	-	-	-	0.3	-	-	0.2	-	0.6	0.3	0.9	1.4	-	1.0	0.3	0.2	0.2	0.02
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	27	0.3	-	0.7	1.9	0.9	0.8	0.3	0.3	0.8	0.5	0.5	0.3	-	0.3	-	-	-	0.5	0.5	0.5	0.6	0.04
C41	Bone and articular cartilage, NOS	23	-	0.3	0.3	0.3	-	-	0.6	-	0.3	0.5	0.7	-	0.6	1.0	1.3	1.4	-	0.5	0.4	0.4	0.3	0.03
C43	Malignant melanoma of skin	1,786	-	-	0.7	1.3	7.1	14.9	22.3	30.0	39.5	46.0	43.6	47.8	53.2	50.1	58.8	46.3	61.6	62.5	31.2	25.8	20.2	2.05
C44	Malignant neoplasms of skin	3,062	0.3	-	-	0.3	0.9	1.9	2.8	2.5	7.0	13.9	20.4	31.4	46.8	78.6	149.5	207.6	290.2	476.9	53.4	27.2	17.3	1.77

Belgium: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C45	Mesothelioma	54	-	-	-	-	-	-	0.3	-	-	0.8	-	1.0	0.9	2.9	3.8	4.1	6.8	1.5	0.9	0.6	0.4	0.05
C46	Kaposi's sarcoma	9	-	-	-	-	-	0.3	0.3	-	-	0.5	-	-	-	0.3	-	0.9	0.5	0.5	0.2	0.1	0.1	0.01
C47,C49	Soft tissues	178	3.2	0.3	1.7	0.6	0.9	0.8	1.1	0.8	1.4	3.1	2.2	4.4	4.1	5.4	11.5	7.7	8.4	6.4	3.1	2.5	2.1	0.21
C48	Retroperitoneum and peritoneum	75	-	-	-	-	-	0.3	-	0.8	-	0.5	1.7	2.1	2.9	2.2	3.0	5.5	5.7	3.4	1.3	0.9	0.6	0.07
C50	Breast	10,735	-	-	-	-	2.1	12.7	45.8	76.9	145.5	250.5	311.4	297.2	399.6	441.7	444.1	428.3	421.7	374.3	187.3	144.5	106.1	11.43
C51	Vulva	231	-	-	-	-	-	0.6	0.8	1.4	2.7	1.8	3.7	3.7	7.3	8.2	9.8	13.2	17.2	19.1	4.0	2.6	1.8	0.20
C52	Vagina	51	0.3	-	-	-	-	-	-	-	0.5	0.3	1.0	1.0	0.9	2.5	3.0	4.1	2.6	3.4	0.9	0.6	0.4	0.05
C53	Cervix uteri	640	-	-	-	0.3	0.9	6.1	10.2	16.9	18.4	19.8	14.3	19.6	19.3	15.2	18.3	17.7	12.0	8.8	11.2	9.9	7.9	0.79
C54	Corpus uteri	1,438	-	-	-	-	-	-	1.1	1.4	3.8	11.6	18.2	32.7	55.0	77.1	103.9	99.9	83.5	56.7	25.1	16.8	11.6	1.51
C55	Uterus	13	-	-	-	-	-	-	-	0.5	0.5	-	0.2	0.3	0.3	-	-	0.5	1.6	1.0	0.2	0.2	0.1	0.01
C56	Ovary	752	-	0.6	0.3	1.0	2.1	1.7	1.9	2.5	6.5	11.0	15.3	21.7	21.6	31.1	40.9	44.1	41.8	29.3	13.1	9.4	6.8	0.79
C57	Female genital organs, NOS	90	-	-	-	-	-	0.3	-	-	0.5	0.8	1.5	2.6	2.6	2.9	6.4	6.4	4.2	6.4	1.6	1.0	0.7	0.09
C58	Placenta	5	-	-	-	-	0.3	0.8	0.3	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	0.1	0.01
C64	Kidney	633	2.6	0.3	-	0.3	0.6	0.6	2.2	3.8	3.8	4.4	8.4	12.5	19.9	28.2	39.6	33.2	48.0	33.7	11.0	7.5	5.4	0.63
C65	Renal pelvis	93	-	-	-	-	-	-	-	-	0.3	0.5	0.7	0.5	2.6	2.2	4.7	9.5	8.9	9.8	1.6	0.9	0.6	0.06
C66	Ureter	54	-	-	-	-	-	-	-	-	-	0.3	-	0.8	2.0	1.6	2.1	5.9	4.2	5.9	0.9	0.5	0.3	0.03
C67	Bladder	506	-	-	-	-	0.3	0.3	0.3	-	1.1	1.5	4.4	6.8	10.5	20.3	26.4	34.1	51.7	55.2	8.8	4.8	3.1	0.36
C68	Urinary organs, NOS	8	-	-	-	-	-	-	-	-	-	-	-	-	0.3	0.6	0.4	-	1.0	1.0	0.1	0.1	0.0	0.01
C69	Eye and adnexa	74	1.3	-	-	-	-	0.3	0.3	-	0.5	0.3	2.2	1.6	2.0	2.2	3.4	6.8	3.1	3.4	1.3	0.9	0.7	0.07
C70	Meninges	8	-	-	-	-	-	-	-	-	-	-	-	-	0.6	1.0	-	-	0.5	1.0	0.1	0.1	0.1	0.01
C71	Brain	346	2.3	3.4	2.7	1.6	-	1.1	3.6	3.5	4.1	4.6	3.0	6.8	12.3	16.5	18.7	14.5	14.6	7.8	6.0	4.9	4.1	0.42
C72	Spinal cord, cranial nerves and CNS, NOS	19	0.3	0.3	-	-	0.6	-	0.3	0.3	-	0.3	0.5	-	1.2	0.6	0.4	0.9	0.5	-	0.3	0.3	0.3	0.02
C73	Thyroid gland	776	-	-	0.7	1.3	8.0	7.4	17.7	19.1	22.7	21.6	22.9	21.4	16.7	20.6	20.4	13.2	9.9	10.3	13.5	12.5	10.2	1.00
C74	Adrenal gland	44	2.3	0.3	0.3	0.3	0.6	1.4	0.3	0.3	0.5	0.5	0.5	1.0	0.6	1.3	0.9	2.7	-	0.5	0.8	0.8	0.8	0.06
C75	Endocrine glands, NOS	21	-	-	-	-	-	-	0.8	0.3	0.8	0.5	-	-	0.9	1.0	0.9	0.9	0.5	0.5	0.4	0.3	0.2	0.03
C81	Hodgkin lymphoma	145	0.3	-	2.3	4.5	4.7	4.4	4.4	3.3	1.4	2.1	1.0	2.1	1.5	2.9	2.1	3.2	2.1	3.9	2.5	2.5	2.4	0.18
C82-C86	Non-Hodgkin lymphoma	886	0.3	0.3	0.7	1.3	1.8	3.3	4.1	4.6	3.2	7.2	10.6	18.8	21.6	43.1	50.7	61.3	57.9	47.9	15.5	10.4	7.4	0.85
C88	Malignant immunoproliferative diseases	155	-	-	-	-	-	-	0.3	0.5	0.5	0.8	3.4	5.2	3.8	6.3	6.8	9.5	13.6	8.3	2.7	1.8	1.2	0.14
C90	Multiple myeloma	400	-	-	-	-	-	-	0.3	-	0.5	2.8	3.7	7.8	11.1	17.4	30.2	27.3	33.4	25.9	7.0	4.3	2.9	0.37
C91	Lymphoid leukaemia	395	3.2	3.1	1.7	1.6	1.2	1.1	0.6	0.5	1.1	2.3	4.4	10.7	9.7	16.8	26.8	24.5	21.9	17.6	6.9	5.0	4.0	0.42
C92	Myeloid leukaemia	307	1.3	1.6	1.7	0.6	0.3	1.4	1.4	1.6	2.7	4.4	3.2	5.5	7.6	10.1	16.6	19.1	16.2	21.0	5.4	3.8	3.0	0.30
C93	Monocytic leukaemia	57	0.3	-	-	-	-	-	-	-	0.3	0.8	0.2	1.3	0.3	2.2	3.4	2.7	9.4	2.9	1.0	0.6	0.4	0.04
C94-C95	Leukaemia other	9	-	-	0.3	-	-	-	0.3	-	-	-	-	-	0.3	-	0.4	-	0.5	2.0	0.2	0.1	0.1	0.01
C96	Lymphoid, haematopoietic and related tissue, NOS	17	1.0	0.9	-	0.3	-	0.6	-	-	0.3	0.3	-	0.3	0.6	0.6	-	-	0.5	-	0.3	0.3	0.4	0.02
C76	Other and ill-defined sites	12	-	-	-	-	-	-	-	-	-	0.5	-	-	0.3	1.0	0.4	-	-	2.4	0.2	0.1	0.1	0.01
C80	Unknown primary site	400	-	-	-	0.3	-	0.3	1.1	0.3	1.1	2.6	5.2	7.3	11.4	13.3	15.3	23.6	40.7	40.6	7.0	4.0	2.7	0.29
MPN	Myeloproliferative neoplasms	396	-	-	-	-	0.6	0.3	1.1	3.8	3.2	3.6	3.7	8.4	11.7	14.6	26.0	27.7	30.8	17.1	6.9	4.6	3.2	0.38
MDS	Myelodysplastic syndromes	361	-	0.3	-	0.6	-	-	0.3	-	0.8	1.8	2.7	4.2	5.9	14.6	15.3	28.6	38.6	39.6	6.3	3.4	2.2	0.23
Total		35,035	19.7	12.1	15.9	21.7	38.3	73.7	141.5	197.7	314.1	503.0	648.5	831.4	1,137.3	1,389.9	1,734.8	1,810.5	1,957.3	2,036.9	611.4	429.8	310.9	29.81
Total excl. non-melanoma		31,973	19.4	12.1	15.9	21.4	37.4	71.8	138.7	195.3	307.0	489.1	628.1	800.1	1,090.5	1,311.3	1,585.4	1,602.9	1,667.1	1,560.1	558.0	402.6	293.7	28.55
Total excl. non-melanoma and MDS, MPN		31,216	19.4	11.8	15.9	20.8	36.9	71.5	137.3	191.5	303.0	483.7	621.7	787.5	1,072.9	1,282.1	1,544.1	1,546.6	1,597.7	1,503.4	544.7	394.6	288.2	28.11

CR: crude (all ages) incidence rate (N/100,000 person years)
ESR and WSR: age standardised incidence rate, using the European or World Standard Population (N/100,000 person years)
CRi: Cumulative Risk (0-74 years)

Source: Belgian Cancer Registry

Flemish Region: Males, number of invasive tumours by primary site and age group in 2016

Flemish Region: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C00	Lip	23	-	-	-	-	-	-	-	-	1	-	2	1	3	5	2	5	3	1
C01	Base of tongue	74	1	-	-	-	-	-	-	-	-	4	8	8	18	14	8	5	5	3
C02	Tongue	92	-	-	-	-	-	-	1	-	4	8	11	13	17	19	8	6	4	1
C03	Gum	23	-	-	-	-	-	-	-	-	-	1	-	3	3	5	3	2	2	4
C04	Floor of mouth	65	-	-	-	-	-	-	-	-	-	6	7	11	15	9	8	4	2	3
C05	Palate	38	-	1	-	-	-	-	-	-	1	-	7	9	8	3	2	5	1	1
C06	Mouth, NOS	32	-	-	-	-	-	-	-	-	1	1	4	6	5	2	9	2	1	1
C07	Parotid gland	38	-	-	-	-	-	-	-	1	1	3	5	1	2	8	4	3	7	3
C08	Salivary glands, NOS	12	-	-	-	-	-	1	-	1	-	1	1	1	3	1	-	1	-	2
C09	Tonsil	103	-	-	-	-	-	-	-	-	1	7	15	16	17	19	14	9	3	2
C10	Oropharynx	74	-	-	-	-	-	-	-	1	-	3	14	14	18	9	9	4	2	-
C11	Nasopharynx	26	-	-	1	-	-	-	1	1	3	4	1	1	6	4	2	2	-	-
C12	Pyriform sinus	77	-	-	-	-	-	-	-	-	-	2	6	13	14	19	15	5	3	-
C13	Hypopharynx	37	-	-	-	-	-	-	-	-	-	1	3	4	10	10	5	4	-	-
C14	Lip, oral cavity and pharyn,x NOS	7	-	-	-	-	-	-	-	-	-	-	-	1	1	3	2	-	-	-
C15	Oesophagus	509	-	-	-	-	-	-	-	4	2	15	40	50	95	97	66	60	51	29
C16	Stomach	508	-	-	-	-	1	1	1	5	10	9	22	51	63	56	77	73	70	69
C17	Small intestine	119	-	-	-	-	-	-	1	4	3	6	8	10	13	19	21	13	17	4
C18	Colon	1,977	-	1	4	4	1	3	9	6	14	36	71	127	224	290	355	321	306	205
C19	Rectosigmoid junction	48	-	-	-	-	-	-	-	1	-	3	4	3	4	11	6	5	9	2
C20	Rectum	929	-	-	-	-	1	3	2	4	13	27	48	92	115	138	165	125	113	83
C21	Anus and anal canal	39	-	-	-	-	-	-	-	1	2	-	3	3	6	6	4	5	4	5
C22	Liver and intrahepatic bile ducts	323	2	-	-	-	-	-	-	2	4	6	14	26	41	66	69	41	37	15
C23	Gallbladder	21	-	-	-	-	-	-	-	-	-	-	1	1	-	3	5	3	5	3
C24	Biliary tract, NOS	142	-	-	-	-	-	-	1	1	5	5	7	9	16	17	19	23	23	16
C25	Pancreas	538	-	-	-	1	-	-	1	3	6	16	22	36	62	81	86	94	77	53
C26	Other ill-defined digestive organs	5	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	1	1
C30	Nasal cavity and middle ear	21	-	-	-	-	-	-	1	-	-	1	3	4	2	3	2	2	1	2
C31	Accessory sinuses	45	-	-	-	-	-	-	1	2	2	2	4	9	3	5	6	3	5	3
C32	Larynx	292	-	-	-	-	-	-	-	-	3	10	18	37	52	53	50	36	18	15
C33	Trachea	3	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	-
C34	Bronchus and lung	3,201	-	-	-	1	1	-	3	10	8	39	130	246	437	548	574	534	412	258
C37	Thymus	17	-	-	-	-	-	-	-	1	1	-	3	2	1	5	2	-	2	-
C38	Heart, mediastinum and pleura	23	1	-	-	-	-	-	-	-	2	1	1	1	-	2	3	7	3	2
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	16	-	1	1	3	2	1	-	-	2	2	-	1	1	1	-	-	1	-
C41	Bone and articular cartilage, NOS	24	-	-	-	-	2	2	-	3	-	1	3	4	2	1	2	2	1	1
C43	Malignant melanoma of skin	777	-	-	-	-	4	8	19	21	27	70	78	70	93	99	99	77	70	42
C44	Malignant neoplasms of skin	2,956	-	-	-	-	1	2	6	4	12	27	58	79	144	232	434	576	606	775

Flemish Region: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C45	Mesothelioma	149	-	-	-	-	-	-	-	1	-	1	1	4	21	22	26	37	22	14
C46	Kaposi's sarcoma	16	-	-	-	-	1	-	-	3	2	2	2	1	1	-	1	-	1	2
C47,C49	Soft tissues	134	3	-	2	-	2	1	3	8	7	6	5	10	15	15	16	14	13	14
C48	Retroperitoneum and peritoneum	12	-	1	-	-	-	-	-	1	-	2	-	1	1	2	1	2	1	-
C50	Breast	75	-	-	-	-	-	-	1	-	-	3	3	4	7	13	11	10	14	9
C60	Penis	60	-	-	-	-	-	-	-	-	2	2	3	10	5	9	7	11	7	4
C61	Prostate	5,899	-	-	-	-	-	-	-	-	9	66	218	549	891	1.187	1.081	951	620	327
C62	Testis	238	3	-	-	9	21	57	65	28	20	16	8	6	2	1	2	-	-	-
C63	Male genital organs, NOS	10	-	-	-	-	-	-	-	-	-	1	1	2	-	3	-	2	-	1
C64	Kidney	737	3	-	-	-	-	2	6	9	19	35	58	75	84	134	116	87	60	49
C65	Renal pelvis	90	-	-	-	-	-	-	-	-	1	1	4	5	8	13	12	20	17	9
C66	Ureter	77	-	-	-	-	-	-	-	-	-	-	2	2	3	11	13	20	19	7
C67	Bladder	1,075	1	-	-	-	-	-	1	3	9	11	25	57	74	144	193	188	207	162
C68	Urinary organs, NOS	32	-	-	-	-	-	-	-	-	-	-	-	1	2	6	7	3	7	6
C69	Eye and adnexa	36	1	-	-	1	-	-	-	2	1	-	3	-	7	3	4	3	3	8
C70	Meninges	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	-	1
C71	Brain	317	3	3	10	5	4	8	13	9	21	17	23	28	38	38	33	32	21	11
C72	Spinal cord, cranial nerves and CNS, NOS	13	-	-	-	-	1	1	1	-	3	-	2	2	1	2	-	-	-	-
C73	Thyroid gland	126	-	-	-	-	2	3	1	8	5	13	15	10	18	19	13	8	5	6
C74	Adrenal gland	19	1	-	-	-	-	-	1	2	1	2	1	-	4	3	3	-	1	-
C75	Endocrine glands, NOS	12	-	-	2	-	-	1	-	-	4	1	1	1	-	2	-	-	-	-
C81	Hodgkin lymphoma	125	1	1	1	12	12	12	12	4	7	8	7	8	15	7	8	3	4	3
C82-C86	Non-Hodgkin lymphoma	686	1	1	2	7	2	7	12	15	23	23	26	49	64	91	126	81	92	64
C88	Malignant immunoproliferative diseases	116	-	-	-	1	-	1	2	2	1	-	12	8	16	17	17	15	18	6
C90	Multiple myeloma	294	-	-	-	-	-	-	3	3	-	12	14	31	26	35	60	50	34	26
C91	Lymphoid leukaemia	408	14	8	5	5	4	1	3	3	6	9	23	37	53	46	61	47	52	31
C92	Myeloid leukaemia	231	1	1	1	6	3	7	3	6	7	9	13	17	28	22	28	33	23	23
C93	Monocytic leukaemia	54	-	-	-	1	-	-	1	-	-	1	-	-	1	5	12	22	10	1
C94-C95	Leukaemia other	8	-	-	1	-	-	-	-	1	-	-	-	2	1	-	-	2	-	1
C96	Lymphoid, haematopoietic and related tissue, NOS	13	6	2	-	-	-	-	-	1	-	1	-	-	-	-	1	-	-	2
C76	Other and ill-defined sites	8	-	-	-	-	-	-	-	-	-	-	2	-	2	2	-	2	-	-
C80	Unknown primary site	238	-	-	-	-	-	-	1	1	3	6	12	14	23	34	34	31	43	36
MPN	Myeloproliferative neoplasms	240	-	-	-	-	2	-	2	5	3	12	14	15	31	33	36	39	34	14
MDS	Myelodysplastic syndromes	276	1	2	1	-	-	-	-	-	-	4	5	7	19	40	47	48	56	46
Total		25,083	43	22	31	56	67	122	178	191	282	581	1,125	1,919	2,976	3,824	4,107	3,822	3,250	2,487
Total excl. non-melanoma		22,127	43	22	31	56	66	120	172	187	270	554	1,067	1,840	2,832	3,592	3,673	3,246	2,644	1,712
Total excl. non-melanoma and MDS, MPN		21,611	42	20	30	56	64	120	170	182	267	538	1,048	1,818	2,782	3,519	3,590	3,159	2,554	1,652

Source: Belgian Cancer Registry

Flemish Region: Males, age-specific and age-standardised incidence rates of cancer, by primary site in 2016 (N/100,000 person years)

Flemish Region: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C00	Lip	23	-	-	-	-	-	-	-	-	0.5	-	0.8	0.4	1.5	2.8	1.5	4.5	3.6	1.7	0.7	0.5	0.3	0.04
C01	Base of tongue	74	0.6	-	-	-	-	-	-	-	-	1.7	3.2	3.5	9.0	7.9	6.1	4.5	6.0	5.0	2.3	1.7	1.3	0.16
C02	Tongue	92	-	-	-	-	-	-	0.5	-	1.9	3.4	4.4	5.7	8.5	10.7	6.1	5.4	4.8	1.7	2.9	2.3	1.7	0.21
C03	Gum	23	-	-	-	-	-	-	-	-	-	0.4	-	1.3	1.5	2.8	2.3	1.8	2.4	6.7	0.7	0.5	0.3	0.04
C04	Floor of mouth	65	-	-	-	-	-	-	-	-	-	2.6	2.8	4.8	7.5	5.1	6.1	3.6	2.4	5.0	2.0	1.6	1.1	0.14
C05	Palate	38	-	0.5	-	-	-	-	-	-	0.5	-	2.8	3.9	4.0	1.7	1.5	4.5	1.2	1.7	1.2	0.9	0.7	0.07
C06	Mouth, NOS	32	-	-	-	-	-	-	-	-	0.5	0.4	1.6	2.6	2.5	1.1	6.8	1.8	1.2	1.7	1.0	0.8	0.5	0.08
C07	Parotid gland	38	-	-	-	-	-	-	-	0.5	0.5	1.3	2.0	0.4	1.0	4.5	3.0	2.7	8.5	5.0	1.2	0.8	0.6	0.07
C08	Salivary glands, NOS	12	-	-	-	-	-	0.5	-	0.5	-	0.4	0.4	0.4	1.5	0.6	-	0.9	-	3.3	0.4	0.3	0.2	0.02
C09	Tonsil	103	-	-	-	-	-	-	-	-	0.5	3.0	6.0	7.0	8.5	10.7	10.6	8.1	3.6	3.3	3.2	2.5	1.8	0.23
C10	Oropharynx	74	-	-	-	-	-	-	-	0.5	-	1.3	5.6	6.1	9.0	5.1	6.8	3.6	2.4	-	2.3	1.8	1.3	0.17
C11	Nasopharynx	26	-	-	0.6	-	-	-	0.5	0.5	1.4	1.7	0.4	0.4	3.0	2.3	1.5	1.8	-	-	0.8	0.7	0.6	0.06
C12	Pyriform sinus	77	-	-	-	-	-	-	-	-	-	0.9	2.4	5.7	7.0	10.7	11.4	4.5	3.6	-	2.4	1.8	1.3	0.19
C13	Hypopharynx	37	-	-	-	-	-	-	-	-	-	0.4	1.2	1.7	5.0	5.6	3.8	3.6	-	-	1.2	0.9	0.6	0.09
C14	Lip, oral cavity and pharyn,x NOS	7	-	-	-	-	-	-	-	-	-	-	-	0.4	0.5	1.7	1.5	-	-	-	0.2	0.2	0.1	0.02
C15	Oesophagus	509	-	-	-	-	-	-	-	1.9	1.0	6.4	16.1	21.8	47.6	54.7	50.0	53.8	61.7	48.5	15.9	11.3	7.9	0.99
C16	Stomach	508	-	-	-	-	0.5	0.5	0.5	2.4	4.8	3.9	8.9	22.3	31.6	31.6	58.3	65.5	84.6	115.5	15.9	10.7	7.1	0.82
C17	Small intestine	119	-	-	-	-	-	-	0.5	1.9	1.4	2.6	3.2	4.4	6.5	10.7	15.9	11.7	20.6	6.7	3.7	2.7	1.9	0.24
C18	Colon	1,977	-	0.5	2.3	2.2	0.5	1.5	4.5	2.9	6.7	15.4	28.6	55.5	112.2	163.6	268.8	288.0	370.0	343.0	61.8	41.0	27.3	3.27
C19	Rectosigmoid junction	48	-	-	-	-	-	-	-	0.5	-	1.3	1.6	1.3	2.0	6.2	4.5	4.5	10.9	3.3	1.5	1.0	0.7	0.09
C20	Rectum	929	-	-	-	-	0.5	1.5	1.0	1.9	6.2	11.6	19.4	40.2	57.6	77.9	124.9	112.1	136.6	138.9	29.0	20.1	13.6	1.70
C21	Anus and anal canal	39	-	-	-	-	-	-	-	0.5	1.0	-	1.2	1.3	3.0	3.4	3.0	4.5	4.8	8.4	1.2	0.9	0.6	0.07
C22	Liver and intrahepatic bile ducts	323	1.1	-	-	-	-	-	-	1.0	1.9	2.6	5.6	11.4	20.5	37.2	52.2	36.8	44.7	25.1	10.1	7.1	4.9	0.67
C23	Gallbladder	21	-	-	-	-	-	-	-	-	-	-	0.4	0.4	-	1.7	3.8	2.7	6.0	5.0	0.7	0.4	0.2	0.03
C24	Biliary tract, NOS	142	-	-	-	-	-	-	0.5	0.5	2.4	2.1	2.8	3.9	8.0	9.6	14.4	20.6	27.8	26.8	4.4	3.0	2.0	0.22
C25	Pancreas	538	-	-	-	0.6	-	-	0.5	1.4	2.9	6.9	8.9	15.7	31.1	45.7	65.1	84.3	93.1	88.7	16.8	11.3	7.5	0.89
C26	Other ill-defined digestive organs	5	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	0.8	-	1.2	1.7	0.2	0.1	0.1	0.01
C30	Nasal cavity and middle ear	21	-	-	-	-	-	-	0.5	-	-	0.4	1.2	1.7	1.0	1.7	1.5	1.8	1.2	3.3	0.7	0.5	0.3	0.04
C31	Accessory sinuses	45	-	-	-	-	-	-	0.5	1.0	1.0	0.9	1.6	3.9	1.5	2.8	4.5	2.7	6.0	5.0	1.4	1.1	0.8	0.09
C32	Larynx	292	-	-	-	-	-	-	-	-	1.4	4.3	7.3	16.2	26.0	29.9	37.9	32.3	21.8	25.1	9.1	6.6	4.6	0.61
C33	Trachea	3	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	0.9	1.2	-	0.1	0.1	0.0	0.00
C34	Bronchus and lung	3,201	-	-	-	0.6	0.5	-	1.5	4.8	3.8	16.7	52.4	107.5	218.9	309.2	434.6	479.1	498.2	431.7	100.0	67.3	44.8	5.59
C37	Thymus	17	-	-	-	-	-	-	-	0.5	0.5	-	1.2	0.9	0.5	2.8	1.5	-	2.4	-	0.5	0.4	0.3	0.04
C38	Heart, mediastinum and pleura	23	0.6	-	-	-	-	-	-	-	1.0	0.4	0.4	0.4	-	1.1	2.3	6.3	3.6	3.3	0.7	0.5	0.4	0.03
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	16	-	0.5	0.6	1.7	1.0	0.5	-	-	1.0	0.9	-	0.4	0.5	0.6	-	-	1.2	-	0.5	0.5	0.5	0.04
C41	Bone and articular cartilage, NOS	24	-	-	-	-	1.0	1.0	-	1.4	-	0.4	1.2	1.7	1.0	0.6	1.5	1.8	1.2	1.7	0.7	0.6	0.5	0.05
C43	Malignant melanoma of skin	777	-	-	-	-	2.1	4.1	9.4	10.1	12.8	30.0	31.5	30.6	46.6	55.9	75.0	69.1	84.6	70.3	24.3	18.6	13.5	1.53
C44	Malignant neoplasms of skin	2,956	-	-	-	-	0.5	1.0	3.0	1.9	5.7	11.6	23.4	34.5	72.1	130.9	328.6	516.8	732.8	1.296.8	92.4	54.7	32.7	3.02

Flemish Region: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C45	Mesothelioma	149	-	-	-	-	-	-	-	0.5	-	0.4	0.4	1.7	10.5	12.4	19.7	33.2	26.6	23.4	4.7	3.0	1.9	0.23
C46	Kaposi's sarcoma	16	-	-	-	-	0.5	-	-	1.4	1.0	0.9	0.8	0.4	0.5	-	0.8	-	1.2	3.3	0.5	0.4	0.4	0.03
C47,C49	Soft tissues	134	1.7	-	1.2	-	1.0	0.5	1.5	3.8	3.3	2.6	2.0	4.4	7.5	8.5	12.1	12.6	15.7	23.4	4.2	3.2	2.5	0.25
C48	Retroperitoneum and peritoneum	12	-	0.5	-	-	-	-	-	0.5	-	0.9	-	0.4	0.5	1.1	0.8	1.8	1.2	-	0.4	0.3	0.2	0.02
C50	Breast	75	-	-	-	-	-	-	0.5	-	-	1.3	1.2	1.7	3.5	7.3	8.3	9.0	16.9	15.1	2.3	1.5	1.0	0.12
C60	Penis	60	-	-	-	-	-	-	-	-	1.0	0.9	1.2	4.4	2.5	5.1	5.3	9.9	8.5	6.7	1.9	1.3	0.9	0.10
C61	Prostate	5,899	-	-	-	-	-	-	-	-	4.3	28.3	87.9	239.8	446.4	669.8	818.5	853.2	749.7	547.2	184.3	126.5	85.3	10.84
C62	Testis	238	1.7	-	-	5.0	10.8	28.9	32.2	13.5	9.5	6.9	3.2	2.6	1.0	0.6	1.5	-	-	-	7.4	8.1	7.9	0.59
C63	Male genital organs, NOS	10	-	-	-	-	-	-	-	-	-	0.4	0.4	0.9	-	1.7	-	1.8	-	1.7	0.3	0.2	0.2	0.02
C64	Kidney	737	1.7	-	-	-	-	1.0	3.0	4.3	9.0	15.0	23.4	32.8	42.1	75.6	87.8	78.1	72.6	82.0	23.0	16.9	11.9	1.47
C65	Renal pelvis	90	-	-	-	-	-	-	-	-	0.5	0.4	1.6	2.2	4.0	7.3	9.1	17.9	20.6	15.1	2.8	1.8	1.1	0.13
C66	Ureter	77	-	-	-	-	-	-	-	-	-	-	0.8	0.9	1.5	6.2	9.8	17.9	23.0	11.7	2.4	1.4	0.9	0.10
C67	Bladder	1.075	0.6	-	-	-	-	-	0.5	1.4	4.3	4.7	10.1	24.9	37.1	81.3	146.1	168.7	250.3	271.1	33.6	21.1	13.4	1.54
C68	Urinary organs, NOS	32	-	-	-	-	-	-	-	-	-	-	-	0.4	1.0	3.4	5.3	2.7	8.5	10.0	1.0	0.6	0.4	0.05
C69	Eye and adnexa	36	0.6	-	-	0.6	-	-	-	1.0	0.5	-	1.2	-	3.5	1.7	3.0	2.7	3.6	13.4	1.1	0.8	0.6	0.06
C70	Meninges	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	2.7	-	1.7	0.2	0.1	0.1	0.00
C71	Brain	317	1.7	1.6	5.8	2.8	2.1	4.1	6.4	4.3	10.0	7.3	9.3	12.2	19.0	21.4	25.0	28.7	25.4	18.4	9.9	8.2	6.7	0.66
C72	Spinal cord, cranial nerves and CNS, NOS	13	-	-	-	-	0.5	0.5	0.5	-	1.4	-	0.8	0.9	0.5	1.1	-	-	-	-	0.4	0.4	0.3	0.03
C73	Thyroid gland	126	-	-	-	-	1.0	1.5	0.5	3.8	2.4	5.6	6.0	4.4	9.0	10.7	9.8	7.2	6.0	10.0	3.9	3.2	2.4	0.27
C74	Adrenal gland	19	0.6	-	-	-	-	-	0.5	1.0	0.5	0.9	0.4	-	2.0	1.7	2.3	-	1.2	-	0.6	0.5	0.4	0.05
C75	Endocrine glands, NOS	12	-	-	1.2	-	-	0.5	-	-	1.9	0.4	0.4	0.4	-	1.1	-	-	-	-	0.4	0.4	0.4	0.03
C81	Hodgkin lymphoma	125	0.6	0.5	0.6	6.7	6.2	6.1	5.9	1.9	3.3	3.4	2.8	3.5	7.5	3.9	6.1	2.7	4.8	5.0	3.9	3.8	3.5	0.30
C82-C86	Non-Hodgkin lymphoma	686	0.6	0.5	1.2	3.9	1.0	3.5	5.9	7.2	10.9	9.8	10.5	21.4	32.1	51.3	95.4	72.7	111.2	107.1	21.4	15.3	10.9	1.27
C88	Malignant immunoproliferative diseases	116	-	-	-	0.6	-	0.5	1.0	1.0	0.5	-	4.8	3.5	8.0	9.6	12.9	13.5	21.8	10.0	3.6	2.6	1.8	0.21
C90	Multiple myeloma	294	-	-	-	-	-	-	1.5	1.4	-	5.1	5.6	13.5	13.0	19.7	45.4	44.9	41.1	43.5	9.2	6.3	4.2	0.53
C91	Lymphoid leukaemia	408	7.9	4.3	2.9	2.8	2.1	0.5	1.5	1.4	2.9	3.9	9.3	16.2	26.6	26.0	46.2	42.2	62.9	51.9	12.7	9.5	7.5	0.77
C92	Myeloid leukaemia	231	0.6	0.5	0.6	3.4	1.5	3.5	1.5	2.9	3.3	3.9	5.2	7.4	14.0	12.4	21.2	29.6	27.8	38.5	7.2	5.4	4.1	0.41
C93	Monocytic leukaemia	54	-	-	-	0.6	-	-	0.5	-	-	0.4	-	-	0.5	2.8	9.1	19.7	12.1	1.7	1.7	1.0	0.7	0.07
C94-C95	Leukaemia other	8	-	-	0.6	-	-	-	-	0.5	-	-	-	0.9	0.5	-	-	1.8	-	1.7	0.2	0.2	0.2	0.01
C96	Lymphoid, haematopoietic and related tissue, NOS	13	3.4	1.1	-	-	-	-	-	0.5	-	0.4	-	-	-	-	0.8	-	-	3.3	0.4	0.5	0.6	0.03
C76	Other and ill-defined sites	8	-	-	-	-	-	-	-	-	-	-	0.8	-	1.0	1.1	-	1.8	-	-	0.2	0.2	0.1	0.01
C80	Unknown primary site	238	-	-	-	-	-	-	0.5	0.5	1.4	2.6	4.8	6.1	11.5	19.2	25.7	27.8	52.0	60.2	7.4	4.8	3.2	0.36
MPN	Myeloproliferative neoplasms	240	-	-	-	-	1.0	-	1.0	2.4	1.4	5.1	5.6	6.6	15.5	18.6	27.3	35.0	41.1	23.4	7.5	5.2	3.6	0.42
MDS	Myelodysplastic syndromes	276	0.6	1.1	0.6	-	-	-	-	-	-	1.7	2.0	3.1	9.5	22.6	35.6	43.1	67.7	77.0	8.6	5.4	3.5	0.38
Total		25,083	24.2	11.8	17.9	31.4	34.5	61.8	88.2	91.9	134.0	248.8	453.7	838.2	1,490.9	2,157.8	3,109.6	3,429.0	3,929.9	4,161.4	783.6	538.0	367.5	35.58
Total excl. non-melanoma		22,127	24.2	11.8	17.9	31.4	34.0	60.8	85.3	90.0	128.3	237.2	430.3	803.7	1,418.7	2,026.9	2,781.0	2,912.2	3,197.1	2,864.6	691.3	483.3	334.8	33.57
Total excl. non-melanoma and MDS, MPN		21,611	23.7	10.7	17.3	31.4	32.9	60.8	84.3	87.6	126.9	230.4	422.6	794.1	1,393.7	1,985.7	2,718.2	2,834.1	3,088.3	2,764.2	675.2	472.7	327.7	33.04

CR: crude (all ages) incidence rate (N/100,000 person years)
ESR and WSR: age standardised incidence rate, using the European or World Standard Population (N/100,000 person years)
CRi: Cumulative Risk (0-74 years)

Source: Belgian Cancer Registry

Flemish Region: Females, number of invasive tumours by primary site and age group in 2016

Flemish Region: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C00	Lip	10	-	-	-	-	-	-	-	-	-	-	-	-	2	1	1	2	-	4
C01	Base of tongue	21	-	-	-	-	-	-	-	-	-	-	1	4	3	8	2	-	1	2
C02	Tongue	46	-	-	-	-	-	-	2	-	-	2	2	7	8	9	7	3	4	2
C03	Gum	14	-	-	-	-	-	-	-	-	-	-	3	1	1	1	1	2	-	5
C04	Floor of mouth	26	-	-	-	-	-	-	-	-	-	-	3	3	6	6	4	2	2	-
C05	Palate	28	-	-	-	-	-	-	-	-	-	-	-	4	7	3	4	5	3	2
C06	Mouth, NOS	13	-	-	-	-	-	-	-	-	-	-	2	-	1	-	2	3	1	4
C07	Parotid gland	38	-	-	-	-	1	1	-	-	2	1	4	1	3	3	6	6	4	6
C08	Salivary glands, NOS	5	-	-	-	-	-	-	-	-	1	1	1	-	-	1	-	1	-	-
C09	Tonsil	52	-	-	-	-	-	-	-	-	-	2	3	7	17	5	6	4	4	4
C10	Oropharynx	25	-	-	-	-	-	-	-	-	-	1	2	2	5	5	8	1	-	1
C11	Nasopharynx	9	-	-	-	-	-	-	2	-	1	2	-	2	1	-	-	1	-	-
C12	Pyriform sinus	13	-	-	-	-	-	-	-	-	-	-	1	2	3	4	-	1	2	-
C13	Hypopharynx	5	-	-	-	-	-	1	-	-	-	-	-	1	-	2	-	1	-	-
C14	Lip, oral cavity and pharyn,x NOS	3	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	1
C15	Oesophagus	160	-	-	-	-	-	-	1	-	-	1	5	15	26	26	21	20	16	29
C16	Stomach	323	-	-	-	1	-	1	2	4	3	17	9	20	20	34	36	49	51	76
C17	Small intestine	80	-	-	-	-	-	-	1	2	2	3	5	12	9	7	12	5	11	11
C18	Colon	1,733	-	-	2	1	11	9	7	18	18	33	69	111	140	195	257	263	269	330
C19	Rectosigmoid junction	29	-	-	-	-	-	-	-	-	1	-	1	4	3	1	4	6	4	5
C20	Rectum	529	-	-	-	-	-	3	6	4	17	22	32	53	53	45	70	68	74	82
C21	Anus and anal canal	60	-	-	-	-	-	-	-	-	1	5	10	13	9	8	1	1	5	7
C22	Liver and intrahepatic bile ducts	137	1	-	-	-	-	-	2	1	1	6	6	14	19	22	18	11	26	10
C23	Gallbladder	38	-	-	-	-	-	-	-	1	-	1	1	1	4	3	5	10	4	8
C24	Biliary tract, NOS	97	-	-	-	-	-	-	-	-	-	3	4	7	12	8	15	16	13	19
C25	Pancreas	512	-	-	-	1	-	2	4	4	4	15	26	43	65	63	69	78	70	68
C26	Other ill-defined digestive organs	9	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	1	3	1
C30	Nasal cavity and middle ear	7	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	1	2	1
C31	Accessory sinuses	8	-	-	-	1	-	-	-	-	1	1	-	1	-	-	-	1	1	2
C32	Larynx	43	-	-	-	-	-	-	-	-	-	2	3	7	4	8	9	3	4	3
C33	Trachea	3	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1	-
C34	Bronchus and lung	1,499	-	-	-	-	-	4	4	5	12	44	105	186	254	246	236	185	122	96
C37	Thymus	13	-	-	-	-	-	-	1	1	-	1	1	1	1	2	4	1	-	-
C38	Heart, mediastinum and pleura	8	-	1	-	-	-	-	-	-	-	-	-	-	1	1	1	3	-	1
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	15	-	-	2	5	1	2	-	1	1	1	2	-	-	-	-	-	-	-
C41	Bone and articular cartilage, NOS	12	-	-	-	1	-	-	-	-	1	1	1	-	1	2	3	2	-	-
C43	Malignant melanoma of skin	1,086	-	-	1	2	13	22	37	62	85	114	115	117	117	104	87	67	71	72
C44	Malignant neoplasms of skin	2,036	-	-	-	-	3	5	8	7	14	37	63	80	115	166	245	299	356	638

Flemish Region: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C45	Mesothelioma	43	-	-	-	-	-	-	1	-	-	2	-	4	2	6	8	6	11	3
C46	Kaposi's sarcoma	3	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1
C47,C49	Soft tissues	112	6	-	1	2	2	2	4	3	1	8	6	9	8	11	15	13	12	9
C48	Retroperitoneum and peritoneum	37	-	-	-	-	-	-	-	1	-	-	4	3	5	2	5	7	6	4
C50	Breast	6,291	-	-	-	-	3	27	93	164	305	572	791	681	805	757	604	552	474	463
C51	Vulva	125	-	-	-	-	-	-	-	2	6	4	5	8	14	14	10	19	20	23
C52	Vagina	20	1	-	-	-	-	-	-	-	-	-	-	4	2	4	3	2	2	2
C53	Cervix uteri	347	-	-	-	-	2	12	20	32	39	40	38	37	32	21	23	25	14	12
C54	Corpus uteri	871	-	-	-	-	-	-	1	3	4	22	42	69	111	147	156	140	102	74
C55	Uterus	4	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2	1
C56	Ovary	445	-	-	1	1	4	4	3	5	10	25	40	42	36	59	70	64	43	38
C57	Female genital organs, NOS	57	-	-	-	-	-	1	-	-	-	1	4	7	8	6	11	7	5	7
C58	Placenta	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
C64	Kidney	415	6	1	-	1	1	1	4	8	9	12	17	27	41	51	61	55	63	57
C65	Renal pelvis	55	-	-	-	-	-	-	-	-	-	-	1	2	6	4	7	14	9	12
C66	Ureter	34	-	-	-	-	-	-	-	-	-	-	-	1	3	4	5	9	3	9
C67	Bladder	285	-	-	-	-	-	-	1	-	1	2	9	16	21	29	35	41	59	71
C68	Urinary organs, NOS	3	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	1
C69	Eye and adnexa	41	1	-	-	-	-	-	1	-	2	1	7	1	3	4	3	10	3	5
C70	Meninges	3	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	1
C71	Brain	212	2	6	3	3	-	2	9	11	10	13	5	15	29	29	30	22	14	9
C72	Spinal cord, cranial nerves and CNS, NOS	11	-	1	-	-	2	-	-	1	-	1	1	-	2	-	-	2	1	-
C73	Thyroid gland	381	-	-	-	2	17	14	29	37	46	38	39	38	26	31	29	18	8	9
C74	Adrenal gland	22	3	-	-	-	2	2	-	-	1	1	2	2	1	4	-	4	-	-
C75	Endocrine glands, NOS	9	-	-	-	-	-	-	2	-	3	-	-	-	2	-	-	1	1	-
C81	Hodgkin lymphoma	80	1	-	4	7	7	9	7	6	3	5	3	5	2	7	1	4	3	6
C82-C86	Non-Hodgkin lymphoma	530	1	-	2	2	5	6	8	9	7	21	29	38	39	77	83	83	61	59
C88	Malignant immunoproliferative diseases	81	-	-	-	-	-	-	1	1	2	-	9	9	8	8	7	13	12	11
C90	Multiple myeloma	248	-	-	-	-	-	-	1	-	1	5	8	18	21	32	51	39	42	30
C91	Lymphoid leukaemia	240	2	9	2	2	1	1	1	2	4	7	10	24	18	30	43	38	28	18
C92	Myeloid leukaemia	182	2	4	3	1	1	3	4	3	4	8	9	13	18	15	18	29	17	30
C93	Monocytic leukaemia	29	1	-	-	-	-	-	-	-	1	-	-	1	1	5	4	2	11	3
C94-C95	Leukaemia other	4	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2
C96	Lymphoid, haematopoietic and related tissue, NOS	8	3	1	-	1	-	-	-	-	-	1	-	-	1	-	-	-	1	-
C76	Other and ill-defined sites	6	-	-	-	-	-	-	-	-	-	2	-	-	-	1	1	-	-	2
C80	Unknown primary site	233	-	-	-	1	-	-	3	1	3	2	11	13	23	23	27	33	49	44
MPN	Myeloproliferative neoplasms	228	-	-	-	-	-	-	1	8	7	8	9	16	21	27	36	39	34	22
MDS	Myelodysplastic syndromes	188	-	-	-	1	-	-	1	-	2	4	4	5	10	16	23	39	38	45
Total		20,629	30	23	22	36	76	134	273	407	636	1,122	1,586	1,828	2,232	2,420	2,506	2,453	2,272	2,573
Total excl. non-melanoma		18,593	30	23	22	36	73	129	265	400	622	1,085	1,523	1,748	2,117	2,254	2,261	2,154	1,916	1,935
Total excl. non-melanoma and MDS, MPN		18,177	30	23	22	35	73	129	263	392	613	1,073	1,510	1,727	2,086	2,211	2,202	2,076	1,844	1,868

Source: Belgian Cancer Registry

Flemish Region: Females, age-specific and age-standardised incidence rates of cancer, by primary site in 2016 (N/100,000 person years)

Flemish Region: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C00	Lip	10	-	-	-	-	-	-	-	-	-	-	-	-	1.0	0.5	0.7	1.5	-	3.3	0.3	0.2	0.1	0.01
C01	Base of tongue	21	-	-	-	-	-	-	-	-	-	-	0.4	1.8	1.5	4.4	1.4	-	0.8	1.7	0.6	0.5	0.3	0.05
C02	Tongue	46	-	-	-	-	-	-	1.0	-	-	0.9	0.8	3.1	4.0	4.9	4.8	2.2	3.4	1.7	1.4	1.0	0.7	0.10
C03	Gum	14	-	-	-	-	-	-	-	-	-	-	1.2	0.4	0.5	0.5	0.7	1.5	-	4.2	0.4	0.3	0.2	0.02
C04	Floor of mouth	26	-	-	-	-	-	-	-	-	-	-	1.2	1.3	3.0	3.3	2.8	1.5	1.7	-	0.8	0.6	0.4	0.06
C05	Palate	28	-	-	-	-	-	-	-	-	-	-	-	1.8	3.5	1.6	2.8	3.7	2.5	1.7	0.9	0.5	0.4	0.05
C06	Mouth, NOS	13	-	-	-	-	-	-	-	-	-	-	0.8	-	0.5	-	1.4	2.2	0.8	3.3	0.4	0.2	0.1	0.01
C07	Parotid gland	38	-	-	-	-	0.5	0.5	-	-	1.0	0.4	1.7	0.4	1.5	1.6	4.1	4.4	3.4	5.0	1.2	0.8	0.5	0.06
C08	Salivary glands, NOS	5	-	-	-	-	-	-	-	-	0.5	0.4	0.4	-	-	0.5	-	0.7	-	-	0.2	0.1	0.1	0.01
C09	Tonsil	52	-	-	-	-	-	-	-	-	-	0.9	1.2	3.1	8.5	2.7	4.1	2.9	3.4	3.3	1.6	1.1	0.8	0.10
C10	Oropharynx	25	-	-	-	-	-	-	-	-	-	0.4	0.8	0.9	2.5	2.7	5.5	0.7	-	0.8	0.8	0.6	0.4	0.06
C11	Nasopharynx	9	-	-	-	-	-	-	1.0	-	0.5	0.9	-	0.9	0.5	-	-	0.7	-	-	0.3	0.3	0.2	0.02
C12	Pyriform sinus	13	-	-	-	-	-	-	-	-	-	-	0.4	0.9	1.5	2.2	-	0.7	1.7	-	0.4	0.3	0.2	0.02
C13	Hypopharynx	5	-	-	-	-	-	0.5	-	-	-	-	-	0.4	-	1.1	-	0.7	-	-	0.2	0.1	0.1	0.01
C14	Lip, oral cavity and pharyn,x NOS	3	-	-	-	-	-	-	-	-	-	-	-	0.4	-	0.5	-	-	-	0.8	0.1	0.1	0.0	0.00
C15	Oesophagus	160	-	-	-	-	-	-	0.5	-	-	0.4	2.1	6.6	13.0	14.2	14.5	14.7	13.6	24.2	4.9	2.9	2.0	0.26
C16	Stomach	323	-	-	-	0.6	-	0.5	1.0	1.9	1.5	7.5	3.7	8.9	10.0	18.6	24.8	35.9	43.2	63.5	9.9	5.5	3.7	0.39
C17	Small intestine	80	-	-	-	-	-	-	0.5	1.0	1.0	1.3	2.1	5.3	4.5	3.8	8.3	3.7	9.3	9.2	2.4	1.6	1.1	0.14
C18	Colon	1.733	-	-	1.2	0.6	5.8	4.6	3.5	8.7	8.7	14.6	28.6	49.2	70.0	106.4	177.1	192.9	227.9	275.6	52.9	30.3	20.5	2.37
C19	Rectosigmoid junction	29	-	-	-	-	-	-	-	-	0.5	-	0.4	1.8	1.5	0.5	2.8	4.4	3.4	4.2	0.9	0.5	0.3	0.04
C20	Rectum	529	-	-	-	-	-	1.5	3.0	1.9	8.2	9.7	13.3	23.5	26.5	24.6	48.2	49.9	62.7	68.5	16.1	10.1	7.0	0.80
C21	Anus and anal canal	60	-	-	-	-	-	-	-	-	0.5	2.2	4.1	5.8	4.5	4.4	0.7	0.7	4.2	5.8	1.8	1.4	1.0	0.11
C22	Liver and intrahepatic bile ducts	137	0.6	-	-	-	-	-	1.0	0.5	0.5	2.6	2.5	6.2	9.5	12.0	12.4	8.1	22.0	8.4	4.2	2.7	1.9	0.24
C23	Gallbladder	38	-	-	-	-	-	-	-	0.5	-	0.4	0.4	0.4	2.0	1.6	3.4	7.3	3.4	6.7	1.2	0.6	0.4	0.04
C24	Biliary tract, NOS	97	-	-	-	-	-	-	-	-	-	1.3	1.7	3.1	6.0	4.4	10.3	11.7	11.0	15.9	3.0	1.7	1.1	0.13
C25	Pancreas	512	-	-	-	0.6	-	1.0	2.0	1.9	1.9	6.6	10.8	19.1	32.5	34.4	47.5	57.2	59.3	56.8	15.6	9.6	6.6	0.79
C26	Other ill-defined digestive organs	9	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	1.4	0.7	2.5	0.8	0.3	0.1	0.1	0.01
C30	Nasal cavity and middle ear	7	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.5	0.7	0.7	1.7	0.8	0.2	0.1	0.1	0.01
C31	Accessory sinuses	8	-	-	-	0.6	-	-	-	-	0.5	0.4	-	0.4	-	-	-	0.7	0.8	1.7	0.2	0.2	0.1	0.01
C32	Larynx	43	-	-	-	-	-	-	-	-	-	0.9	1.2	3.1	2.0	4.4	6.2	2.2	3.4	2.5	1.3	0.9	0.6	0.09
C33	Trachea	3	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	0.7	0.8	-	0.1	0.1	0.0	0.00
C34	Bronchus and lung	1,499	-	-	-	-	-	2.0	2.0	2.4	5.8	19.4	43.5	82.5	127.0	134.3	162.6	135.7	103.4	80.2	45.7	31.4	22.0	2.87
C37	Thymus	13	-	-	-	-	-	-	0.5	0.5	-	0.4	0.4	0.4	0.5	1.1	2.8	0.7	-	-	0.4	0.3	0.2	0.03
C38	Heart, mediastinum and pleura	8	-	0.6	-	-	-	-	-	-	-	-	-	-	0.5	0.5	0.7	2.2	-	0.8	0.2	0.2	0.1	0.01
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	15	-	-	1.2	2.9	0.5	1.0	-	0.5	0.5	0.4	0.8	-	-	-	-	-	-	-	0.5	0.6	0.6	0.04
C41	Bone and articular cartilage, NOS	12	-	-	-	0.6	-	-	-	-	0.5	0.4	0.4	-	0.5	1.1	2.1	1.5	-	-	0.4	0.3	0.2	0.03
C43	Malignant melanoma of skin	1,086	-	-	0.6	1.2	6.9	11.3	18.5	30.1	41.1	50.3	47.6	51.9	58.5	56.8	59.9	49.1	60.2	60.1	33.1	26.8	20.8	2.15
C44	Malignant neoplasms of skin	2,036	-	-	-	-	1.6	2.6	4.0	3.4	6.8	16.3	26.1	35.5	57.5	90.6	168.8	219.3	301.7	532.9	62.1	30.7	19.6	2.04

Flemish Region: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C45	Mesothelioma	43	-	-	-	-	-	-	0.5	-	-	0.9	-	1.8	1.0	3.3	5.5	4.4	9.3	2.5	1.3	0.8	0.5	0.06
C46	Kaposi's sarcoma	3	-	-	-	-	-	-	-	-	-	0.4	-	-	-	0.5	-	-	-	0.8	0.1	0.1	0.0	0.00
C47,C49	Soft tissues	112	3.6	-	0.6	1.2	1.1	1.0	2.0	1.5	0.5	3.5	2.5	4.0	4.0	6.0	10.3	9.5	10.2	7.5	3.4	2.6	2.2	0.21
C48	Retroperitoneum and peritoneum	37	-	-	-	-	-	-	-	0.5	-	-	1.7	1.3	2.5	1.1	3.4	5.1	5.1	3.3	1.1	0.7	0.5	0.05
C50	Breast	6,291	-	-	-	-	1.6	13.8	46.4	79.5	147.5	252.2	327.6	301.9	402.6	413.1	416.1	404.9	401.6	386.7	192.0	144.0	106.0	11.32
C51	Vulva	125	-	-	-	-	-	-	-	1.0	2.9	1.8	2.1	3.5	7.0	7.6	6.9	13.9	16.9	19.2	3.8	2.3	1.6	0.16
C52	Vagina	20	0.6	-	-	-	-	-	-	-	-	-	-	1.8	1.0	2.2	2.1	1.5	1.7	1.7	0.6	0.4	0.3	0.04
C53	Cervix uteri	347	-	-	-	-	1.1	6.1	10.0	15.5	18.9	17.6	15.7	16.4	16.0	11.5	15.8	18.3	11.9	10.0	10.6	9.3	7.3	0.72
C54	Corpus uteri	871	-	-	-	-	-	-	0.5	1.5	1.9	9.7	17.4	30.6	55.5	80.2	107.5	102.7	86.4	61.8	26.6	16.7	11.5	1.51
C55	Uterus	4	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	-	1.7	0.8	0.1	0.1	0.0	0.00
C56	Ovary	445	-	-	0.6	0.6	2.1	2.0	1.5	2.4	4.8	11.0	16.6	18.6	18.0	32.2	48.2	46.9	36.4	31.7	13.6	9.3	6.7	0.79
C57	Female genital organs, NOS	57	-	-	-	-	-	0.5	-	-	-	0.4	1.7	3.1	4.0	3.3	7.6	5.1	4.2	5.8	1.7	1.1	0.8	0.10
C58	Placenta	1	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.0	0.00
C64	Kidney	415	3.6	0.6	-	0.6	0.5	0.5	2.0	3.9	4.4	5.3	7.0	12.0	20.5	27.8	42.0	40.3	53.4	47.6	12.7	8.0	5.8	0.65
C65	Renal pelvis	55	-	-	-	-	-	-	-	-	-	-	0.4	0.9	3.0	2.2	4.8	10.3	7.6	10.0	1.7	0.8	0.5	0.06
C66	Ureter	34	-	-	-	-	-	-	-	-	-	-	-	0.4	1.5	2.2	3.4	6.6	2.5	7.5	1.0	0.5	0.3	0.04
C67	Bladder	285	-	-	-	-	-	-	0.5	-	0.5	0.9	3.7	7.1	10.5	15.8	24.1	30.1	50.0	59.3	8.7	4.4	2.8	0.32
C68	Urinary organs, NOS	3	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	0.8	0.1	0.1	0.0	0.01
C69	Eye and adnexa	41	0.6	-	-	-	-	-	0.5	-	1.0	0.4	2.9	0.4	1.5	2.2	2.1	7.3	2.5	4.2	1.3	0.8	0.6	0.06
C70	Meninges	3	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	0.8	0.1	0.1	0.0	0.01
C71	Brain	212	1.2	3.4	1.8	1.8	-	1.0	4.5	5.3	4.8	5.7	2.1	6.6	14.5	15.8	20.7	16.1	11.9	7.5	6.5	5.1	4.2	0.45
C72	Spinal cord, cranial nerves and CNS, NOS	11	-	0.6	-	-	1.1	-	-	0.5	-	0.4	0.4	-	1.0	-	-	1.5	0.8	-	0.3	0.3	0.3	0.02
C73	Thyroid gland	381	-	-	-	1.2	9.0	7.2	14.5	17.9	22.3	16.8	16.2	16.8	13.0	16.9	20.0	13.2	6.8	7.5	11.6	10.7	8.8	0.85
C74	Adrenal gland	22	1.8	-	-	-	1.1	1.0	-	-	0.5	0.4	0.8	0.9	0.5	2.2	-	2.9	-	-	0.7	0.6	0.6	0.05
C75	Endocrine glands, NOS	9	-	-	-	-	-	-	1.0	-	1.5	-	-	-	1.0	-	-	0.7	0.8	-	0.3	0.2	0.2	0.02
C81	Hodgkin lymphoma	80	0.6	-	2.4	4.1	3.7	4.6	3.5	2.9	1.5	2.2	1.2	2.2	1.0	3.8	0.7	2.9	2.5	5.0	2.4	2.4	2.3	0.17
C82-C86	Non-Hodgkin lymphoma	530	0.6	-	1.2	1.2	2.7	3.1	4.0	4.4	3.4	9.3	12.0	16.8	19.5	42.0	57.2	60.9	51.7	49.3	16.2	10.5	7.6	0.88
C88	Malignant immunoproliferative diseases	81	-	-	-	-	-	-	0.5	0.5	1.0	-	3.7	4.0	4.0	4.4	4.8	9.5	10.2	9.2	2.5	1.5	1.0	0.11
C90	Multiple myeloma	248	-	-	-	-	-	-	0.5	-	0.5	2.2	3.3	8.0	10.5	17.5	35.1	28.6	35.6	25.1	7.6	4.4	2.9	0.39
C91	Lymphoid leukaemia	240	1.2	5.0	1.2	1.2	0.5	0.5	0.5	1.0	1.9	3.1	4.1	10.6	9.0	16.4	29.6	27.9	23.7	15.0	7.3	5.0	3.9	0.43
C92	Myeloid leukaemia	182	1.2	2.2	1.8	0.6	0.5	1.5	2.0	1.5	1.9	3.5	3.7	5.8	9.0	8.2	12.4	21.3	14.4	25.1	5.6	3.8	3.0	0.28
C93	Monocytic leukaemia	29	0.6	-	-	-	-	-	-	-	0.5	-	-	0.4	0.5	2.7	2.8	1.5	9.3	2.5	0.9	0.5	0.3	0.04
C94-C95	Leukaemia other	4	-	-	0.6	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	1.7	0.1	0.1	0.1	0.01
C96	Lymphoid, haematopoietic and related tissue, NOS	8	1.8	0.6	-	0.6	-	-	-	-	-	0.4	-	-	0.5	-	-	-	0.8	-	0.2	0.3	0.4	0.02
C76	Other and ill-defined sites	6	-	-	-	-	-	-	-	-	-	0.9	-	-	-	0.5	0.7	-	-	1.7	0.2	0.1	0.1	0.01
C80	Unknown primary site	233	-	-	-	0.6	-	-	1.5	0.5	1.5	0.9	4.6	5.8	11.5	12.6	18.6	24.2	41.5	36.8	7.1	3.9	2.6	0.29
MPN	Myeloproliferative neoplasms	228	-	-	-	-	-	-	0.5	3.9	3.4	3.5	3.7	7.1	10.5	14.7	24.8	28.6	28.8	18.4	7.0	4.4	3.0	0.36
MDS	Myelodysplastic syndromes	188	-	-	-	0.6	-	-	0.5	-	1.0	1.8	1.7	2.2	5.0	8.7	15.8	28.6	32.2	37.6	5.7	2.9	1.8	0.19
Total		20,629	17.8	12.9	13.3	21.0	40.4	68.5	136.3	197.3	307.6	494.7	656.9	810.4	1,116.3	1,320.7	1,726.4	1,799.4	1,925.2	2,149.1	629.5	423.6	305.8	29.32
Total excl. non-melanoma		18,593	17.8	12.9	13.3	21.0	38.8	66.0	132.3	193.9	300.9	478.4	630.8	774.9	1,058.8	1,230.1	1,557.6	1,580.1	1,623.5	1,616.2	567.4	393.0	286.2	27.85
Total excl. non-melanoma and MDS, MPN		18,177	17.8	12.9	13.3	20.4	38.8	66.0	131.3	190.1	296.5	473.1	625.4	765.6	1,043.3	1,206.7	1,517.0	1,522.9	1,562.5	1,560.2	554.7	385.7	281.3	27.45

CR: crude (all ages) incidence rate (N/100,000 person years)
ESR and WSR: age standardised incidence rate, using the European or World Standard Population (N/100,000 person years)
CRi: Cumulative Risk (0-74 years)

Source: Belgian Cancer Registry

Walloon Region: Males, number of invasive tumours by primary site and age group in 2016

Walloon Region: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C00	Lip	11	-	-	-	-	-	-	-	-	-	1	-	1	-	3	2	1	1	2
C01	Base of tongue	42	-	-	-	-	-	-	-	-	1	-	9	5	8	8	5	4	2	-
C02	Tongue	76	-	-	-	-	1	1	-	-	2	5	2	14	17	17	4	8	4	1
C03	Gum	28	-	-	-	-	-	-	-	-	-	-	3	6	9	2	3	2	1	2
C04	Floor of mouth	46	-	-	-	-	-	-	-	1	1	5	4	10	7	12	5	-	1	-
C05	Palate	36	-	-	-	-	-	1	-	-	2	-	5	8	8	5	4	1	1	1
C06	Mouth, NOS	26	-	-	-	-	-	-	-	-	1	2	2	5	7	4	-	3	2	-
C07	Parotid gland	23	-	-	-	-	-	2	-	-	1	3	2	2	-	6	3	-	4	-
C08	Salivary glands, NOS	3	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-
C09	Tonsil	81	-	-	-	-	-	-	-	-	-	4	17	22	18	10	3	3	3	1
C10	Oropharynx	61	-	-	-	-	-	-	-	-	3	2	6	11	16	12	6	4	1	-
C11	Nasopharynx	13	1	-	-	-	-	-	-	1	1	1	2	3	1	2	1	-	-	-
C12	Pyriform sinus	75	-	-	-	-	-	-	-	-	2	1	6	14	17	21	7	3	4	-
C13	Hypopharynx	27	-	-	-	-	-	-	-	-	-	1	6	3	3	3	7	2	2	-
C14	Lip, oral cavity and pharyn,x NOS	10	-	-	-	-	-	-	-	-	-	-	1	2	2	3	2	-	-	-
C15	Oesophagus	256	-	-	-	-	-	-	-	-	-	8	22	41	44	52	24	24	23	18
C16	Stomach	268	-	-	-	-	-	1	-	2	4	11	17	33	35	38	30	34	34	29
C17	Small intestine	74	-	-	-	-	-	2	1	-	4	5	3	9	10	9	12	6	7	6
C18	Colon	924	-	-	2	1	-	-	1	6	8	18	29	82	120	144	155	129	132	97
C19	Rectosigmoid junction	37	-	-	-	-	-	-	-	-	1	1	-	9	6	9	3	1	4	3
C20	Rectum	468	-	-	1	-	1	2	3	6	6	12	18	48	64	93	63	60	53	38
C21	Anus and anal canal	21	-	-	-	-	-	1	1	-	-	-	2	2	6	4	1	2	2	-
C22	Liver and intrahepatic bile ducts	282	1	-	-	-	-	-	-	1	5	5	20	28	58	61	41	24	22	16
C23	Gallbladder	8	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2	2	2	1
C24	Biliary tract, NOS	56	-	-	-	-	-	-	-	-	3	4	2	7	5	11	11	9	3	1
C25	Pancreas	285	-	-	-	-	-	-	1	2	2	7	27	24	39	45	42	48	27	21
C26	Other ill-defined digestive organs	25	-	-	-	-	-	-	-	-	-	-	1	2	4	5	4	3	3	3
C30	Nasal cavity and middle ear	9	-	-	-	-	-	-	-	-	-	-	-	1	2	2	1	1	1	1
C31	Accessory sinuses	16	-	-	-	-	1	-	1	-	-	-	1	1	7	2	1	-	1	1
C32	Larynx	169	-	-	-	-	-	-	-	3	4	5	9	27	27	43	20	10	8	13
C33	Trachea	2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
C34	Bronchus and lung	1,839	-	-	-	-	-	-	2	4	17	38	118	180	327	359	288	253	164	89
C37	Thymus	8	-	-	-	-	-	-	-	-	-	-	1	2	-	3	-	-	2	-
C38	Heart, mediastinum and pleura	4	-	-	-	-	-	-	-	-	-	-	1	-	1	-	1	-	-	1
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	17	-	-	5	1	1	-	2	3	2	-	-	1	1	1	-	-	-	-
C41	Bone and articular cartilage, NOS	10	-	-	-	-	-	1	1	-	1	1	1	-	2	1	-	2	-	-
C43	Malignant melanoma of skin	408	-	-	-	4	6	10	12	19	40	35	28	42	51	48	41	27	25	20
C44	Malignant neoplasms of skin	1,174	1	-	-	-	2	3	-	5	4	13	32	47	65	130	145	204	246	277

Walloon Region: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C45	Mesothelioma	58	-	-	-	-	-	-	-	-	-	2	1	3	4	10	10	11	8	9
C46	Kaposi's sarcoma	16	-	-	-	-	-	-	1	1	1	-	1	2	1	3	3	1	-	2
C47,C49	Soft tissues	47	1	-	2	1	1	-	-	1	3	3	3	3	3	10	3	3	3	7
C48	Retroperitoneum and peritoneum	6	-	-	-	-	-	-	-	-	-	1	1	-	3	1	-	-	-	-
C50	Breast	29	-	-	-	-	-	-	-	-	1	1	-	6	3	5	4	2	3	4
C60	Penis	27	-	-	-	-	-	-	1	-	-	1	-	2	5	2	10	4	2	-
C61	Prostate	2,584	-	-	-	-	-	-	-	-	4	17	96	214	384	647	440	351	290	141
C62	Testis	136	1	-	-	3	12	17	34	14	21	11	5	8	2	2	3	3	-	-
C63	Male genital organs, NOS	4	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	2
C64	Kidney	364	4	2	-	-	-	-	1	8	14	15	24	41	52	70	54	31	34	14
C65	Renal pelvis	31	-	-	-	-	-	-	-	-	-	2	1	2	-	7	4	9	5	1
C66	Ureter	37	-	-	-	-	-	-	-	-	-	-	1	4	5	8	9	5	3	2
C67	Bladder	616	-	-	-	-	-	-	-	3	3	9	26	42	65	103	106	98	87	74
C68	Urinary organs, NOS	20	-	-	-	-	-	-	-	1	-	-	1	2	3	2	3	4	1	3
C69	Eye and adnexa	30	8	-	-	-	-	-	-	1	-	1	4	-	5	1	6	3	1	-
C70	Meninges	3	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2
C71	Brain	142	-	4	5	-	4	3	2	7	4	3	12	19	20	20	16	10	7	6
C72	Spinal cord, cranial nerves and CNS, NOS	6	1	-	-	1	-	1	-	2	-	-	1	-	-	-	-	-	-	-
C73	Thyroid gland	109	-	-	-	2	1	4	2	6	6	14	12	17	10	16	9	7	3	-
C74	Adrenal gland	11	1	-	-	-	-	-	2	-	1	2	1	-	1	2	1	-	-	-
C75	Endocrine glands, NOS	4	-	-	-	1	-	-	-	1	1	-	-	-	-	1	-	-	-	-
C81	Hodgkin lymphoma	68	1	2	2	2	8	6	1	4	5	6	5	5	7	6	1	2	3	2
C82-C86	Non-Hodgkin lymphoma	349	-	1	1	3	3	4	4	8	7	18	23	22	41	40	48	46	41	39
C88	Malignant immunoproliferative diseases	73	-	-	-	-	-	-	2	3	1	1	4	9	6	13	10	13	9	2
C90	Multiple myeloma	163	-	-	-	-	-	-	-	1	4	6	7	13	17	24	28	23	20	20
C91	Lymphoid leukaemia	219	11	8	1	2	5	2	-	3	6	11	17	18	21	31	25	18	28	12
C92	Myeloid leukaemia	100	1	-	1	-	2	-	-	2	1	2	9	10	14	17	14	10	10	7
C93	Monocytic leukaemia	27	1	1	-	-	-	-	-	-	-	-	1	-	3	4	7	3	4	3
C94-C95	Leukaemia other	6	-	1	-	-	-	-	-	1	-	-	-	2	-	1	-	-	1	-
C96	Lymphoid, haematopoietic and related tissue, NOS	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
C76	Other and ill-defined sites	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
C80	Unknown primary site	132	-	-	-	-	-	-	-	2	1	4	10	15	12	19	22	16	16	15
MPN	Myeloproliferative neoplasms	123	-	-	-	-	-	-	1	2	4	10	12	8	16	21	12	19	9	9
MDS	Myelodysplastic syndromes	147	-	-	1	-	2	-	2	2	-	1	4	4	16	23	18	26	28	20
Total		12,609	34	20	21	21	50	61	78	126	203	329	681	1,166	1,710	2,277	1,803	1,589	1.,401	1,039
Total excl. non-melanoma		11,435	33	20	21	21	48	58	78	121	199	316	649	1,119	1,645	2,147	1,658	1,385	1,155	762
Total excl. non-melanoma and MDS, MPN		11,165	33	20	20	21	46	58	75	117	195	305	633	1,107	1,613	2,103	1,628	1,340	1,118	733

Source: Belgian Cancer Registry

Walloon Region: Males, age-specific and age-standardised incidence rates of cancer, by primary site in 2016 (N/100,000 person years)

Walloon Region: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C00	Lip	11	-	-	-	-	-	-	-	-	-	0.8	-	0.8	-	3.0	3.4	2.0	2.8	7.3	0.6	0.5	0.3	0.04
C01	Base of tongue	42	-	-	-	-	-	-	-	-	0.8	-	7.0	4.1	7.5	8.1	8.5	8.1	5.5	-	2.4	2.0	1.4	0.18
C02	Tongue	76	-	-	-	-	0.9	0.9	-	-	1.6	4.0	1.6	11.6	15.9	17.3	6.8	16.2	11.1	3.7	4.3	3.5	2.5	0.30
C03	Gum	28	-	-	-	-	-	-	-	-	-	-	2.3	5.0	8.4	2.0	5.1	4.1	2.8	7.3	1.6	1.3	0.9	0.11
C04	Floor of mouth	46	-	-	-	-	-	-	-	0.9	0.8	4.0	3.1	8.3	6.5	12.2	8.5	-	2.8	-	2.6	2.2	1.6	0.22
C05	Palate	36	-	-	-	-	-	0.9	-	-	1.6	-	3.9	6.6	7.5	5.1	6.8	2.0	2.8	3.7	2.0	1.7	1.3	0.16
C06	Mouth, NOS	26	-	-	-	-	-	-	-	-	0.8	1.6	1.6	4.1	6.5	4.1	-	6.1	5.5	-	1.5	1.2	0.9	0.09
C07	Parotid gland	23	-	-	-	-	-	1.7	-	-	0.8	2.4	1.6	1.7	-	6.1	5.1	-	11.1	-	1.3	1.1	0.8	0.10
C08	Salivary glands, NOS	3	-	-	-	-	-	-	-	-	-	-	0.8	0.8	0.9	-	-	-	-	-	0.2	0.2	0.1	0.01
C09	Tonsil	81	-	-	-	-	-	-	-	-	-	3.2	13.3	18.2	16.8	10.2	5.1	6.1	8.3	3.7	4.6	3.9	2.8	0.33
C10	Oropharynx	61	-	-	-	-	-	-	-	-	2.5	1.6	4.7	9.1	14.9	12.2	10.2	8.1	2.8	-	3.5	2.9	2.1	0.28
C11	Nasopharynx	13	1.0	-	-	-	-	-	-	0.9	0.8	0.8	1.6	2.5	0.9	2.0	1.7	-	-	-	0.7	0.7	0.6	0.06
C12	Pyriform sinus	75	-	-	-	-	-	-	-	-	1.6	0.8	4.7	11.6	15.9	21.3	11.9	6.1	11.1	-	4.3	3.4	2.5	0.34
C13	Hypopharynx	27	-	-	-	-	-	-	-	-	-	0.8	4.7	2.5	2.8	3.0	11.9	4.1	5.5	-	1.5	1.3	0.9	0.13
C14	Lip, oral cavity and pharyn,x NOS	10	-	-	-	-	-	-	-	-	-	-	0.8	1.7	1.9	3.0	3.4	-	-	-	0.6	0.5	0.3	0.05
C15	Oesophagus	256	-	-	-	-	-	-	-	-	-	6.4	17.2	33.9	41.1	52.9	40.7	48.7	63.8	65.7	14.6	11.3	7.8	0.96
C16	Stomach	268	-	-	-	-	-	0.9	-	1.8	3.3	8.8	13.3	27.3	32.7	38.6	50.8	69.0	94.3	105.9	15.3	11.7	7.8	0.88
C17	Small intestine	74	-	-	-	-	-	1.7	0.9	-	3.3	4.0	2.3	7.4	9.3	9.1	20.3	12.2	19.4	21.9	4.2	3.4	2.4	0.29
C18	Colon	924	-	-	1.8	0.9	-	-	0.9	5.4	6.6	14.4	22.6	67.9	112.1	146.4	262.7	261.7	366.0	354.3	52.6	39.5	26.1	3.16
C19	Rectosigmoid junction	37	-	-	-	-	-	-	-	-	0.8	0.8	-	7.4	5.6	9.1	5.1	2.0	11.1	11.0	2.1	1.6	1.1	0.14
C20	Rectum	468	-	-	0.9	-	0.9	1.7	2.7	5.4	4.9	9.6	14.0	39.7	59.8	94.5	106.8	121.7	146.9	138.8	26.6	20.5	13.9	1.69
C21	Anus and anal canal	21	-	-	-	-	-	0.9	0.9	-	-	-	1.6	1.7	5.6	4.1	1.7	4.1	5.5	-	1.2	1.0	0.7	0.08
C22	Liver and intrahepatic bile ducts	282	1.0	-	-	-	-	-	-	0.9	4.1	4.0	15.6	23.2	54.2	62.0	69.5	48.7	61.0	58.4	16.1	12.6	8.9	1.17
C23	Gallbladder	8	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	3.4	4.1	5.5	3.7	0.5	0.3	0.2	0.02
C24	Biliary tract, NOS	56	-	-	-	-	-	-	-	-	2.5	3.2	1.6	5.8	4.7	11.2	18.6	18.3	8.3	3.7	3.2	2.6	1.8	0.24
C25	Pancreas	285	-	-	-	-	-	-	0.9	1.8	1.6	5.6	21.1	19.9	36.4	45.7	71.2	97.4	74.9	76.7	16.2	12.6	8.4	1.02
C26	Other ill-defined digestive organs	25	-	-	-	-	-	-	-	-	-	-	0.8	1.7	3.7	5.1	6.8	6.1	8.3	11.0	1.4	1.1	0.7	0.09
C30	Nasal cavity and middle ear	9	-	-	-	-	-	-	-	-	-	-	-	0.8	1.9	2.0	1.7	2.0	2.8	3.7	0.5	0.4	0.3	0.03
C31	Accessory sinuses	16	-	-	-	-	0.9	-	0.9	-	-	-	0.8	0.8	6.5	2.0	1.7	-	2.8	3.7	0.9	0.8	0.6	0.07
C32	Larynx	169	-	-	-	-	-	-	-	2.7	3.3	4.0	7.0	22.3	25.2	43.7	33.9	20.3	22.2	47.5	9.6	7.7	5.4	0.71
C33	Trachea	2	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	-	-	3.7	0.1	0.1	0.1	0.00
C34	Bronchus and lung	1,839	-	-	-	-	-	-	1.8	3.6	13.9	30.5	92.1	149.0	305.5	364.9	488.1	513.3	454.7	325.0	104.7	81.4	55.5	6.99
C37	Thymus	8	-	-	-	-	-	-	-	-	-	-	0.8	1.7	-	3.0	-	-	5.5	-	0.5	0.3	0.2	0.03
C38	Heart, mediastinum and pleura	4	-	-	-	-	-	-	-	-	-	-	0.8	-	0.9	-	1.7	-	-	3.7	0.2	0.2	0.1	0.02
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	17	-	-	4.6	0.9	0.9	-	1.8	2.7	1.6	-	-	0.8	0.9	1.0	-	-	-	-	1.0	1.0	1.0	0.08
C41	Bone and articular cartilage, NOS	10	-	-	-	-	-	0.9	0.9	-	0.8	0.8	0.8	-	1.9	1.0	-	4.1	-	-	0.6	0.5	0.4	0.04
C43	Malignant melanoma of skin	408	-	-	-	3.6	5.2	8.6	10.9	16.9	32.8	28.1	21.8	34.8	47.6	48.8	69.5	54.8	69.3	73.0	23.2	20.0	15.3	1.63
C44	Malignant neoplasms of skin	1,174	1.0	-	-	-	1.7	2.6	-	4.5	3.3	10.4	25.0	38.9	60.7	132.1	245.8	413.9	682.0	1.011.7	66.8	46.6	28.3	2.60

Walloon Region: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C45	Mesothelioma	58	-	-	-	-	-	-	-	-	-	1.6	0.8	2.5	3.7	10.2	16.9	22.3	22.2	32.9	3.3	2.4	1.5	0.18
C46	Kaposi's sarcoma	16	-	-	-	-	-	-	0.9	0.9	0.8	-	0.8	1.7	0.9	3.0	5.1	2.0	-	7.3	0.9	0.8	0.5	0.07
C47,C49	Soft tissues	47	1.0	-	1.8	0.9	0.9	-	-	0.9	2.5	2.4	2.3	2.5	2.8	10.2	5.1	6.1	8.3	25.6	2.7	2.2	1.7	0.17
C48	Retroperitoneum and peritoneum	6	-	-	-	-	-	-	-	-	-	0.8	0.8	-	2.8	1.0	-	-	-	-	0.3	0.3	0.2	0.03
C50	Breast	29	-	-	-	-	-	-	-	-	0.8	0.8	-	5.0	2.8	5.1	6.8	4.1	8.3	14.6	1.7	1.3	0.9	0.11
C60	Penis	27	-	-	-	-	-	-	0.9	-	-	0.8	-	1.7	4.7	2.0	16.9	8.1	5.5	-	1.5	1.3	0.9	0.13
C61	Prostate	2,584	-	-	-	-	-	-	-	-	3.3	13.6	74.9	177.1	358.7	657.6	745.8	712.2	804.0	515.0	147.1	111.1	74.6	9.66
C62	Testis	136	1.0	-	-	2.7	10.5	14.6	30.8	12.5	17.2	8.8	3.9	6.6	1.9	2.0	5.1	6.1	-	-	7.7	8.0	7.3	0.59
C63	Male genital organs, NOS	4	-	-	-	-	-	-	-	-	-	-	0.8	-	0.9	-	-	-	-	7.3	0.2	0.2	0.1	0.01
C64	Kidney	364	3.9	1.8	-	-	-	-	0.9	7.1	11.5	12.0	18.7	33.9	48.6	71.1	91.5	62.9	94.3	51.1	20.7	16.7	12.1	1.49
C65	Renal pelvis	31	-	-	-	-	-	-	-	-	-	1.6	0.8	1.7	-	7.1	6.8	18.3	13.9	3.7	1.8	1.3	0.8	0.09
C66	Ureter	37	-	-	-	-	-	-	-	-	-	-	0.8	3.3	4.7	8.1	15.3	10.1	8.3	7.3	2.1	1.6	1.1	0.16
C67	Bladder	616	-	-	-	-	-	-	-	2.7	2.5	7.2	20.3	34.8	60.7	104.7	179.7	198.8	241.2	270.3	35.1	26.1	16.9	2.04
C68	Urinary organs, NOS	20	-	-	-	-	-	-	-	0.9	-	-	0.8	1.7	2.8	2.0	5.1	8.1	2.8	11.0	1.1	0.9	0.6	0.07
C69	Eye and adnexa	30	7.8	-	-	-	-	-	-	0.9	-	0.8	3.1	-	4.7	1.0	10.2	6.1	2.8	-	1.7	1.7	1.7	0.14
C70	Meninges	3	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	-	-	7.3	0.2	0.1	0.1	0.00
C71	Brain	142	-	3.6	4.6	-	3.5	2.6	1.8	6.2	3.3	2.4	9.4	15.7	18.7	20.3	27.1	20.3	19.4	21.9	8.1	6.9	5.5	0.59
C72	Spinal cord, cranial nerves and CNS, NOS	6	1.0	-	-	0.9	-	0.9	-	1.8	-	-	0.8	-	-	-	-	-	-	-	0.3	0.4	0.4	0.03
C73	Thyroid gland	109	-	-	-	1.8	0.9	3.4	1.8	5.4	4.9	11.2	9.4	14.1	9.3	16.3	15.3	14.2	8.3	-	6.2	5.5	4.3	0.47
C74	Adrenal gland	11	1.0	-	-	-	-	-	1.8	-	0.8	1.6	0.8	-	0.9	2.0	1.7	-	-	-	0.6	0.6	0.5	0.05
C75	Endocrine glands, NOS	4	-	-	-	0.9	-	-	-	0.9	0.8	-	-	-	-	1.0	-	-	-	-	0.2	0.2	0.2	0.02
C81	Hodgkin lymphoma	68	1.0	1.8	1.8	1.8	7.0	5.2	0.9	3.6	4.1	4.8	3.9	4.1	6.5	6.1	1.7	4.1	8.3	7.3	3.9	3.6	3.4	0.27
C82-C86	Non-Hodgkin lymphoma	349	-	0.9	0.9	2.7	2.6	3.4	3.6	7.1	5.7	14.4	17.9	18.2	38.3	40.7	81.4	93.3	113.7	142.4	19.9	15.7	11.0	1.18
C88	Malignant immunoproliferative diseases	73	-	-	-	-	-	-	1.8	2.7	0.8	0.8	3.1	7.4	5.6	13.2	16.9	26.4	25.0	7.3	4.2	3.3	2.2	0.26
C90	Multiple myeloma	163	-	-	-	-	-	-	-	0.9	3.3	4.8	5.5	10.8	15.9	24.4	47.5	46.7	55.5	73.0	9.3	7.1	4.7	0.56
C91	Lymphoid leukaemia	219	10.7	7.3	0.9	1.8	4.4	1.7	-	2.7	4.9	8.8	13.3	14.9	19.6	31.5	42.4	36.5	77.6	43.8	12.5	10.4	8.5	0.82
C92	Myeloid leukaemia	100	1.0	-	0.9	-	1.7	-	-	1.8	0.8	1.6	7.0	8.3	13.1	17.3	23.7	20.3	27.7	25.6	5.7	4.5	3.3	0.39
C93	Monocytic leukaemia	27	1.0	0.9	-	-	-	-	-	-	-	-	0.8	-	2.8	4.1	11.9	6.1	11.1	11.0	1.5	1.2	0.9	0.11
C94-C95	Leukaemia other	6	-	0.9	-	-	-	-	-	0.9	-	-	-	1.7	-	1.0	-	-	2.8	-	0.3	0.3	0.3	0.02
C96	Lymphoid, haematopoietic and related tissue, NOS	3	1.0	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	0.2	0.2	0.2	0.01
C76	Other and ill-defined sites	1	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	-	-	-	0.1	0.0	0.0	0.00
C80	Unknown primary site	132	-	-	-	-	-	-	-	1.8	0.8	3.2	7.8	12.4	11.2	19.3	37.3	32.5	44.4	54.8	7.5	5.8	3.8	0.47
MPN	Myeloproliferative neoplasms	123	-	-	-	-	-	-	0.9	1.8	3.3	8.0	9.4	6.6	14.9	21.3	20.3	38.5	25.0	32.9	7.0	5.6	3.9	0.43
MDS	Myelodysplastic syndromes	147	-	-	0.9	-	1.7	-	1.8	1.8	-	0.8	3.1	3.3	14.9	23.4	30.5	52.8	77.6	73.0	8.4	6.1	4.0	0.41
Total		12,609	33.2	18.2	19.4	19.0	43.7	52.5	70.7	112.4	166.4	263.8	531.3	965.0	1,597.3	2,314.4	3,056.0	3,224.0	3,884.3	3,794.6	717.7	556.8	384.0	37.07
Total excl. non-melanoma		11,435	32.2	18.2	19.4	19.0	42.0	49.9	70.7	107.9	163.1	253.4	506.3	926.1	1,536.6	2,182.2	2,810.2	2,810.1	3,202.3	2,783.0	650.9	510.1	355.7	35.39
Total excl. non-melanoma and MDS, MPN		11,165	32.2	18.2	18.5	19.0	40.2	49.9	68.0	104.3	159.8	244.5	493.9	916.2	1,506.7	2,137.5	2,759.4	2,718.8	3,099.7	2,677.0	635.5	498.5	347.9	34.85

CR: crude (all ages) incidence rate (N/100,000 person years)
ESR and WSR: age standardised incidence rate, using the European or World Standard Population (N/100,000 person years)
CRi: Cumulative Risk (0-74 years)

Source: Belgian Cancer Registry

Walloon Region: Females, number of invasive tumours by primary site and age group in 2016

Walloon Region: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C00	Lip	7	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	3
C01	Base of tongue	16	-	-	-	-	-	-	-	-	2	-	2	2	5	1	3	-	1	-
C02	Tongue	36	-	-	-	-	-	-	-	-	-	2	1	4	8	5	6	2	4	4
C03	Gum	12	-	-	-	1	-	-	-	-	-	-	-	2	1	2	1	1	1	3
C04	Floor of mouth	24	-	-	-	-	-	-	-	-	-	2	4	5	3	4	2	3	1	-
C05	Palate	13	-	-	-	-	-	-	-	-	-	1	-	2	4	4	-	-	-	2
C06	Mouth, NOS	15	-	-	-	-	-	-	-	-	-	-	3	2	2	1	1	3	3	-
C07	Parotid gland	10	-	-	1	-	-	-	-	-	1	-	-	-	2	1	1	1	-	3
C08	Salivary glands, NOS	10	-	-	-	-	-	-	-	-	1	-	-	-	2	2	-	1	-	4
C09	Tonsil	32	-	-	-	-	-	-	-	-	2	-	4	6	6	6	4	2	2	-
C10	Oropharynx	26	-	-	-	-	-	-	-	-	1	1	2	3	10	5	1	3	-	-
C11	Nasopharynx	5	-	-	-	-	1	-	-	-	-	-	1	-	1	-	2	-	-	-
C12	Pyriform sinus	15	-	-	-	-	-	-	-	-	-	-	3	2	6	3	-	1	-	-
C13	Hypopharynx	8	-	-	-	-	-	-	-	-	-	-	-	1	2	2	1	1	1	-
C14	Lip, oral cavity and pharyn,x NOS	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
C15	Oesophagus	109	-	-	-	-	-	-	-	-	-	1	6	15	14	22	13	14	10	14
C16	Stomach	169	-	-	-	-	-	-	1	2	5	7	9	12	19	29	14	19	22	30
C17	Small intestine	43	-	-	-	-	-	1	-	2	1	2	3	4	4	5	4	12	2	3
C18	Colon	821	-	-	1	-	1	2	6	7	15	22	25	55	73	127	105	108	111	163
C19	Rectosigmoid junction	21	-	-	-	-	-	-	-	-	-	1	3	4	3	-	1	1	4	4
C20	Rectum	318	-	-	-	-	-	-	3	3	7	7	23	23	40	41	36	49	40	46
C21	Anus and anal canal	56	-	-	-	-	-	-	-	4	4	4	3	4	15	6	7	3	2	4
C22	Liver and intrahepatic bile ducts	104	-	-	-	-	1	-	1	1	2	3	2	3	10	21	18	17	13	12
C23	Gallbladder	19	-	-	-	-	-	-	-	-	-	-	-	-	2	1	5	2	4	5
C24	Biliary tract, NOS	40	-	-	-	-	-	-	-	-	-	1	-	3	4	3	6	7	9	7
C25	Pancreas	297	-	-	-	-	-	2	-	2	3	14	12	28	42	49	33	43	26	43
C26	Other ill-defined digestive organs	24	-	-	-	-	-	-	-	1	1	1	1	1	3	4	4	2	3	3
C30	Nasal cavity and middle ear	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
C31	Accessory sinuses	5	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	1	1
C32	Larynx	28	-	-	-	-	-	-	-	-	1	1	2	9	5	2	3	1	3	1
C33	Trachea	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
C34	Bronchus and lung	1,015	-	-	-	2	-	2	1	7	14	42	77	139	199	169	149	101	67	46
C37	Thymus	5	-	-	-	-	-	1	-	1	-	-	1	1	-	-	-	-	1	-
C38	Heart, mediastinum and pleura	4	-	-	1	-	-	-	-	-	-	-	1	-	1	-	-	-	-	1
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	10	1	-	-	-	2	1	1	-	1	1	-	1	-	1	-	-	-	1
C41	Bone and articular cartilage, NOS	6	-	1	1	-	-	-	1	-	-	-	-	-	1	1	-	1	-	-
C43	Malignant melanoma of skin	562	-	-	1	2	10	28	40	42	48	51	50	50	55	48	38	27	34	38
C44	Malignant neoplasms of skin	793	1	-	-	1	-	2	2	2	7	16	16	31	31	65	82	120	152	265

Walloon Region: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C45	Mesothelioma	8	-	-	-	-	-	-	-	-	-	1	-	-	1	2	1	2	1	-
C46	Kaposi's sarcoma	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
C47,C49	Soft tissues	47	3	1	3	-	1	-	-	-	4	2	2	5	4	6	8	-	4	4
C48	Retroperitoneum and peritoneum	31	-	-	-	-	-	-	-	2	-	1	2	5	5	5	1	4	4	2
C50	Breast	3,509	-	-	-	-	3	12	51	86	173	311	364	364	475	517	356	307	264	226
C51	Vulva	94	-	-	-	-	-	2	3	3	3	3	9	3	11	10	12	8	13	14
C52	Vagina	19	-	-	-	-	-	-	-	-	-	-	3	-	-	3	1	6	2	4
C53	Cervix uteri	225	-	-	-	-	-	8	12	22	23	29	18	27	29	20	17	10	5	5
C54	Corpus uteri	453	-	-	-	-	-	-	1	1	8	16	26	48	60	77	73	66	45	32
C55	Uterus	8	-	-	-	-	-	-	-	2	2	-	-	1	1	-	-	1	1	-
C56	Ovary	241	-	2	-	2	2	1	1	3	9	10	17	33	33	36	21	25	28	18
C57	Female genital organs, NOS	26	-	-	-	-	-	-	-	-	1	2	1	3	1	2	3	6	1	6
C58	Placenta	4	-	-	-	-	1	3	-	-	-	-	-	-	-	-	-	-	-	-
C64	Kidney	177	1	-	-	-	1	1	4	5	4	5	16	14	26	34	24	13	23	6
C65	Renal pelvis	35	-	-	-	-	-	-	-	-	1	2	2	-	2	3	4	6	8	7
C66	Ureter	18	-	-	-	-	-	-	-	-	-	1	-	2	4	1	-	4	5	1
C67	Bladder	180	-	-	-	-	1	1	-	-	3	3	7	8	15	28	22	25	33	34
C68	Urinary organs, NOS	5	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	2	1
C69	Eye and adnexa	26	2	-	-	-	-	1	-	-	-	-	2	5	4	3	3	3	3	-
C70	Meninges	5	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-	1	1
C71	Brain	111	4	5	3	1	-	2	3	2	4	4	6	8	12	20	11	8	12	6
C72	Spinal cord, cranial nerves and CNS, NOS	5	1	-	-	-	-	-	1	-	-	-	-	-	1	1	1	-	-	-
C73	Thyroid gland	285	-	-	1	1	7	9	25	22	31	35	39	34	21	24	15	10	5	6
C74	Adrenal gland	16	3	1	1	1	-	2	-	1	-	1	-	1	-	-	2	2	-	1
C75	Endocrine glands, NOS	8	-	-	-	-	-	-	1	1	-	-	-	-	1	3	-	1	-	1
C81	Hodgkin lymphoma	49	-	-	1	3	8	4	8	4	-	3	1	3	3	2	4	2	1	2
C82-C86	Non-Hodgkin lymphoma	281	-	-	-	2	1	5	5	8	4	5	11	28	26	46	31	41	36	32
C88	Malignant immunoproliferative diseases	55	-	-	-	-	-	-	-	-	-	3	2	9	4	10	8	4	10	5
C90	Multiple myeloma	125	-	-	-	-	-	-	-	-	1	6	5	10	16	20	15	15	16	21
C91	Lymphoid leukaemia	132	6	1	3	2	3	1	-	-	-	2	7	14	11	20	19	16	11	16
C92	Myeloid leukaemia	101	2	-	1	1	-	1	1	2	4	7	4	7	6	15	18	12	10	10
C93	Monocytic leukaemia	18	-	-	-	-	-	-	-	-	-	3	1	3	-	-	3	3	3	2
C94-C95	Leukaemia other	4	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	1	1
C96	Lymphoid, haematopoietic and related tissue, NOS	7	-	2	-	-	-	1	-	-	1	-	-	1	-	2	-	-	-	-
C76	Other and ill-defined sites	5	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	3
C80	Unknown primary site	135	-	-	-	-	-	1	1	-	1	7	8	13	14	16	7	16	21	30
MPN	Myeloproliferative neoplasms	142	-	-	-	-	1	1	2	6	4	6	4	14	17	18	20	20	18	11
MDS	Myelodysplastic syndromes	136	-	-	-	1	-	-	-	-	1	1	4	9	8	25	12	20	26	29
Total		11,409	24	13	18	20	44	95	176	244	398	649	815	1,087	1,390	1,603	1,255	1,203	1,132	1,243
Total excl. non-melanoma		10,616	23	13	18	19	44	93	174	242	391	633	799	1,056	1,359	1,538	1,173	1,083	980	978
Total excl. non-melanoma and MDS, MPN		10,338	23	13	18	18	43	92	172	236	386	626	791	1,033	1,334	1,495	1,141	1,043	936	938

Source: Belgian Cancer Registry

Walloon Region: Females, age-specific and age-standardised incidence rates of cancer, by primary site in 2016 (N/100,000 person years)

Walloon Region: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C00	Lip	7	-	-	-	-	-	-	-	-	-	-	-	0.8	0.9	0.9	1.4	-	-	4.6	0.4	0.2	0.1	0.02
C01	Base of tongue	16	-	-	-	-	-	-	-	-	1.6	-	1.5	1.6	4.4	0.9	4.2	-	1.7	-	0.9	0.7	0.5	0.07
C02	Tongue	36	-	-	-	-	-	-	-	-	-	1.6	0.8	3.2	7.0	4.6	8.5	3.0	6.8	6.1	2.0	1.3	0.9	0.13
C03	Gum	12	-	-	-	0.9	-	-	-	-	-	-	-	1.6	0.9	1.9	1.4	1.5	1.7	4.6	0.7	0.4	0.3	0.03
C04	Floor of mouth	24	-	-	-	-	-	-	-	-	-	1.6	3.1	4.0	2.6	3.7	2.8	4.5	1.7	-	1.3	1.0	0.7	0.09
C05	Palate	13	-	-	-	-	-	-	-	-	-	0.8	-	1.6	3.5	3.7	-	-	-	3.0	0.7	0.5	0.4	0.05
C06	Mouth, NOS	15	-	-	-	-	-	-	-	-	-	-	2.3	1.6	1.7	0.9	1.4	4.5	5.1	-	0.8	0.6	0.4	0.04
C07	Parotid gland	10	-	-	1.0	-	-	-	-	-	0.8	-	-	-	1.7	0.9	1.4	1.5	-	4.6	0.5	0.4	0.3	0.03
C08	Salivary glands, NOS	10	-	-	-	-	-	-	-	-	0.8	-	-	-	1.7	1.9	-	1.5	-	6.1	0.5	0.3	0.2	0.02
C09	Tonsil	32	-	-	-	-	-	-	-	-	1.6	-	3.1	4.8	5.2	5.6	5.6	3.0	3.4	-	1.7	1.4	1.0	0.13
C10	Oropharynx	26	-	-	-	-	-	-	-	-	0.8	0.8	1.5	2.4	8.7	4.6	1.4	4.5	-	-	1.4	1.1	0.8	0.10
C11	Nasopharynx	5	-	-	-	-	0.9	-	-	-	-	-	0.8	-	0.9	-	2.8	-	-	-	0.3	0.2	0.2	0.03
C12	Pyriform sinus	15	-	-	-	-	-	-	-	-	-	-	2.3	1.6	5.2	2.8	-	1.5	-	-	0.8	0.7	0.5	0.06
C13	Hypopharynx	8	-	-	-	-	-	-	-	-	-	-	-	0.8	1.7	1.9	1.4	1.5	1.7	-	0.4	0.3	0.2	0.03
C14	Lip, oral cavity and pharyn,x NOS	1	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	-	-	-	0.1	0.0	0.0	0.00
C15	Oesophagus	109	-	-	-	-	-	-	-	-	-	0.8	4.6	12.0	12.2	20.4	18.3	20.9	17.0	21.2	5.9	3.9	2.6	0.34
C16	Stomach	169	-	-	-	-	-	-	0.9	1.8	4.1	5.6	7.0	9.6	16.6	26.8	19.7	28.4	37.4	45.5	9.2	5.8	4.0	0.46
C17	Small intestine	43	-	-	-	-	-	0.9	-	1.8	0.8	1.6	2.3	3.2	3.5	4.6	5.6	17.9	3.4	4.6	2.3	1.7	1.2	0.12
C18	Colon	821	-	-	1.0	-	0.9	1.8	5.4	6.2	12.4	17.7	19.3	44.1	63.9	117.6	148.0	161.3	188.6	247.3	44.5	27.1	18.4	2.17
C19	Rectosigmoid junction	21	-	-	-	-	-	-	-	-	-	0.8	2.3	3.2	2.6	-	1.4	1.5	6.8	6.1	1.1	0.7	0.5	0.05
C20	Rectum	318	-	-	-	-	-	-	2.7	2.7	5.8	5.6	17.8	18.5	35.0	38.0	50.7	73.2	68.0	69.8	17.2	11.2	7.6	0.88
C21	Anus and anal canal	56	-	-	-	-	-	-	-	3.6	3.3	3.2	2.3	3.2	13.1	5.6	9.9	4.5	3.4	6.1	3.0	2.4	1.8	0.22
C22	Liver and intrahepatic bile ducts	104	-	-	-	-	0.9	-	0.9	0.9	1.6	2.4	1.5	2.4	8.7	19.4	25.4	25.4	22.1	18.2	5.6	3.6	2.5	0.32
C23	Gallbladder	19	-	-	-	-	-	-	-	-	-	-	-	-	1.7	0.9	7.0	3.0	6.8	7.6	1.0	0.5	0.3	0.05
C24	Biliary tract, NOS	40	-	-	-	-	-	-	-	-	-	0.8	-	2.4	3.5	2.8	8.5	10.5	15.3	10.6	2.2	1.2	0.8	0.09
C25	Pancreas	297	-	-	-	-	-	1.8	-	1.8	2.5	11.3	9.3	22.5	36.7	45.4	46.5	64.2	44.2	65.3	16.1	10.6	7.4	0.88
C26	Other ill-defined digestive organs	24	-	-	-	-	-	-	-	0.9	0.8	0.8	0.8	0.8	2.6	3.7	5.6	3.0	5.1	4.6	1.3	0.9	0.6	0.08
C30	Nasal cavity and middle ear	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	-	0.1	0.0	0.0	-
C31	Accessory sinuses	5	-	-	-	-	-	-	-	-	-	-	-	-	0.9	0.9	-	1.5	1.7	1.5	0.3	0.1	0.1	0.01
C32	Larynx	28	-	-	-	-	-	-	-	-	0.8	0.8	1.5	7.2	4.4	1.9	4.2	1.5	5.1	1.5	1.5	1.2	0.8	0.10
C33	Trachea	1	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	-	-	-	0.1	0.0	0.0	0.00
C34	Bronchus and lung	1,015	-	-	-	1.9	-	1.8	0.9	6.2	11.5	33.8	59.5	111.5	174.1	156.5	210.0	150.9	113.8	69.8	55.0	40.9	29.2	3.77
C37	Thymus	5	-	-	-	-	-	0.9	-	0.9	-	-	0.8	0.8	-	-	-	-	1.7	-	0.3	0.2	0.2	0.02
C38	Heart, mediastinum and pleura	4	-	-	1.0	-	-	-	-	-	-	-	0.8	-	0.9	-	-	-	-	1.5	0.2	0.2	0.2	0.01
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	10	1.0	-	-	-	1.8	0.9	0.9	-	0.8	0.8	-	0.8	-	0.9	-	-	-	1.5	0.5	0.5	0.6	0.04
C41	Bone and articular cartilage, NOS	6	-	1.0	1.0	-	-	-	0.9	-	-	-	-	-	0.9	0.9	-	1.5	-	-	0.3	0.3	0.3	0.02
C43	Malignant melanoma of skin	562	-	-	1.0	1.9	9.0	24.6	36.3	37.4	39.5	41.0	38.6	40.1	48.1	44.4	53.6	40.3	57.8	57.7	30.5	26.2	21.0	2.06
C44	Malignant neoplasms of skin	793	1.0	-	-	0.9	-	1.8	1.8	1.8	5.8	12.9	12.4	24.9	27.1	60.2	115.6	179.2	258.3	402.1	43.0	21.6	13.6	1.32

Walloon Region: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C45	Mesothelioma	8	-	-	-	-	-	-	-	-	-	0.8	-	-	0.9	1.9	1.4	3.0	1.7	-	0.4	0.3	0.2	0.02
C46	Kaposi's sarcoma	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	1.7	-	0.1	0.0	0.0	-
C47,C49	Soft tissues	47	3.1	1.0	2.9	-	0.9	-	-	-	3.3	1.6	1.5	4.0	3.5	5.6	11.3	-	6.8	6.1	2.5	2.1	1.9	0.19
C48	Retroperitoneum and peritoneum	31	-	-	-	-	-	-	-	1.8	-	0.8	1.5	4.0	4.4	4.6	1.4	6.0	6.8	3.0	1.7	1.2	0.8	0.09
C50	Breast	3,509	-	-	-	-	2.7	10.5	46.3	76.5	142.5	250.2	281.3	292.0	415.6	478.6	501.8	458.5	448.6	342.9	190.2	146.3	107.3	11.74
C51	Vulva	94	-	-	-	-	-	1.8	2.7	2.7	2.5	2.4	7.0	2.4	9.6	9.3	16.9	11.9	22.1	21.2	5.1	3.5	2.5	0.29
C52	Vagina	19	-	-	-	-	-	-	-	-	-	-	2.3	-	-	2.8	1.4	9.0	3.4	6.1	1.0	0.6	0.4	0.03
C53	Cervix uteri	225	-	-	-	-	-	7.0	10.9	19.6	18.9	23.3	13.9	21.7	25.4	18.5	24.0	14.9	8.5	7.6	12.2	11.0	8.8	0.91
C54	Corpus uteri	453	-	-	-	-	-	-	0.9	0.9	6.6	12.9	20.1	38.5	52.5	71.3	102.9	98.6	76.5	48.6	24.5	17.0	11.7	1.52
C55	Uterus	8	-	-	-	-	-	-	-	1.8	1.6	-	-	0.8	0.9	-	-	1.5	1.7	-	0.4	0.4	0.3	0.03
C56	Ovary	241	-	1.9	-	1.9	1.8	0.9	0.9	2.7	7.4	8.0	13.1	26.5	28.9	33.3	29.6	37.3	47.6	27.3	13.1	9.5	6.9	0.78
C57	Female genital organs, NOS	26	-	-	-	-	-	-	-	-	0.8	1.6	0.8	2.4	0.9	1.9	4.2	9.0	1.7	9.1	1.4	0.9	0.6	0.06
C58	Placenta	4	-	-	-	-	0.9	2.6	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.2	0.3	0.02
C64	Kidney	177	1.0	-	-	-	0.9	0.9	3.6	4.4	3.3	4.0	12.4	11.2	22.7	31.5	33.8	19.4	39.1	9.1	9.6	7.1	5.2	0.65
C65	Renal pelvis	35	-	-	-	-	-	-	-	-	0.8	1.6	1.5	-	1.7	2.8	5.6	9.0	13.6	10.6	1.9	1.1	0.7	0.07
C66	Ureter	18	-	-	-	-	-	-	-	-	-	0.8	-	1.6	3.5	0.9	-	6.0	8.5	1.5	1.0	0.6	0.4	0.03
C67	Bladder	180	-	-	-	-	0.9	0.9	-	-	2.5	2.4	5.4	6.4	13.1	25.9	31.0	37.3	56.1	51.6	9.8	5.7	3.8	0.44
C68	Urinary organs, NOS	5	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	1.4	-	3.4	1.5	0.3	0.1	0.1	0.01
C69	Eye and adnexa	26	2.0	-	-	-	-	0.9	-	-	-	-	1.5	4.0	3.5	2.8	4.2	4.5	5.1	-	1.4	1.1	0.9	0.09
C70	Meninges	5	-	-	-	-	-	-	-	-	-	-	-	-	1.7	0.9	-	-	1.7	1.5	0.3	0.2	0.1	0.01
C71	Brain	111	4.1	4.8	2.9	0.9	-	1.8	2.7	1.8	3.3	3.2	4.6	6.4	10.5	18.5	15.5	11.9	20.4	9.1	6.0	4.8	4.2	0.40
C72	Spinal cord, cranial nerves and CNS, NOS	5	1.0	-	-	-	-	-	0.9	-	-	-	-	-	0.9	0.9	1.4	-	-	-	0.3	0.3	0.3	0.03
C73	Thyroid gland	285	-	-	1.0	0.9	6.3	7.9	22.7	19.6	25.5	28.2	30.1	27.3	18.4	22.2	21.1	14.9	8.5	9.1	15.4	14.5	11.7	1.15
C74	Adrenal gland	16	3.1	1.0	1.0	0.9	-	1.8	-	0.9	-	0.8	-	0.8	-	-	2.8	3.0	-	1.5	0.9	0.9	1.0	0.06
C75	Endocrine glands, NOS	8	-	-	-	-	-	-	0.9	0.9	-	-	-	-	0.9	2.8	-	1.5	-	1.5	0.4	0.3	0.2	0.03
C81	Hodgkin lymphoma	49	-	-	1.0	2.8	7.2	3.5	7.3	3.6	-	2.4	0.8	2.4	2.6	1.9	5.6	3.0	1.7	3.0	2.7	2.6	2.5	0.20
C82-C86	Non-Hodgkin lymphoma	281	-	-	-	1.9	0.9	4.4	4.5	7.1	3.3	4.0	8.5	22.5	22.7	42.6	43.7	61.2	61.2	48.6	15.2	10.2	7.3	0.83
C88	Malignant immunoproliferative diseases	55	-	-	-	-	-	-	-	-	-	2.4	1.5	7.2	3.5	9.3	11.3	6.0	17.0	7.6	3.0	2.0	1.3	0.18
C90	Multiple myeloma	125	-	-	-	-	-	-	-	-	0.8	4.8	3.9	8.0	14.0	18.5	21.1	22.4	27.2	31.9	6.8	4.3	2.9	0.36
C91	Lymphoid leukaemia	132	6.1	1.0	2.9	1.9	2.7	0.9	-	-	-	1.6	5.4	11.2	9.6	18.5	26.8	23.9	18.7	24.3	7.2	5.2	4.3	0.44
C92	Myeloid leukaemia	101	2.0	-	1.0	0.9	-	0.9	0.9	1.8	3.3	5.6	3.1	5.6	5.2	13.9	25.4	17.9	17.0	15.2	5.5	4.0	3.0	0.35
C93	Monocytic leukaemia	18	-	-	-	-	-	-	-	-	-	2.4	0.8	2.4	-	-	4.2	4.5	5.1	3.0	1.0	0.7	0.4	0.05
C94-C95	Leukaemia other	4	-	-	-	-	-	-	0.9	-	-	-	-	-	-	-	1.4	-	1.7	1.5	0.2	0.1	0.1	0.01
C96	Lymphoid, haematopoietic and related tissue, NOS	7	-	1.9	-	-	-	0.9	-	-	0.8	-	-	0.8	-	1.9	-	-	-	-	0.4	0.4	0.4	0.03
C76	Other and ill-defined sites	5	-	-	-	-	-	-	-	-	-	-	-	-	0.9	0.9	-	-	-	4.6	0.3	0.1	0.1	0.01
C80	Unknown primary site	135	-	-	-	-	-	0.9	0.9	-	0.8	5.6	6.2	10.4	12.2	14.8	9.9	23.9	35.7	45.5	7.3	4.4	3.0	0.31
MPN	Myeloproliferative neoplasms	142	-	-	-	-	0.9	0.9	1.8	5.3	3.3	4.8	3.1	11.2	14.9	16.7	28.2	29.9	30.6	16.7	7.7	5.4	3.9	0.45
MDS	Myelodysplastic syndromes	136	-	-	-	0.9	-	-	-	-	0.8	0.8	3.1	7.2	7.0	23.1	16.9	29.9	44.2	44.0	7.4	4.1	2.7	0.30
Total		11,409	24.5	12.4	17.4	18.9	39.6	83.4	159.6	217.2	327.7	522.2	629.9	872.1	1,216.2	1,484.1	1,769.0	1,796.8	1,923.3	1,886.2	618.3	443.5	322.8	30.91
Total excl. non-melanoma		10,616	23.4	12.4	17.4	17.9	39.6	81.6	157.8	215.4	322.0	509.3	617.5	847.2	1,189.1	1,423.9	1,653.4	1,617.6	1,.,665.1	1,484.1	575.3	421.9	309.2	29.98
Total excl. non-melanoma and MDS, MPN		10,338	23.4	12.4	17.4	17.0	38.7	80.7	156.0	210.0	317.9	503.7	611.3	828.8	1,167.2	1,384.1	1,608.3	1,557.8	1,590.3	1,423.4	560.2	412.4	302.7	29.45

CR: crude (all ages) incidence rate (N/100,000 person years)
ESR and WSR: age standardised incidence rate, using the European or World Standard Population (N/100,000 person years)
CRi: Cumulative Risk (0-74 years)

Source: Belgian Cancer Registry

Brussels Capital Region: Males, number of invasive tumours by primary site and age group in 2016

Brussels Capital Region: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C00	Lip	3	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1	-	-
C01	Base of tongue	8	-	-	-	-	-	-	-	-	-	1	1	3	-	1	-	-	2	-
C02	Tongue	10	-	-	-	-	-	1	-	-	-	1	1	2	2	1	1	1	-	-
C03	Gum	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-
C04	Floor of mouth	12	-	-	-	-	-	-	-	-	-	1	1	1	2	5	1	1	-	-
C05	Palate	2	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-
C06	Mouth, NOS	5	-	-	-	-	-	-	1	-	-	-	2	-	-	-	1	-	-	1
C07	Parotid gland	8	-	-	-	-	1	-	2	-	-	-	-	1	1	1	-	-	1	1
C08	Salivary glands, NOS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
C09	Tonsil	25	-	-	-	-	-	-	-	-	-	-	5	5	8	2	5	-	-	-
C10	Oropharynx	17	-	-	-	-	-	-	-	-	-	-	2	3	4	3	2	2	1	-
C11	Nasopharynx	6	-	-	-	-	-	-	-	1	2	1	-	-	1	-	1	-	-	-
C12	Pyriform sinus	13	-	-	-	-	-	-	-	1	-	-	1	3	4	3	1	-	-	-
C13	Hypopharynx	8	-	-	-	-	-	-	-	-	1	-	-	1	3	1	1	-	1	-
C14	Lip, oral cavity and pharyn,x NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15	Oesophagus	37	-	-	-	-	-	-	-	-	1	1	-	7	6	8	8	3	1	2
C16	Stomach	77	-	-	-	-	-	1	-	1	5	4	4	10	12	7	11	8	10	4
C17	Small intestine	15	-	-	-	-	-	-	-	-	-	3	-	3	2	2	2	2	1	-
C18	Colon	229	-	-	1	-	-	1	3	1	4	12	5	19	29	28	37	31	31	27
C19	Rectosigmoid junction	9	-	-	-	-	-	-	-	-	-	1	-	-	3	1	-	3	-	1
C20	Rectum	93	-	-	-	-	-	-	1	4	3	4	12	10	17	11	9	10	10	2
C21	Anus and anal canal	11	-	-	-	-	-	-	-	-	-	-	1	1	2	1	4	-	1	1
C22	Liver and intrahepatic bile ducts	63	1	-	-	-	-	-	3	-	4	2	1	5	12	10	8	11	5	1
C23	Gallbladder	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
C24	Biliary tract, NOS	11	-	-	-	-	-	-	-	-	-	-	1	1	1	-	1	2	-	5
C25	Pancreas	65	-	-	-	-	-	-	-	-	1	2	7	4	11	15	8	4	6	7
C26	Other ill-defined digestive organs	3	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-
C30	Nasal cavity and middle ear	4	-	-	-	-	-	-	-	-	1	-	1	-	1	-	1	-	-	-
C31	Accessory sinuses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C32	Larynx	49	-	-	-	-	-	-	-	1	-	2	8	6	8	8	6	6	3	1
C33	Trachea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C34	Bronchus and lung	399	-	-	-	-	1	-	2	2	4	12	29	45	55	55	67	57	43	27
C37	Thymus	4	-	-	-	-	-	-	-	1	1	-	1	-	-	-	-	1	-	-
C38	Heart, mediastinum and pleura	3	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-	-
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	4	-	-	1	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-
C41	Bone and articular cartilage, NOS	6	-	-	-	-	-	-	-	1	1	-	-	-	-	2	-	1	-	1
C43	Malignant melanoma of skin	98	-	-	-	-	1	-	3	1	1	7	9	16	10	13	12	12	6	7
C44	Malignant neoplasms of skin	288	-	-	-	-	-	2	2	1	4	5	7	9	18	22	36	49	52	81

Brussels Capital Region: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C45	Mesothelioma	10	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	2	3	2
C46	Kaposi's sarcoma	7	-	-	-	-	-	-	-	1	1	-	-	2	1	1	-	-	-	1
C47,C49	Soft tissues	17	2	-	-	1	-	-	-	-	2	1	1	-	2	1	1	3	1	2
C48	Retroperitoneum and peritoneum	4	1	-	-	-	-	-	-	-	-	-	-	1	1	-	1	-	-	-
C50	Breast	7	-	-	-	-	-	-	-	-	-	1	-	1	1	1	1	1	-	1
C60	Penis	7	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	-	4	-
C61	Prostate	567	-	-	-	-	-	-	-	1	1	4	21	53	74	121	113	89	48	42
C62	Testis	29	-	-	-	1	1	4	8	5	2	6	-	-	1	1	-	-	-	-
C63	Male genital organs, NOS	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
C64	Kidney	81	2	2	-	-	-	-	1	1	2	3	7	8	13	16	6	7	7	6
C65	Renal pelvis	12	-	-	-	-	-	-	-	-	-	1	1	-	-	2	2	1	4	1
C66	Ureter	4	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	1	-
C67	Bladder	150	-	-	-	-	-	-	-	-	3	5	10	9	20	18	19	25	20	21
C68	Urinary organs, NOS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
C69	Eye and adnexa	5	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	2	-
C70	Meninges	2	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
C71	Brain	42	4	-	-	-	1	2	2	3	1	2	3	3	7	5	3	-	4	2
C72	Spinal cord, cranial nerves and CNS, NOS	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C73	Thyroid gland	31	-	-	-	-	2	1	1	2	2	5	1	3	6	4	2	2	-	-
C74	Adrenal gland	6	1	-	-	-	-	-	-	-	-	-	2	2	-	1	-	-	-	-
C75	Endocrine glands, NOS	2	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-
C81	Hodgkin lymphoma	17	-	1	1	1	1	4	1	1	1	1	-	2	1	1	1	-	-	-
C82-C86	Non-Hodgkin lymphoma	103	-	-	-	3	2	3	4	2	9	6	8	9	12	10	11	10	9	5
C88	Malignant immunoproliferative diseases	18	-	-	-	-	-	-	-	-	2	1	1	1	2	1	2	2	4	2
C90	Multiple myeloma	44	-	-	-	-	-	-	-	2	1	1	3	2	5	5	8	8	5	4
C91	Lymphoid leukaemia	46	1	-	1	2	1	2	-	1	-	2	1	5	7	6	5	3	6	3
C92	Myeloid leukaemia	28	-	-	-	-	-	2	3	1	3	2	2	-	1	5	1	4	3	1
C93	Monocytic leukaemia	6	-	1	-	-	-	-	-	-	-	1	-	-	1	-	1	1	1	-
C94-C95	Leukaemia other	6	-	-	1	1	-	-	-	1	-	-	1	-	1	-	-	-	-	1
C96	Lymphoid, haematopoietic and related tissue, NOS	5	1	1	-	-	-	-	1	-	-	1	-	1	-	-	-	-	-	-
C76	Other and ill-defined sites	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C80	Unknown primary site	51	-	-	-	-	-	-	-	1	-	1	6	4	6	8	8	3	6	8
MPN	Myeloproliferative neoplasms	30	-	-	-	-	-	-	1	1	2	1	4	3	1	1	4	4	2	6
MDS	Myelodysplastic syndromes	39	-	-	1	-	1	-	-	-	1	-	-	2	4	10	4	5	4	7
Total		2,969	13	5	6	11	14	23	40	38	66	106	174	267	384	425	424	380	308	285
Total excl. non-melanoma		2,681	13	5	6	11	14	21	38	37	62	101	167	258	366	403	388	331	256	204
Total excl. non-melanoma and MDS, MPN		2,612	13	5	5	11	13	21	37	36	59	100	163	253	361	392	380	322	250	191

Source: Belgian Cancer Registry

Brussels Capital Region: Males, age-specific and age-standardised incidence rates of cancer, by primary site in 2016 (N/100,000 person years)

Brussels Capital Region: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C00	Lip	3	-	-	-	-	-	-	-	-	-	-	2.7	-	-	5.0	-	8.6	-	-	0.5	0.6	0.4	0.04
C01	Base of tongue	8	-	-	-	-	-	-	-	-	-	2.4	2.7	9.9	-	5.0	-	-	22.9	-	1.4	1.4	0.9	0.10
C02	Tongue	10	-	-	-	-	-	2.1	-	-	-	2.4	2.7	6.6	8.1	5.0	7.0	8.6	-	-	1.7	1.9	1.4	0.17
C03	Gum	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.0	17.1	-	-	0.5	0.6	0.3	0.03
C04	Floor of mouth	12	-	-	-	-	-	-	-	-	-	2.4	2.7	3.3	8.1	24.8	7.0	8.6	-	-	2.1	2.3	1.7	0.24
C05	Palate	2	-	-	-	-	-	-	-	-	-	2.4	-	-	-	5.0	-	-	-	-	0.3	0.4	0.3	0.04
C06	Mouth, NOS	5	-	-	-	-	-	-	2.0	-	-	-	5.5	-	-	-	7.0	-	-	13.0	0.9	0.9	0.6	0.07
C07	Parotid gland	8	-	-	-	-	2.7	-	4.0	-	-	-	-	3.3	4.0	5.0	-	-	11.5	13.0	1.4	1.3	1.0	0.09
C08	Salivary glands, NOS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.0	-	-	-	0.2	0.2	0.1	0.03
C09	Tonsil	25	-	-	-	-	-	-	-	-	-	-	13.7	16.5	32.3	9.9	34.9	-	-	-	4.3	5.0	3.6	0.53
C10	Oropharynx	17	-	-	-	-	-	-	-	-	-	-	5.5	9.9	16.2	14.9	13.9	17.1	11.5	-	2.9	3.3	2.3	0.30
C11	Nasopharynx	6	-	-	-	-	-	-	-	2.0	4.4	2.4	-	-	4.0	-	7.0	-	-	-	1.0	1.0	0.8	0.10
C12	Pyriform sinus	13	-	-	-	-	-	-	-	2.0	-	-	2.7	9.9	16.2	14.9	7.0	-	-	-	2.2	2.5	1.9	0.26
C13	Hypopharynx	8	-	-	-	-	-	-	-	-	2.2	-	-	3.3	12.1	5.0	7.0	-	11.5	-	1.4	1.5	1.1	0.15
C14	Lip, oral cavity and pharyn,x NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15	Oesophagus	37	-	-	-	-	-	-	-	-	2.2	2.4	-	23.1	24.3	39.7	55.8	25.7	11.5	26.0	6.4	7.1	4.9	0.73
C16	Stomach	77	-	-	-	-	-	2.1	-	2.0	10.9	9.5	11.0	33.0	48.5	34.7	76.7	68.5	114.7	51.9	13.3	13.6	9.4	1.14
C17	Small intestine	15	-	-	-	-	-	-	-	-	-	7.1	-	9.9	8.1	9.9	13.9	17.1	11.5	-	2.6	2.8	2.0	0.24
C18	Colon	229	-	-	2.9	-	-	2.1	6.0	2.0	8.8	28.6	13.7	62.6	117.2	138.8	257.9	265.3	355.6	350.4	39.5	39.8	26.5	3.15
C19	Rectosigmoid junction	9	-	-	-	-	-	-	-	-	-	2.4	-	-	12.1	5.0	-	25.7	-	13.0	1.6	1.6	1.1	0.10
C20	Rectum	93	-	-	-	-	-	-	2.0	8.0	6.6	9.5	32.9	33.0	68.7	54.5	62.7	85.6	114.7	26.0	16.0	16.7	11.7	1.38
C21	Anus and anal canal	11	-	-	-	-	-	-	-	-	-	-	2.7	3.3	8.1	5.0	27.9	-	11.5	13.0	1.9	2.1	1.4	0.23
C22	Liver and intrahepatic bile ducts	63	2.2	-	-	-	-	-	6.0	-	8.8	4.8	2.7	16.5	48.5	49.6	55.8	94.1	57.4	13.0	10.9	11.4	8.1	0.97
C23	Gallbladder	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.0	0.2	0.1	0.1	-
C24	Biliary tract, NOS	11	-	-	-	-	-	-	-	-	-	-	2.7	3.3	4.0	-	7.0	17.1	-	64.9	1.9	1.8	1.1	0.09
C25	Pancreas	65	-	-	-	-	-	-	-	-	2.2	4.8	19.2	13.2	44.5	74.4	55.8	34.2	68.8	90.9	11.2	11.8	8.2	1.06
C26	Other ill-defined digestive organs	3	-	-	-	-	-	-	-	-	-	-	-	-	4.0	5.0	7.0	-	-	-	0.5	0.6	0.4	0.08
C30	Nasal cavity and middle ear	4	-	-	-	-	-	-	-	-	2.2	-	2.7	-	4.0	-	7.0	-	-	-	0.7	0.8	0.6	0.08
C31	Accessory sinuses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C32	Larynx	49	-	-	-	-	-	-	-	2.0	-	4.8	21.9	19.8	32.3	39.7	41.8	51.3	34.4	13.0	8.5	9.2	6.4	0.81
C33	Trachea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C34	Bronchus and lung	399	-	-	-	-	2.7	-	4.0	4.0	8.8	28.6	79.4	148.3	222.4	272.7	467.0	487.8	493.3	350.4	68.8	72.0	48.3	6.00
C37	Thymus	4	-	-	-	-	-	-	-	2.0	2.2	-	2.7	-	-	-	-	8.6	-	-	0.7	0.7	0.5	0.03
C38	Heart, mediastinum and pleura	3	-	-	-	-	-	-	-	-	-	-	-	3.3	8.1	-	-	-	-	-	0.5	0.6	0.5	0.06
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	4	-	-	2.9	-	5.4	-	2.0	-	-	-	-	-	-	-	-	-	-	-	0.7	0.7	0.8	0.05
C41	Bone and articular cartilage, NOS	6	-	-	-	-	-	-	-	2.0	2.2	-	-	-	-	9.9	-	8.6	-	13.0	1.0	1.0	0.7	0.07
C43	Malignant melanoma of skin	98	-	-	-	-	2.7	-	6.0	2.0	2.2	16.7	24.6	52.7	40.4	64.5	83.6	102.7	68.8	90.9	16.9	17.7	12.2	1.47
C44	Malignant neoplasms of skin	288	-	-	-	-	-	4.1	4.0	2.0	8.8	11.9	19.2	29.7	72.8	109.1	250.9	419.3	596.5	1,051.3	49.7	45.7	27.7	2.53

Brussels Capital Region: Males 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C45	Mesothelioma	10	-	-	-	-	-	-	-	-	-	-	-	-	4.0	5.0	7.0	17.1	34.4	26.0	1.7	1.6	0.9	0.08
C46	Kaposi's sarcoma	7	-	-	-	-	-	-	-	2.0	2.2	-	-	6.6	4.0	5.0	-	-	-	13.0	1.2	1.2	0.9	0.10
C47,C49	Soft tissues	17	4.4	-	-	3.1	-	-	-	-	4.4	2.4	2.7	-	8.1	5.0	7.0	25.7	11.5	26.0	2.9	2.9	2.4	0.19
C48	Retroperitoneum and peritoneum	4	2.2	-	-	-	-	-	-	-	-	-	-	3.3	4.0	-	7.0	-	-	-	0.7	0.8	0.7	0.08
C50	Breast	7	-	-	-	-	-	-	-	-	-	2.4	-	3.3	4.0	5.0	7.0	8.6	-	13.0	1.2	1.3	0.9	0.11
C60	Penis	7	-	-	-	-	-	-	-	-	-	2.4	-	-	-	5.0	7.0	-	45.9	-	1.2	1.0	0.7	0.07
C61	Prostate	567	-	-	-	-	-	-	-	2.0	2.2	9.5	57.5	174.6	299.2	600.0	787.7	761.7	550.6	545.1	97.8	104.2	69.5	9.21
C62	Testis	29	-	-	-	3.1	2.7	8.3	15.9	10.0	4.4	14.3	-	-	4.0	5.0	-	-	-	-	5.0	4.5	4.1	0.34
C63	Male genital organs, NOS	1	-	-	-	-	-	-	-	-	-	-	-	-	4.0	-	-	-	-	-	0.2	0.2	0.2	0.02
C64	Kidney	81	4.4	4.9	-	-	-	-	2.0	2.0	4.4	7.1	19.2	26.4	52.6	79.3	41.8	59.9	80.3	77.9	14.0	14.5	10.7	1.21
C65	Renal pelvis	12	-	-	-	-	-	-	-	-	-	2.4	2.7	-	-	9.9	13.9	8.6	45.9	13.0	2.1	1.9	1.2	0.14
C66	Ureter	4	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0	-	17.1	11.5	-	0.7	0.7	0.4	0.02
C67	Bladder	150	-	-	-	-	-	-	-	-	6.6	11.9	27.4	29.7	80.9	89.3	132.4	213.9	229.4	272.6	25.9	25.9	16.9	1.87
C68	Urinary organs, NOS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.0	-	-	-	0.2	0.2	0.1	0.03
C69	Eye and adnexa	5	-	-	-	-	-	-	-	-	-	-	2.7	-	-	-	7.0	8.6	22.9	-	0.9	0.8	0.5	0.05
C70	Meninges	2	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0	7.0	-	-	-	0.3	0.4	0.3	0.06
C71	Brain	42	8.9	-	-	-	2.7	4.1	4.0	6.0	2.2	4.8	8.2	9.9	28.3	24.8	20.9	-	45.9	26.0	7.2	7.3	6.1	0.62
C72	Spinal cord, cranial nerves and CNS, NOS	1	-	-	-	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.2	0.3	0.02
C73	Thyroid gland	31	-	-	-	-	5.4	2.1	2.0	4.0	4.4	11.9	2.7	9.9	24.3	19.8	13.9	17.1	-	-	5.3	5.6	4.5	0.50
C74	Adrenal gland	6	2.2	-	-	-	-	-	-	-	-	-	5.5	6.6	-	5.0	-	-	-	-	1.0	1.2	1.0	0.10
C75	Endocrine glands, NOS	2	-	-	-	3.1	-	-	-	-	-	-	2.7	-	-	-	-	-	-	-	0.3	0.4	0.4	0.03
C81	Hodgkin lymphoma	17	-	2.4	2.9	3.1	2.7	8.3	2.0	2.0	2.2	2.4	-	6.6	4.0	5.0	7.0	-	-	-	2.9	3.0	2.9	0.25
C82-C86	Non-Hodgkin lymphoma	103	-	-	-	9.3	5.4	6.2	8.0	4.0	19.7	14.3	21.9	29.7	48.5	49.6	76.7	85.6	103.2	64.9	17.8	18.1	13.5	1.46
C88	Malignant immunoproliferative diseases	18	-	-	-	-	-	-	-	-	4.4	2.4	2.7	3.3	8.1	5.0	13.9	17.1	45.9	26.0	3.1	2.9	2.0	0.20
C90	Multiple myeloma	44	-	-	-	-	-	-	-	4.0	2.2	2.4	8.2	6.6	20.2	24.8	55.8	68.5	57.4	51.9	7.6	7.7	5.1	0.62
C91	Lymphoid leukaemia	46	2.2	-	2.9	6.2	2.7	4.1	-	2.0	-	4.8	2.7	16.5	28.3	29.8	34.9	25.7	68.8	38.9	7.9	8.2	6.4	0.68
C92	Myeloid leukaemia	28	-	-	-	-	-	4.1	6.0	2.0	6.6	4.8	5.5	-	4.0	24.8	7.0	34.2	34.4	13.0	4.8	4.6	3.4	0.32
C93	Monocytic leukaemia	6	-	2.4	-	-	-	-	-	-	-	2.4	-	-	4.0	-	7.0	8.6	11.5	-	1.0	1.0	0.8	0.08
C94-C95	Leukaemia other	6	-	-	2.9	3.1	-	-	-	2.0	-	-	2.7	-	4.0	-	-	-	-	13.0	1.0	1.1	1.0	0.07
C96	Lymphoid, haematopoietic and related tissue, NOS	5	2.2	2.4	-	-	-	-	2.0	-	-	2.4	-	3.3	-	-	-	-	-	-	0.9	0.9	0.9	0.06
C76	Other and ill-defined sites	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C80	Unknown primary site	51	-	-	-	-	-	-	-	2.0	-	2.4	16.4	13.2	24.3	39.7	55.8	25.7	68.8	103.8	8.8	9.0	6.0	0.77
MPN	Myeloproliferative neoplasms	30	-	-	-	-	-	-	2.0	2.0	4.4	2.4	11.0	9.9	4.0	5.0	27.9	34.2	22.9	77.9	5.2	5.0	3.3	0.34
MDS	Myelodysplastic syndromes	39	-	-	2.9	-	2.7	-	-	-	2.2	-	-	6.6	16.2	49.6	27.9	42.8	45.9	90.9	6.7	6.8	4.7	0.54
Total		2,x969	28.9	12.2	17.6	34.1	37.6	47.6	79.6	76.0	144.5	252.2	476.3	879.8	1,552.5	2,107.5	2,955.5	3,252.0	3,533.3	3,698.9	512.1	525.5	361.4	35.28
Total excl. non-melanoma		2,681	28.9	12.2	17.6	34.1	37.6	43.5	75.6	74.0	135.7	240.3	457.2	850.2	1,479.7	1,998.4	2,704.6	2,832.7	2,936.8	2,647.6	462.4	479.8	333.7	33.60
Total excl. non-melanoma and MDS, MPN		2,612	28.9	12.2	14.7	34.1	34.9	43.5	73.6	72.0	129.1	238.0	446.2	833.7	1,459.5	1.,943.9	2,648.8	2,755.7	2,868.0	2,478.9	450.5	468.0	325.7	33.01

CR: crude (all ages) incidence rate (N/100,000 person years)
ESR and WSR: age standardised incidence rate, using the European or World Standard Population (N/100,000 person years)
CRi: Cumulative Risk (0-74 years)

Source: Belgian Cancer Registry

Brussels Capital Region: Females, number of invasive tumours by primary site and age group in 2016

Brussels Capital Region: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C00	Lip	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-
C01	Base of tongue	5	-	-	-	-	-	-	-	-	-	-	1	1	1	2	-	-	-	-
C02	Tongue	5	-	-	-	-	-	-	1	-	-	-	-	-	-	3	1	-	-	-
C03	Gum	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
C04	Floor of mouth	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
C05	Palate	8	-	-	-	-	-	2	1	-	-	-	-	-	-	3	-	1	1	-
C06	Mouth, NOS	5	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2	1
C07	Parotid gland	5	-	-	-	-	-	2	-	-	-	-	-	-	1	1	1	-	-	-
C08	Salivary glands, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C09	Tonsil	4	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	-	1
C10	Oropharynx	5	-	-	-	-	-	-	-	-	-	-	-	2	-	2	1	-	-	-
C11	Nasopharynx	4	-	-	-	1	1	-	-	-	1	-	-	-	1	-	-	-	-	-
C12	Pyriform sinus	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
C13	Hypopharynx	2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-
C14	Lip, oral cavity and pharyn,x NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15	Oesophagus	29	-	-	-	-	-	-	-	-	-	3	2	3	3	7	5	3	-	3
C16	Stomach	56	-	-	-	-	-	2	-	2	2	7	5	6	7	3	7	4	6	5
C17	Small intestine	14	-	-	-	-	-	-	-	1	-	2	-	-	3	1	2	1	1	3
C18	Colon	223	-	-	-	1	-	2	4	1	5	6	12	18	18	20	31	28	38	39
C19	Rectosigmoid junction	10	-	-	-	-	-	-	-	-	-	-	-	2	1	-	3	2	-	2
C20	Rectum	70	-	-	-	-	-	-	1	2	2	1	6	3	7	11	12	8	10	7
C21	Anus and anal canal	13	-	-	-	-	-	-	-	-	-	-	1	-	3	1	2	3	2	1
C22	Liver and intrahepatic bile ducts	28	-	-	-	-	-	1	1	-	-	-	1	2	3	3	6	4	2	5
C23	Gallbladder	10	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	3	3	1
C24	Biliary tract, NOS	18	-	-	-	-	-	-	-	-	-	-	1	2	1	5	1	3	3	2
C25	Pancreas	82	-	-	-	-	-	-	-	1	-	1	3	9	7	11	4	18	16	12
C26	Other ill-defined digestive organs	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
C30	Nasal cavity and middle ear	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
C31	Accessory sinuses	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
C32	Larynx	6	-	-	-	-	-	-	-	1	-	-	1	-	2	2	-	-	-	-
C33	Trachea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C34	Bronchus and lung	221	-	-	-	-	-	-	-	1	3	9	17	24	25	45	31	29	17	20
C37	Thymus	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
C38	Heart, mediastinum and pleura	3	-	-	1	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	2	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
C41	Bone and articular cartilage, NOS	5	-	-	-	-	-	-	1	-	-	1	2	-	-	-	-	-	-	1
C43	Malignant melanoma of skin	138	-	-	-	-	1	4	4	6	13	14	12	16	10	6	13	8	13	18
C44	Malignant neoplasms of skin	233	-	-	-	-	-	-	-	-	5	1	4	9	14	17	24	38	48	73

Brussels Capital Region: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+
C45	Mesothelioma	3	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-
C46	Kaposi's sarcoma	4	-	-	-	-	-	1	1	-	-	1	-	-	-	-	-	1	-	-
C47,C49	Soft tissues	19	1	-	1	-	-	1	-	-	-	2	1	3	2	-	4	4	-	-
C48	Retroperitoneum and peritoneum	7	-	-	-	-	-	1	-	-	-	1	1	-	-	-	1	1	1	1
C50	Breast	935	-	-	-	-	1	7	22	32	60	92	110	92	86	119	83	84	70	77
C51	Vulva	12	-	-	-	-	-	-	-	-	1	-	1	3	-	2	1	2	-	2
C52	Vagina	12	-	-	-	-	-	-	-	-	2	1	1	-	1	1	3	1	1	1
C53	Cervix uteri	68	-	-	-	1	1	2	5	8	6	8	2	11	5	7	3	4	4	1
C54	Corpus uteri	114	-	-	-	-	-	-	2	1	2	7	6	8	17	19	15	14	13	10
C55	Uterus	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
C56	Ovary	66	-	-	-	-	1	1	3	1	5	8	5	8	5	3	5	8	9	4
C57	Female genital organs, NOS	7	-	-	-	-	-	-	-	-	1	-	1	-	-	1	1	1	2	-
C58	Placenta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C64	Kidney	41	1	-	-	-	-	-	-	1	1	-	1	7	1	4	8	5	6	6
C65	Renal pelvis	3	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1
C66	Ureter	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
C67	Bladder	41	-	-	-	-	-	-	-	-	-	1	2	2	-	7	5	9	7	8
C68	Urinary organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C69	Eye and adnexa	7	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	2
C70	Meninges	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C71	Brain	23	1	-	2	1	-	-	1	-	1	1	1	3	1	3	3	2	2	1
C72	Spinal cord, cranial nerves and CNS, NOS	3	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	-	-	-
C73	Thyroid gland	110	-	-	1	1	3	4	10	11	7	11	15	10	10	10	4	1	6	6
C74	Adrenal gland	6	1	-	-	-	-	1	1	-	1	-	-	1	1	-	-	-	-	-
C75	Endocrine glands, NOS	4	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-
C81	Hodgkin lymphoma	16	-	-	2	4	1	3	1	2	2	-	-	-	-	-	-	1	-	-
C82-C86	Non-Hodgkin lymphoma	75	-	1	-	-	-	1	2	-	1	2	3	6	9	13	5	11	14	7
C88	Malignant immunoproliferative diseases	19	-	-	-	-	-	-	-	1	-	-	3	2	1	2	1	4	4	1
C90	Multiple myeloma	27	-	-	-	-	-	-	-	-	-	-	2	2	1	3	5	6	6	2
C91	Lymphoid leukaemia	23	2	-	-	1	-	2	1	-	-	-	1	3	4	3	1	-	3	2
C92	Myeloid leukaemia	24	-	1	1	-	-	1	-	1	2	2	-	1	2	2	3	1	4	3
C93	Monocytic leukaemia	10	-	-	-	-	-	-	-	-	-	-	-	1	-	2	1	1	4	1
C94-C95	Leukaemia other	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
C96	Lymphoid, haematopoietic and related tissue, NOS	2	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-
C76	Other and ill-defined sites	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
C80	Unknown primary site	32	-	-	-	-	-	-	-	-	-	1	2	2	2	3	2	3	8	9
MPN	Myeloproliferative neoplasms	26	-	-	-	-	1	-	1	-	1	-	2	2	2	1	5	2	7	2
MDS	Myelodysplastic syndromes	37	-	1	-	-	-	-	-	-	-	2	3	2	2	5	1	4	10	7
Total		2,997	7	3	8	11	10	39	64	74	127	187	233	266	266	360	313	330	346	353
Total excl. non-melanoma		2,764	7	3	8	11	10	39	64	74	122	186	229	257	252	343	289	292	298	280
Total excl. non-melanoma and MDS, MPN		2,701	7	2	8	11	9	39	63	74	121	184	224	253	248	337	283	286	281	271

Source: Belgian Cancer Registry

Brussels Capital Region: Females, age-specific and age-standardised incidence rates of cancer, by primary site in 2016 (N/100,000 person years)

Brussels Capital Region: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C00	Lip	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	5.9	-	-	0.3	0.3	0.2	0.03
C01	Base of tongue	5	-	-	-	-	-	-	-	-	-	-	2.8	3.1	3.6	8.3	-	-	-	-	0.8	0.9	0.7	0.09
C02	Tongue	5	-	-	-	-	-	-	1.9	-	-	-	-	-	-	12.4	5.3	-	-	-	0.8	0.8	0.6	0.10
C03	Gum	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	-	-	5.3	0.3	0.2	0.1	0.03
C04	Floor of mouth	2	-	-	-	-	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	0.3	0.4	0.3	0.04
C05	Palate	8	-	-	-	-	-	3.7	1.9	-	-	-	-	-	-	12.4	-	5.9	6.8	-	1.3	1.1	0.9	0.09
C06	Mouth, NOS	5	-	-	-	-	-	-	-	-	4.8	-	-	-	-	-	-	-	13.6	5.3	0.8	0.5	0.4	0.02
C07	Parotid gland	5	-	-	-	-	-	3.7	-	-	-	-	-	-	3.6	4.1	5.3	-	-	-	0.8	0.8	0.7	0.08
C08	Salivary glands, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C09	Tonsil	4	-	-	-	-	-	-	-	-	-	-	-	-	-	8.3	-	5.9	-	5.3	0.7	0.5	0.3	0.04
C10	Oropharynx	5	-	-	-	-	-	-	-	-	-	-	-	6.2	-	8.3	5.3	-	-	-	0.8	0.9	0.6	0.10
C11	Nasopharynx	4	-	-	-	3.2	2.5	-	-	-	2.4	-	-	-	3.6	-	-	-	-	-	0.7	0.8	0.8	0.06
C12	Pyriform sinus	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.8	-	0.2	0.1	0.0	-
C13	Hypopharynx	2	-	-	-	-	-	-	-	-	-	-	-	-	3.6	-	5.3	-	-	-	0.3	0.3	0.3	0.04
C14	Lip, oral cavity and pharyn,x NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15	Oesophagus	29	-	-	-	-	-	-	-	-	-	7.9	5.7	9.3	10.9	29.0	26.7	17.8	-	15.8	4.8	4.5	3.2	0.45
C16	Stomach	56	-	-	-	-	-	3.7	-	4.2	4.8	18.3	14.2	18.5	25.3	12.4	37.4	23.7	40.8	26.3	9.2	8.3	6.1	0.69
C17	Small intestine	14	-	-	-	-	-	-	-	2.1	-	5.2	-	-	10.9	4.1	10.7	5.9	6.8	15.8	2.3	1.9	1.4	0.16
C18	Colon	223	-	-	-	3.2	-	3.7	7.7	2.1	12.1	15.7	34.0	55.6	65.1	83.0	165.5	165.8	258.2	204.8	36.7	28.3	19.1	2.21
C19	Rectosigmoid junction	10	-	-	-	-	-	-	-	-	-	-	-	6.2	3.6	-	16.0	11.8	-	10.5	1.6	1.4	0.9	0.13
C20	Rectum	70	-	-	-	-	-	-	1.9	4.2	4.8	2.6	17.0	9.3	25.3	45.6	64.1	47.4	67.9	36.8	11.5	9.7	6.7	0.87
C21	Anus and anal canal	13	-	-	-	-	-	-	-	-	-	-	2.8	-	10.9	4.1	10.7	17.8	13.6	5.3	2.1	1.8	1.2	0.14
C22	Liver and intrahepatic bile ducts	28	-	-	-	-	-	1.9	1.9	-	-	-	2.8	6.2	10.9	12.4	32.0	23.7	13.6	26.3	4.6	3.7	2.5	0.34
C23	Gallbladder	10	-	-	-	-	-	-	-	-	-	-	-	-	3.6	4.1	5.3	17.8	20.4	5.3	1.6	1.1	0.7	0.07
C24	Biliary tract, NOS	18	-	-	-	-	-	-	-	-	-	-	2.8	6.2	3.6	20.7	5.3	17.8	20.4	10.5	3.0	2.4	1.6	0.19
C25	Pancreas	82	-	-	-	-	-	-	-	2.1	-	2.6	8.5	27.8	25.3	45.6	21.4	106.6	108.7	63.0	13.5	10.2	6.6	0.66
C26	Other ill-defined digestive organs	1	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	-	-	-	-	0.2	0.2	0.1	0.02
C30	Nasal cavity and middle ear	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	6.8	-	0.3	0.2	0.1	-
C31	Accessory sinuses	1	-	-	-	-	-	-	1.9	-	-	-	-	-	-	-	-	-	-	-	0.2	0.1	0.1	0.01
C32	Larynx	6	-	-	-	-	-	-	-	2.1	-	-	2.8	-	7.2	8.3	-	-	-	-	1.0	1.0	0.8	0.10
C33	Trachea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C34	Bronchus and lung	221	-	-	-	-	-	-	-	2.1	7.2	23.6	48.1	74.2	90.4	186.7	165.5	171.7	115.5	105.0	36.3	32.7	22.7	2.94
C37	Thymus	1	-	-	-	-	-	-	-	-	-	-	2.8	-	-	-	-	-	-	-	0.2	0.2	0.1	0.01
C38	Heart, mediastinum and pleura	3	-	-	3.1	-	-	-	-	2.1	-	-	-	-	-	-	5.3	-	-	-	0.5	0.5	0.5	0.05
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	2	-	-	-	3.2	-	-	-	-	2.4	-	-	-	-	-	-	-	-	-	0.3	0.4	0.4	0.03
C41	Bone and articular cartilage, NOS	5	-	-	-	-	-	-	1.9	-	-	2.6	5.7	-	-	-	-	-	-	5.3	0.8	0.8	0.6	0.05
C43	Malignant melanoma of skin	138	-	-	-	-	2.5	7.4	7.7	12.5	31.3	36.7	34.0	49.4	36.2	24.9	69.4	47.4	88.3	94.5	22.7	19.9	14.7	1.55
C44	Malignant neoplasms of skin	233	-	-	-	-	-	-	-	-	12.1	2.6	11.3	27.8	50.6	70.5	128.1	225.0	326.1	383.3	38.3	24.3	15.1	1.50

Brussels Capital Region: Females 2016		Tot	00-	05-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	CR	ESR	WSR	CRi
C45	Mesothelioma	3	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	-	5.9	6.8	-	0.5	0.4	0.2	0.02
C46	Kaposi's sarcoma	4	-	-	-	-	-	1.9	1.9	-	-	2.6	-	-	-	-	-	5.9	-	-	0.7	0.6	0.5	0.03
C47,C49	Soft tissues	19	2.3	-	3.1	-	-	1.9	-	-	-	5.2	2.8	9.3	7.2	-	21.4	23.7	-	-	3.1	3.1	2.5	0.27
C48	Retroperitoneum and peritoneum	7	-	-	-	-	-	1.9	-	-	-	2.6	2.8	-	-	-	5.3	5.9	6.8	5.3	1.2	0.9	0.7	0.06
C50	Breast	935	-	-	-	-	2.5	13.0	42.2	66.6	144.6	240.9	311.4	284.3	311.1	493.8	443.1	497.3	475.5	404.3	153.8	141.9	103.3	11.10
C51	Vulva	12	-	-	-	-	-	-	-	-	2.4	-	2.8	9.3	-	8.3	5.3	11.8	-	10.5	2.0	1.8	1.2	0.14
C52	Vagina	12	-	-	-	-	-	-	-	-	4.8	2.6	2.8	-	3.6	4.1	16.0	5.9	6.8	5.3	2.0	1.8	1.3	0.17
C53	Cervix uteri	68	-	-	-	3.2	2.5	3.7	9.6	16.6	14.5	20.9	5.7	34.0	18.1	29.0	16.0	23.7	27.2	5.3	11.2	10.8	8.4	0.87
C54	Corpus uteri	114	-	-	-	-	-	-	3.8	2.1	4.8	18.3	17.0	24.7	61.5	78.8	80.1	82.9	88.3	52.5	18.7	16.4	11.5	1.45
C55	Uterus	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	0.2	0.1	0.0	-
C56	Ovary	66	-	-	-	-	2.5	1.9	5.8	2.1	12.1	20.9	14.2	24.7	18.1	12.4	26.7	47.4	61.1	21.0	10.9	9.6	7.0	0.70
C57	Female genital organs, NOS	7	-	-	-	-	-	-	-	-	2.4	-	2.8	-	-	4.1	5.3	5.9	13.6	-	1.2	0.9	0.6	0.07
C58	Placenta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C64	Kidney	41	2.3	-	-	-	-	-	-	2.1	2.4	-	2.8	21.6	3.6	16.6	42.7	29.6	40.8	31.5	6.7	5.4	3.7	0.47
C65	Renal pelvis	3	-	-	-	-	-	-	-	-	-	-	-	-	3.6	-	-	5.9	-	5.3	0.5	0.4	0.2	0.02
C66	Ureter	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.5	0.3	0.1	0.1	-
C67	Bladder	41	-	-	-	-	-	-	-	-	-	2.6	5.7	6.2	-	29.0	26.7	53.3	47.6	42.0	6.7	4.9	3.1	0.35
C68	Urinary organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C69	Eye and adnexa	7	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	10.7	11.8	-	10.5	1.2	0.8	0.7	0.06
C70	Meninges	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C71	Brain	23	2.3	-	6.1	3.2	-	-	1.9	-	2.4	2.6	2.8	9.3	3.6	12.4	16.0	11.8	13.6	5.3	3.8	3.7	3.1	0.31
C72	Spinal cord, cranial nerves and CNS, NOS	3	-	-	-	-	-	-	-	-	-	-	2.8	-	3.6	4.1	-	-	-	-	0.5	0.5	0.4	0.05
C73	Thyroid gland	110	-	-	3.1	3.2	7.5	7.4	19.2	22.9	16.9	28.8	42.5	30.9	36.2	41.5	21.4	5.9	40.8	31.5	18.1	17.4	13.9	1.40
C74	Adrenal gland	6	2.3	-	-	-	-	1.9	1.9	-	2.4	-	-	3.1	3.6	-	-	-	-	-	1.0	1.0	1.0	0.08
C75	Endocrine glands, NOS	4	-	-	-	-	-	-	-	-	-	5.2	-	-	-	-	10.7	-	-	-	0.7	0.7	0.5	0.08
C81	Hodgkin lymphoma	16	-	-	6.1	12.9	2.5	5.6	1.9	4.2	4.8	-	-	-	-	-	-	5.9	-	-	2.6	2.8	3.1	0.19
C82-C86	Non-Hodgkin lymphoma	75	-	2.6	-	-	-	1.9	3.8	-	2.4	5.2	8.5	18.5	32.6	53.9	26.7	65.1	95.1	36.8	12.3	10.0	7.0	0.78
C88	Malignant immunoproliferative diseases	19	-	-	-	-	-	-	-	2.1	-	-	8.5	6.2	3.6	8.3	5.3	23.7	27.2	5.3	3.1	2.6	1.7	0.17
C90	Multiple myeloma	27	-	-	-	-	-	-	-	-	-	-	5.7	6.2	3.6	12.4	26.7	35.5	40.8	10.5	4.4	3.5	2.2	0.27
C91	Lymphoid leukaemia	23	4.6	-	-	3.2	-	3.7	1.9	-	-	-	2.8	9.3	14.5	12.4	5.3	-	20.4	10.5	3.8	3.4	3.0	0.29
C92	Myeloid leukaemia	24	-	2.6	3.1	-	-	1.9	-	2.1	4.8	5.2	-	3.1	7.2	8.3	16.0	5.9	27.2	15.8	3.9	3.3	2.7	0.27
C93	Monocytic leukaemia	10	-	-	-	-	-	-	-	-	-	-	-	3.1	-	8.3	5.3	5.9	27.2	5.3	1.6	1.1	0.7	0.08
C94-C95	Leukaemia other	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	0.2	0.1	0.0	-
C96	Lymphoid, haematopoietic and related tissue, NOS	2	-	-	-	-	-	1.9	-	-	-	-	-	-	3.6	-	-	-	-	-	0.3	0.3	0.3	0.03
C76	Other and ill-defined sites	1	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	-	-	-	-	0.2	0.2	0.1	0.02
C80	Unknown primary site	32	-	-	-	-	-	-	-	-	-	2.6	5.7	6.2	7.2	12.4	10.7	17.8	54.3	47.3	5.3	3.5	2.2	0.22
MPN	Myeloproliferative neoplasms	26	-	-	-	-	2.5	-	1.9	-	2.4	-	5.7	6.2	7.2	4.1	26.7	11.8	47.6	10.5	4.3	3.4	2.3	0.28
MDS	Myelodysplastic syndromes	37	-	2.6	-	-	-	-	-	-	-	5.2	8.5	6.2	7.2	20.7	5.3	23.7	67.9	36.8	6.1	4.4	3.0	0.28
Total		2,997	16.3	7.7	24.4	35.5	25.1	72.3	122.9	154.0	306.1	489.7	659.5	821.9	962.2	1,493.8	1,670.9	1,953.6	2,350.5	1,853.7	492.9	422.5	303.4	29.04
Total excl. non-melanoma		2,764	16.3	7.7	24.4	35.5	25.1	72.3	122.9	154.0	294.1	487.0	648.2	794.1	911.6	1,423.2	1,542.8	1,728.6	2,024.5	1,470.4	454.5	398.2	288.3	27.96
Total excl. non-melanoma and MDS, MPN		2,701	16.3	5.1	24.4	35.5	22.6	72.3	120.9	154.0	291.7	481.8	634.0	781.7	897.1	1,398.3	1,510.8	1,693.1	1,909.0	1,423.1	444.2	390.5	283.0	27.55

CR: crude (all ages) incidence rate (N/100,000 person years)
ESR and WSR: age standardised incidence rate, using the European or World Standard Population (N/100,000 person years)
CRi: Cumulative Risk (0-74 years)

Source: Belgian Cancer Registry

Belgium: Males, number of invasive tumours and age-standardised incidence by primary site and incidence year, 2004-2016

Males		N													WSR												
Primary site		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C00	Lip	58	62	54	35	41	56	49	44	24	38	35	35	37	0.6	0.7	0.6	0.4	0.4	0.5	0.4	0.5	0.2	0.4	0.3	0.3	0.3
C01	Base of tongue	63	59	73	94	108	119	92	107	123	127	139	113	124	0.8	0.8	1.0	1.2	1.3	1.4	1.1	1.2	1.4	1.4	1.5	1.2	1.3
C02	Tongue	186	172	164	156	169	176	154	146	164	162	174	175	178	2.5	2.2	2.1	1.9	2.1	2.1	1.9	1.7	2.0	1.8	1.9	1.8	1.9
C03	Gum	30	32	35	34	34	31	33	30	46	39	45	34	54	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.5	0.4	0.5	0.3	0.5
C04	Floor of mouth	167	157	138	163	156	170	156	155	153	152	135	164	123	2.2	2.1	1.8	2.1	1.9	2.1	1.9	1.9	1.8	1.7	1.5	1.8	1.3
C05	Palate	53	67	62	63	63	58	63	71	69	71	72	72	76	0.7	0.9	0.8	0.8	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
C06	Mouth, NOS	76	64	63	59	52	58	54	55	63	44	55	63	63	1.0	0.8	0.8	0.7	0.6	0.7	0.6	0.7	0.7	0.5	0.6	0.6	0.7
C07	Parotid gland	54	51	49	58	50	55	61	71	80	73	75	59	69	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.8	0.6	0.7
C08	Salivary glands, NOS	17	24	7	21	11	21	14	9	19	14	16	14	16	0.2	0.3	0.1	0.3	0.1	0.3	0.2	0.1	0.2	0.2	0.2	0.1	0.2
C09	Tonsil	162	159	157	194	194	174	139	178	173	163	173	176	209	2.1	2.1	2.0	2.4	2.4	2.1	1.7	2.1	2.0	1.9	2.0	1.9	2.2
C10	Oropharynx	100	101	94	110	137	113	129	127	147	163	113	152	152	1.4	1.3	1.2	1.4	1.7	1.4	1.5	1.5	1.7	1.8	1.2	1.6	1.6
C11	Nasopharynx	42	34	45	36	36	46	44	46	58	52	46	61	45	0.6	0.5	0.6	0.5	0.5	0.6	0.6	0.6	0.8	0.7	0.6	0.8	0.6
C12	Pyriform sinus	146	126	133	158	124	146	132	163	154	148	190	160	165	2.0	1.6	1.7	2.1	1.6	1.8	1.6	1.9	1.8	1.6	2.1	1.7	1.7
C13	Hypopharynx	60	50	65	78	69	81	60	75	78	86	104	71	72	0.8	0.7	0.9	1.0	0.8	0.9	0.7	0.9	0.9	1.0	1.1	0.7	0.7
C14	Lip, oral cavity and pharyn, xNOS	44	45	26	17	22	20	15	28	11	15	30	14	17	0.6	0.6	0.3	0.2	0.3	0.3	0.2	0.3	0.1	0.2	0.3	0.2	0.2
C15	Oesophagus	623	665	691	688	661	674	674	748	717	699	694	737	802	7.5	7.8	8.0	7.8	7.4	7.4	7.0	7.8	7.5	6.9	6.8	7.1	7.6
C16	Stomach	896	895	886	904	865	888	875	968	947	957	907	883	853	9.6	9.6	9.0	9.2	8.6	8.7	8.5	9.1	9.1	9.0	8.2	8.1	7.6
C17	Small intestine	97	108	121	97	128	125	144	177	180	166	191	178	208	1.1	1.3	1.4	1.1	1.4	1.3	1.5	1.9	1.8	1.7	1.9	1.8	2.0
C18	Colon	2,546	2,692	2,721	2,723	2,915	2,943	2,984	3,111	3,074	3,149	3,833	3,321	3,130	26.6	27.7	27.6	26.7	28.4	28.5	28.1	28.9	28.1	28.3	35.3	29.3	26.9
C19	Rectosigmoid junction	300	200	156	140	153	130	161	156	154	139	97	100	94	3.2	2.2	1.6	1.4	1.6	1.2	1.5	1.4	1.4	1.2	0.9	0.9	0.9
C20	Rectum	1,258	1,260	1,379	1,372	1,436	1,453	1,429	1,512	1,502	1,502	1,664	1,477	1,490	14.1	13.6	14.8	14.5	14.9	14.9	14.7	15.0	14.4	14.3	16.1	13.6	13.6
C21	Anus and anal canal	46	51	47	52	49	68	56	74	74	76	64	79	71	0.5	0.6	0.5	0.6	0.5	0.8	0.6	0.8	0.8	0.8	0.6	0.8	0.7
C22	Liver and intrahepatic bile ducts	252	299	337	370	434	406	487	528	595	611	604	667	668	2.9	3.4	3.9	4.3	4.9	4.5	5.3	5.5	6.0	6.1	5.9	6.5	6.4
C23	Gallbladder	36	27	30	27	31	22	36	31	36	39	36	33	30	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.2
C24	Biliary tract, NOS	124	111	131	144	135	154	158	173	155	146	158	181	209	1.4	1.1	1.4	1.5	1.4	1.6	1.5	1.6	1.4	1.3	1.4	1.6	1.9
C25	Pancreas	572	542	612	644	586	707	789	781	807	858	866	888	888	6.4	5.9	6.5	7.0	6.2	7.3	7.9	7.7	7.9	8.1	8.1	8.3	7.8
C26	Other ill-defined digestive organs	12	11	8	10	17	17	20	27	26	16	26	23	33	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3
C30	Nasal cavity and middle ear	22	23	24	28	31	33	35	41	36	28	38	43	34	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.3	0.3	0.4	0.3
C31	Accessory sinuses	48	70	48	57	63	45	56	71	68	51	62	59	61	0.6	0.8	0.6	0.7	0.7	0.5	0.6	0.7	0.7	0.5	0.6	0.6	0.6
C32	Larynx	622	559	541	620	587	561	551	596	483	556	493	477	510	7.8	6.7	6.4	7.3	6.7	6.3	5.9	6.4	5.2	5.8	5.0	4.7	5.0
C33	Trachea	12	10	7	14	3	10	10	9	4	5	5	3	5	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0
C34	Bronchus and lung	5,512	5,413	5,374	5,499	5,468	5,510	5,651	5,644	5,809	5,717	5,791	5,713	5,439	60.6	59.0	57.6	58.1	56.8	56.1	55.7	55.0	55.7	53.5	53.6	51.9	48.5
C37	Thymus	23	17	18	16	15	19	25	21	20	18	27	32	29	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.4	0.4	0.3
C38	Heart, mediastinum and pleura	8	10	11	20	10	13	15	22	16	26	12	14	30	0.1	0.1	0.2	0.3	0.1	0.2	0.2	0.3	0.2	0.4	0.2	0.2	0.3
C39	Respiratory system and intrathoracic organs, NOS	1	1	-	-	-	1	2	1	1	1	1	2	-	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
C40	Bone and articular cartilage of limbs	42	33	33	37	32	28	36	27	25	28	40	38	37	0.8	0.7	0.7	0.7	0.6	0.5	0.7	0.6	0.5	0.6	0.8	0.7	0.7
C41	Bone and articular cartilage, NOS	40	33	32	35	29	19	39	25	39	33	37	38	40	0.7	0.6	0.5	0.5	0.5	0.3	0.6	0.4	0.6	0.5	0.6	0.6	0.5
C43	Malignant melanoma of skin	632	643	629	739	759	732	887	950	1,094	1,086	1,190	1,196	1,283	8.4	8.2	8.1	9.5	9.3	8.9	10.9	11.2	12.9	12.1	13.5	13.0	13.9
C44	Malignant neoplasms of skin	1,659	1,741	1,879	2,209	2,184	2,381	2,528	2,920	3,341	3,524	3,846	4,062	4,418	16.2	16.6	17.6	19.9	18.9	20.0	20.6	23.7	25.9	26.8	28.7	29.1	31.1

Males		N													WSR											
Primary site		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C45	Mesothelioma	209	207	201	191	205	193	204	222	236	228	244	239	217	2.3	2.2	2.1	1.9	2.1	1.9	1.9	2.0	2.1	2.0	2.1	2.0	1.7
C46	Kaposi's sarcoma	24	25	19	35	34	39	32	35	35	41	39	46	39	0.3	0.3	0.3	0.5	0.4	0.5	0.4	0.5	0.4	0.5	0.5	0.6	0.5
C47.C49	Soft tissues	169	169	157	185	180	177	156	167	182	182	201	200	198	2.3	2.2	2.2	2.5	2.4	2.4	2.0	2.2	2.3	2.1	2.3	2.1	2.3
C48	Retroperitoneum and peritoneum	25	23	25	26	31	18	31	25	26	19	34	28	22	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.3
C50	Breast	87	83	65	82	86	97	83	75	78	80	92	93	111	1.0	0.9	0.7	1.0	0.9	1.0	0.9	0.7	0.7	0.7	0.9	0.8	1.0
C60	Penis	66	67	77	74	73	79	87	80	89	101	77	95	94	0.7	0.8	0.9	0.8	0.7	0.9	0.9	0.8	0.9	1.0	0.7	0.9	0.8
C61	Prostate	9,713	9,710	9,271	8,965	8,861	8,700	8,714	9,077	8,283	7,903	7,928	8,373	9,050	105.3	104.2	100.0	94.9	92.0	89.0	86.9	89.7	80.2	75.4	73.2	75.7	80.7
C62	Testis	248	278	274	296	319	310	317	352	354	351	358	375	403	4.7	5.1	5.3	5.7	6.1	5.7	5.8	6.4	6.3	6.3	6.6	6.7	7.2
C63	Male genital organs, NOS	10	13	11	16	13	9	13	6	15	17	11	10	15	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1
C64	Kidney	815	841	852	891	949	958	992	993	1,048	1,053	1,070	1,141	1,182	10.0	10.0	10.1	10.1	10.7	10.8	10.8	11.1	11.0	11.0	11.1	11.5	11.9
C65	Renal pelvis	96	114	98	124	118	121	142	132	140	149	144	175	133	0.9	1.1	1.0	1.3	1.2	1.1	1.4	1.2	1.2	1.3	1.2	1.4	1.1
C66	Ureter	90	68	81	82	92	118	105	111	118	102	117	103	118	0.9	0.7	0.8	0.8	0.8	1.1	1.0	1.0	1.0	0.9	1.0	0.8	0.9
C67	Bladder	1,656	1,628	1,606	1,682	1,704	1,729	1,764	1,832	1,845	1,880	1,904	1,876	1,841	16.8	16.2	15.7	16.2	15.7	15.7	15.9	16.1	15.7	16.0	15.8	15.3	14.7
C68	Urinary organs, NOS	21	29	24	31	28	22	50	46	64	59	43	68	53	0.2	0.3	0.3	0.3	0.3	0.2	0.4	0.4	0.5	0.4	0.3	0.5	0.4
C69	Eye and adnexa	38	38	54	58	64	53	61	60	69	74	77	69	71	0.6	0.7	0.7	0.8	0.8	0.9	0.9	0.7	1.0	0.9	0.9	0.8	0.9
C70	Meninges	11	6	4	-	5	4	7	7	11	7	6	11	10	0.1	0.1	0.1	-	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
C71	Brain	412	427	411	423	432	457	447	453	423	516	487	489	501	6.0	6.3	5.7	5.7	5.7	6.4	6.1	6.1	5.6	6.7	6.3	6.4	6.2
C72	Spinal cord, cranial nerves and CNS, NOS	22	17	9	8	8	15	15	7	15	20	11	16	20	0.4	0.2	0.2	0.2	0.1	0.3	0.2	0.1	0.2	0.3	0.1	0.3	0.3
C73	Thyroid gland	157	169	175	186	212	258	204	241	251	250	265	283	266	2.2	2.4	2.4	2.6	2.8	3.4	2.7	3.0	3.3	3.2	3.4	3.6	3.2
C74	Adrenal gland	18	13	26	31	22	41	30	40	28	48	40	42	36	0.4	0.3	0.5	0.7	0.5	0.8	0.6	0.7	0.5	0.8	0.7	0.7	0.5
C75	Endocrine glands, NOS	9	5	14	9	10	11	9	14	16	10	14	13	18	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.3
C81	Hodgkin lymphoma	159	177	177	161	181	173	154	196	185	195	217	189	210	2.8	3.3	3.0	2.8	3.1	3.0	2.5	3.3	3.0	3.3	3.4	3.2	3.4
C82-C86	Non-Hodgkin lymphoma	957	956	981	974	988	983	1,013	1,028	1,176	1,155	1,190	1,117	1,138	11.8	11.4	11.6	11.5	11.5	10.8	11.3	11.3	12.4	12.0	12.0	11.2	11.2
C88	Malignant immunoproliferative diseases	115	92	108	106	123	117	111	128	137	176	184	188	207	1.4	1.1	1.2	1.3	1.4	1.3	1.1	1.3	1.3	1.8	1.8	1.8	1.9
C90	Multiple myeloma	349	350	360	375	351	405	403	439	441	457	441	466	501	3.7	3.7	3.8	4.1	3.6	4.1	3.9	4.3	4.3	4.2	4.0	4.1	4.4
C91	Lymphoid leukaemia	443	453	408	428	497	496	516	507	590	582	631	652	673	6.3	6.4	5.5	5.7	6.5	6.6	6.3	6.0	7.1	7.3	7.2	7.3	7.7
C92	Myeloid leukaemia	245	269	238	286	302	311	318	336	312	341	337	340	359	3.0	3.6	2.9	3.5	3.4	3.6	3.4	3.7	3.3	3.5	3.7	3.7	3.8
C93	Monocytic leukaemia	39	44	43	67	61	55	61	89	86	85	88	84	87	0.4	0.5	0.5	0.7	0.6	0.6	0.6	0.9	0.8	0.8	0.8	0.8	0.8
C94-C95	Leukaemia other	35	31	29	29	25	21	36	48	26	24	36	28	20	0.4	0.4	0.3	0.3	0.3	0.2	0.4	0.5	0.3	0.2	0.4	0.2	0.3
C96	Lymphoid, haematopoietic and related tissue, NOS	17	10	24	11	26	14	20	20	24	21	30	28	21	0.5	0.3	0.7	0.3	0.6	0.4	0.5	0.5	0.5	0.5	0.6	0.5	0.5
C76	Other and ill-defined sites	16	16	17	2	1	2	1	6	7	5	8	6	9	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1
C80	Unknown primary site	648	595	607	560	587	514	443	453	541	434	499	474	421	7.1	6.4	6.3	5.9	6.0	5.0	4.4	4.3	5.0	4.0	4.4	4.0	3.6
MPN	Myeloproliferative neoplasms	189	182	180	208	240	231	281	298	323	298	371	354	393	2.3	2.0	2.0	2.2	2.6	2.5	3.0	3.1	3.4	2.9	3.5	3.3	3.7
MDS	Myelodysplastic syndromes	268	252	255	242	320	351	360	403	395	479	460	514	462	2.7	2.5	2.4	2.3	2.9	3.2	3.3	3.5	3.4	3.9	3.6	4.0	3.7
Total		34,017	33,974	33,761	34,565	35,005	35,345	36,023	37,844	38,134	38,120	39,738	39,792	40,661	384.3	379.0	372.4	375.1	371.9	369.9	367.1	380.8	375.6	368.9	378.2	370.0	372.5
Total excl. non-melanoma		32,358	32,233	31,882	32,356	32,821	32,964	33,495	34,924	34,793	34,596	35,892	35,730	36,243	368.1	362.4	354.7	355.2	353.0	349.9	346.5	357.1	349.7	342.1	349.6	340.9	341.4
Total excl. non-melanoma and MDS, MPN		31,901	31,799	31,447	31,906	32,261	32,382	32,854	34,223	34,075	33,819	35,061	34,862	35,388	363.1	357.9	350.3	350.7	347.6	344.2	340.2	350.6	342.9	335.3	342.4	333.6	334.0

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

Source: Belgian Cancer Registry

Belgium: Females, number of invasive tumours and age-standardised incidence by primary site and incidence year, 2004-2016

Females		N													WSR											
Primary site		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C00	Lip	18	24	20	13	15	15	11	24	22	22	13	21	19	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1
C01	Base of tongue	18	14	25	24	29	40	38	37	23	33	39	37	42	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.2	0.3	0.4	0.4	0.4
C02	Tongue	70	70	73	50	73	74	80	80	86	88	98	99	87	0.9	0.8	0.9	0.6	0.7	0.8	0.9	0.8	0.9	0.9	1.0	0.9	0.8
C03	Gum	28	24	22	30	31	32	25	26	31	34	41	42	28	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.4	0.3	0.2
C04	Floor of mouth	43	40	30	57	31	47	50	52	65	47	63	56	52	0.5	0.5	0.4	0.7	0.4	0.5	0.6	0.6	0.7	0.4	0.6	0.6	0.5
C05	Palate	31	32	33	28	38	19	26	47	45	31	38	39	49	0.4	0.4	0.4	0.3	0.4	0.2	0.3	0.5	0.5	0.3	0.4	0.4	0.4
C06	Mouth, NOS	40	44	25	30	28	29	47	39	35	31	32	41	33	0.4	0.4	0.2	0.3	0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.2
C07	Parotid gland	33	45	34	46	40	37	42	43	47	47	47	45	53	0.3	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.6	0.5	0.5	0.4	0.5
C08	Salivary glands, NOS	14	24	18	14	10	16	19	18	9	18	16	12	15	0.2	0.3	0.2	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.1
C09	Tonsil	56	54	62	65	73	66	70	61	75	71	87	81	88	0.7	0.7	0.8	0.8	0.8	0.8	0.7	0.6	0.8	0.7	0.9	0.8	0.8
C10	Oropharynx	27	20	22	32	34	44	40	30	52	43	33	55	56	0.3	0.2	0.2	0.4	0.4	0.5	0.4	0.3	0.6	0.4	0.3	0.5	0.6
C11	Nasopharynx	10	9	8	16	14	20	16	13	16	12	16	19	18	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3
C12	Pyriform sinus	17	15	24	17	25	37	24	23	33	30	25	34	29	0.2	0.2	0.3	0.2	0.3	0.4	0.3	0.2	0.4	0.3	0.3	0.4	0.3
C13	Hypopharynx	12	16	8	17	15	16	11	17	16	13	18	12	15	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.1
C14	Lip, oral cavity and pharyn, xNOS	9	12	13	4	9	7	1	14	7	5	7	9	4	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0
C15	Oesophagus	231	230	214	250	229	234	244	256	269	257	277	277	298	2.0	2.1	1.9	2.1	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.2	2.3
C16	Stomach	523	535	551	496	543	549	554	568	528	555	583	530	548	4.0	4.1	4.3	4.0	4.2	4.2	4.0	4.4	3.7	4.1	4.5	3.9	4.1
C17	Small intestine	92	97	115	120	98	125	118	132	125	166	162	136	137	0.9	0.9	1.1	1.1	0.9	1.1	1.1	1.2	1.1	1.5	1.4	1.1	1.2
C18	Colon	2,393	2,416	2,519	2,574	2,612	2,681	2,628	2,723	2,792	2,814	3,087	2,866	2,777	18.4	18.9	19.7	19.5	19.9	19.9	19.3	19.8	20.1	20.4	22.9	20.8	19.7
C19	Rectosigmoid junction	232	170	134	99	118	136	126	136	125	103	76	61	60	1.9	1.4	1.0	0.8	0.9	1.1	0.9	1.1	1.0	0.8	0.6	0.5	0.4
C20	Rectum	879	875	928	967	976	906	978	893	971	965	957	925	917	7.5	7.8	8.0	8.3	8.3	7.5	8.2	7.3	8.0	7.8	7.8	7.4	7.2
C21	Anus and anal canal	68	72	78	78	87	85	107	95	103	110	115	126	129	0.7	0.7	0.7	0.7	0.8	0.8	1.0	0.9	0.9	1.0	1.0	1.1	1.3
C22	Liver and intrahepatic bile ducts	114	164	152	144	194	198	202	211	244	253	271	268	269	1.1	1.6	1.3	1.2	1.8	1.8	1.8	1.9	2.1	2.2	2.2	2.2	2.2
C23	Gallbladder	63	60	71	67	70	70	91	75	53	69	80	60	67	0.4	0.4	0.6	0.5	0.5	0.5	0.6	0.5	0.3	0.4	0.5	0.4	0.4
C24	Biliary tract, NOS	118	103	100	121	123	146	128	152	133	134	129	134	155	0.9	0.8	0.7	0.9	0.8	1.1	0.9	1.0	0.9	0.9	0.9	0.8	1.0
C25	Pancreas	496	529	571	546	580	663	737	758	745	813	841	882	891	4.2	4.6	4.8	4.7	4.8	5.4	5.9	5.9	5.8	6.2	6.4	6.6	6.8
C26	Other ill-defined digestive organs	10	12	8	10	15	12	15	20	20	14	24	12	34	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.3
C30	Nasal cavity and middle ear	12	17	14	18	14	17	14	8	20	13	18	16	10	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1
C31	Accessory sinuses	16	19	15	13	24	14	15	27	16	17	13	19	14	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.1
C32	Larynx	100	84	82	72	84	104	87	104	94	97	73	97	77	1.1	0.9	0.9	0.8	1.0	1.1	1.0	1.1	0.9	1.0	0.7	0.9	0.7
C33	Trachea	3	5	6	7	2	7	3	5	3	2	5	3	4	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0
C34	Bronchus and lung	1,552	1,590	1,703	1,879	1,810	2,074	2,241	2,340	2,364	2,493	2,655	2,655	2,735	16.4	16.7	17.6	19.1	18.4	20.9	22.0	22.5	22.4	23.5	24.1	23.7	24.4
C37	Thymus	19	10	12	12	15	14	17	13	21	23	15	17	19	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2
C38	Heart, mediastinum and pleura	5	8	7	7	13	10	8	7	6	8	8	6	15	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	1	1	-	2	-	-	-	-	-	-	-	-	-	-	0.0	0.0	-	0.0	-
C40	Bone and articular cartilage of limbs	33	41	29	36	34	23	26	45	29	39	21	37	27	0.6	0.8	0.6	0.6	0.7	0.4	0.5	0.9	0.5	0.7	0.4	0.6	0.6
C41	Bone and articular cartilage, NOS	28	33	36	29	31	22	25	30	32	24	22	29	23	0.5	0.4	0.5	0.4	0.4	0.2	0.3	0.4	0.5	0.4	0.3	0.4	0.3
C43	Malignant melanoma of skin	893	978	976	987	1,163	1,197	1,257	1,264	1,413	1,556	1,729	1,636	1,786	11.8	12.7	12.4	12.3	14.7	14.6	16.0	15.4	16.9	18.5	20.1	18.9	20.2
C44	Malignant neoplasms of skin	1,160	1,211	1,208	1,470	1,553	1,568	1,779	1,978	2,372	2,506	2,766	2,730	3,062	8.0	8.5	8.1	9.9	10.3	9.7	11.1	12.1	14.6	14.8	16.2	16.4	17.3

Females		N													WSR												
Primary site		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C45	Mesothelioma	26	46	40	47	50	41	52	50	44	44	48	64	54	0.2	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.5	0.4
C46	Kaposi's sarcoma	9	8	12	4	10	10	6	9	13	8	15	9	9	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1
C47.C49	Soft tissues	155	132	140	163	157	145	140	128	158	136	140	174	178	1.9	1.9	1.8	2.0	1.6	1.5	1.6	1.7	2.0	1.6	1.6	1.8	2.1
C48	Retroperitoneum and peritoneum	38	40	49	39	53	53	45	47	54	58	51	46	75	0.4	0.5	0.5	0.4	0.6	0.5	0.5	0.5	0.6	0.5	0.4	0.5	0.6
C50	Breast	9,380	9,380	9,486	9,662	9,558	9,573	9,881	10,519	10,526	10,686	10,450	10,389	10,735	109.4	106.9	107.4	107.6	104.4	103.3	105.8	110.9	108.1	109.7	106.2	104.2	106.1
C51	Vulva	151	166	166	172	187	194	212	197	211	223	237	219	231	1.3	1.4	1.4	1.4	1.5	1.6	1.8	1.5	1.7	1.7	2.0	1.7	1.8
C52	Vagina	53	46	48	45	36	44	43	36	48	41	43	43	51	0.5	0.4	0.4	0.4	0.2	0.4	0.4	0.3	0.4	0.3	0.3	0.4	0.4
C53	Cervix uteri	630	632	586	683	633	591	599	625	679	630	661	643	640	8.3	8.4	7.6	9.0	8.1	7.5	7.6	7.6	8.4	7.9	8.1	8.1	7.9
C54	Corpus uteri	1,429	1,378	1,349	1,394	1,463	1,461	1,417	1,428	1,448	1,384	1,461	1,457	1,438	13.9	13.2	13.1	13.2	13.2	13.2	12.5	12.3	12.4	11.4	11.9	12.1	11.6
C55	Uterus	53	54	23	10	6	11	8	15	13	11	14	8	13	0.5	0.5	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
C56	Ovary	909	928	922	920	885	784	865	829	803	773	841	810	752	9.7	9.4	9.4	9.5	8.7	7.6	8.3	7.8	7.8	7.1	7.5	7.3	6.8
C57	Female genital organs, NOS	28	37	32	29	50	52	45	69	70	99	82	95	90	0.3	0.4	0.3	0.3	0.5	0.5	0.4	0.7	0.6	0.8	0.7	0.8	0.7
C58	Placenta	4	3	-	7	4	4	3	12	11	8	3	3	5	0.1	0.1	-	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1
C64	Kidney	527	537	533	522	543	523	555	660	602	620	614	587	633	5.4	5.5	5.3	5.1	5.2	5.0	5.0	6.2	5.4	5.5	5.4	5.3	5.4
C65	Renal pelvis	72	71	73	80	81	82	80	83	96	83	77	77	93	0.6	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.6
C66	Ureter	32	22	33	34	42	46	39	43	52	46	38	61	54	0.2	0.1	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.4	0.3
C67	Bladder	394	453	392	421	478	465	477	473	495	480	508	508	506	2.8	3.3	2.9	2.9	3.3	3.1	3.3	3.3	3.2	3.0	3.1	3.2	3.1
C68	Urinary organs, NOS	6	6	1	6	8	8	11	4	9	11	9	10	8	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0
C69	Eye and adnexa	51	40	38	46	45	64	58	65	69	67	55	52	74	0.7	0.7	0.5	0.6	0.6	0.7	0.8	0.8	0.8	0.7	0.7	0.5	0.7
C70	Meninges	16	9	9	14	8	13	9	5	7	8	6	14	8	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
C71	Brain	322	288	291	301	323	354	319	322	327	314	341	329	346	4.2	4.0	4.1	3.9	4.2	4.6	3.9	4.0	3.9	4.0	4.1	4.0	4.1
C72	Spinal cord, cranial nerves and CNS, NOS	13	9	11	10	5	6	10	8	13	5	14	14	19	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.3	0.3
C73	Thyroid gland	472	498	509	513	548	634	650	669	706	688	803	740	776	6.8	6.9	7.3	7.3	7.6	8.9	8.8	9.3	9.7	9.3	10.8	10.0	10.2
C74	Adrenal gland	22	23	31	37	30	19	33	31	34	55	47	47	44	0.5	0.6	0.5	0.6	0.5	0.4	0.6	0.6	0.5	0.9	0.7	0.6	0.8
C75	Endocrine glands, NOS	4	5	9	10	8	7	8	9	15	17	20	19	21	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2
C81	Hodgkin lymphoma	125	120	116	110	127	123	147	125	141	131	139	153	145	2.2	2.3	2.0	2.1	2.2	2.3	2.6	2.2	2.3	2.2	2.6	2.7	2.4
C82-C86	Non-Hodgkin lymphoma	811	768	800	851	865	873	910	894	905	905	887	886	886	8.1	7.5	7.7	8.1	8.1	8.0	8.2	7.9	7.8	7.6	7.4	7.4	7.4
C88	Malignant immunoproliferative diseases	91	95	94	102	88	81	121	109	130	131	159	150	155	0.8	0.9	0.9	1.0	0.9	0.7	1.1	1.0	1.1	1.2	1.5	1.1	1.2
C90	Multiple myeloma	357	288	285	301	302	336	319	364	338	315	390	368	400	3.1	2.5	2.6	2.6	2.5	2.6	2.6	2.8	2.7	2.4	3.1	2.8	2.9
C91	Lymphoid leukaemia	342	289	277	311	290	366	381	360	380	425	439	478	395	4.3	3.6	3.6	3.8	3.2	4.2	4.2	3.5	4.4	4.6	4.4	4.7	4.0
C92	Myeloid leukaemia	248	239	209	253	224	213	286	271	285	278	311	298	307	2.8	2.9	2.3	2.9	2.3	2.2	3.0	2.9	2.8	2.8	2.8	3.0	3.0
C93	Monocytic leukaemia	24	27	31	38	58	38	44	55	55	50	49	62	57	0.2	0.3	0.2	0.5	0.6	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.4
C94-C95	Leukaemia other	21	20	14	11	21	21	33	26	25	19	25	14	9	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.1
C96	Lymphoid, haematopoietic and related tissue, NOS	13	12	15	9	20	20	23	16	18	18	18	25	17	0.3	0.3	0.3	0.1	0.5	0.5	0.6	0.3	0.4	0.4	0.3	0.5	0.4
C76	Other and ill-defined sites	22	8	10	3	3	4	3	4	3	11	4	11	12	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
C80	Unknown primary site	535	486	445	520	536	391	388	343	409	412	410	419	400	4.2	4.0	3.6	4.2	4.2	2.9	2.8	2.5	2.9	2.8	2.9	2.8	2.7
MPN	Myeloproliferative neoplasms	163	188	200	236	236	250	264	271	308	374	352	371	396	1.4	1.8	1.9	2.1	2.1	2.3	2.3	2.4	2.7	3.2	2.9	2.9	3.2
MDS	Myelodysplastic syndromes	198	207	175	202	250	227	223	299	327	328	370	334	361	1.5	1.6	1.5	1.5	1.8	1.7	1.6	2.0	2.2	2.3	2.4	2.1	2.2
Total		27,212	27,260	27,400	28,561	29,084	29,481	30,607	31,837	32,868	33,449	34,631	34,113	35,035	283.6	282.7	281.4	287.7	286.7	287.2	295.5	302.0	306.3	309.1	314.7	307.9	310.9
Total excl. non-melanoma		26,052	26,049	26,192	27,091	27,531	27,913	28,828	29,859	30,496	30,943	31,865	31,383	31,973	275.6	274.3	273.3	277.9	276.4	277.4	284.4	290.0	291.6	294.3	298.6	291.5	293.7
Total excl. non-melanoma and MDS, MPN		25,691	25,654	25,817	26,653	27,045	27,436	28,341	29,289	29,861	30,241	31,143	30,678	31,216	272.7	270.8	269.9	274.3	272.6	273.4	280.6	285.6	286.8	288.8	293.3	286.5	288.2

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

Source: Belgian Cancer Registry

Flemish Region: Males, number of invasive tumours and age-standardised incidence by primary site and incidence year, 2001-2016

Males		N																WSR													
Primary site		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C00	Lip	38	47	50	43	45	39	20	22	36	41	28	17	25	26	26	23	0.7	0.8	0.9	0.6	0.8	0.7	0.3	0.4	0.5	0.6	0.5	0.3	0.4	0.4	0.4	0.3
C01	Base of tongue	36	27	31	38	25	31	58	60	68	52	58	64	68	85	71	74	0.8	0.6	0.7	0.9	0.6	0.7	1.2	1.2	1.3	1.0	1.1	1.2	1.2	1.5	1.3	1.3
C02	Tongue	77	82	63	97	93	76	75	86	85	80	75	83	83	98	98	92	1.7	1.9	1.4	2.2	2.0	1.5	1.4	1.8	1.8	1.6	1.5	1.7	1.5	1.7	1.7	1.7
C03	Gum	5	10	11	12	8	14	11	16	15	18	14	22	22	23	21	23	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.4	0.3	0.4	0.3	0.3
C04	Floor of mouth	73	79	75	92	83	77	72	88	95	77	78	72	95	76	98	65	1.7	1.8	1.7	2.0	1.8	1.7	1.6	1.8	1.9	1.5	1.6	1.4	1.8	1.4	1.8	1.1
C05	Palate	23	26	19	24	28	31	32	32	32	30	37	40	35	37	34	38	0.6	0.6	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.6	0.7
C06	Mouth, NOS	42	38	42	38	41	49	30	26	33	29	27	40	29	30	33	32	1.0	0.8	0.9	0.8	0.8	1.0	0.6	0.5	0.6	0.5	0.5	0.7	0.5	0.6	0.5	0.5
C07	Parotid gland	25	36	30	38	32	24	32	29	36	32	44	56	51	52	31	38	0.6	0.7	0.6	0.8	0.6	0.5	0.6	0.5	0.7	0.6	0.7	0.9	0.9	0.9	0.5	0.6
C08	Salivary glands, NOS	7	8	12	8	12	4	9	8	13	7	6	11	10	7	5	12	0.2	0.2	0.3	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.2
C09	Tonsil	76	69	85	83	80	91	88	96	91	73	101	85	87	100	89	103	1.7	1.5	1.9	1.7	1.7	1.8	1.8	1.9	1.8	1.5	2.0	1.6	1.6	1.9	1.6	1.8
C10	Oropharynx	41	30	35	45	34	40	53	62	53	70	62	63	88	49	67	74	0.9	0.7	0.8	1.0	0.8	0.9	1.1	1.2	1.1	1.4	1.2	1.2	1.6	0.9	1.2	1.3
C11	Nasopharynx	21	15	22	20	15	21	17	21	21	22	22	35	22	15	25	26	0.6	0.4	0.5	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.4	0.8	0.4	0.3	0.5	0.6
C12	Pyriform sinus	49	50	46	76	54	56	68	44	66	58	71	71	71	80	82	77	1.1	1.2	1.0	1.6	1.1	1.1	1.5	1.0	1.3	1.1	1.3	1.3	1.3	1.4	1.4	1.3
C13	Hypopharynx	23	21	31	39	30	40	46	33	41	32	46	39	48	62	42	37	0.6	0.5	0.7	0.8	0.6	0.9	0.9	0.7	0.8	0.6	0.9	0.7	0.9	1.1	0.7	0.6
C14	Lip, oral cavity and pharyn, xNOS	21	16	9	11	15	9	9	14	9	5	8	4	4	10	7	7	0.5	0.4	0.2	0.3	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.1
C15	Oesophagus	383	363	350	360	400	421	434	387	406	406	422	430	414	428	440	509	8.0	7.4	7.0	7.1	7.7	7.8	8.0	7.0	7.1	6.9	7.1	7.2	6.7	6.6	6.8	7.9
C16	Stomach	533	524	512	542	538	525	549	564	568	554	573	561	619	575	549	508	9.8	9.5	9.1	9.3	9.3	8.6	8.9	9.0	8.9	8.6	8.6	8.5	9.2	8.3	8.0	7.1
C17	Small intestine	48	55	76	64	61	80	56	76	72	99	96	104	99	119	94	119	0.9	1.1	1.4	1.3	1.2	1.5	1.1	1.3	1.2	1.6	1.6	1.8	1.7	1.9	1.5	1.9
C18	Colon	1,407	1,427	1,510	1,572	1,694	1,738	1,703	1,892	1,934	1,880	1,973	2,001	2,000	2,734	2,275	1,977	25.9	25.6	26.6	26.6	28.6	28.7	27.2	29.7	29.9	28.5	29.5	29.5	29.2	41.0	32.8	27.3
C19	Rectosigmoid junction	166	158	148	203	119	100	85	98	85	94	100	90	82	60	41	48	3.1	2.9	2.6	3.5	2.1	1.7	1.3	1.6	1.3	1.4	1.5	1.3	1.1	0.9	0.6	0.7
C20	Rectum	722	748	821	827	829	908	902	936	956	919	1,000	958	974	1,129	957	929	13.9	14.0	15.0	15.2	14.9	15.9	15.4	15.9	15.8	15.3	16.2	14.9	14.9	17.8	14.3	13.6
C21	Anus and anal canal	21	24	26	29	29	21	24	30	42	29	33	41	37	37	35	39	0.4	0.4	0.5	0.6	0.6	0.4	0.4	0.5	0.7	0.5	0.6	0.8	0.6	0.6	0.6	0.6
C22	Liver and intrahepatic bile ducts	123	107	118	138	164	159	182	229	203	247	259	297	304	279	327	323	2.4	2.1	2.5	2.7	3.2	3.0	3.3	4.2	3.5	4.3	4.3	4.9	4.9	4.4	5.1	4.9
C23	Gallbladder	13	16	9	20	18	23	21	17	19	22	17	19	23	19	15	21	0.2	0.3	0.2	0.3	0.3	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
C24	Biliary tract, NOS	50	47	62	76	67	89	82	86	99	92	110	83	87	87	110	142	1.0	0.8	1.0	1.3	1.1	1.5	1.3	1.4	1.7	1.4	1.6	1.2	1.3	1.2	1.6	2.0
C25	Pancreas	266	313	335	336	324	357	354	351	393	444	431	480	495	487	513	538	5.2	6.0	6.1	6.3	5.8	6.1	6.2	6.1	6.4	7.2	6.9	7.6	7.4	7.3	7.6	7.5
C26	Other ill-defined digestive organs	2	1	6	3	3	1	5	6	8	7	13	14	4	9	3	5	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.1
C30	Nasal cavity and middle ear	9	10	13	9	18	17	15	21	17	23	23	21	20	25	22	21	0.2	0.2	0.3	0.2	0.4	0.3	0.3	0.4	0.3	0.5	0.4	0.5	0.3	0.4	0.3	0.3
C31	Accessory sinuses	44	40	35	37	44	32	41	44	31	41	47	48	34	47	45	45	1.0	0.8	0.7	0.7	0.9	0.6	0.8	0.8	0.6	0.7	0.8	0.8	0.5	0.8	0.8	0.8
C32	Larynx	349	341	366	348	311	321	339	314	309	311	326	281	327	279	273	292	7.1	7.1	7.4	7.0	6.0	6.1	6.5	5.7	5.5	5.2	5.6	4.9	5.4	4.4	4.3	4.6
C33	Trachea	3	10	8	8	5	4	9	1	7	5	5	2	3	4	1	3	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0
C34	Bronchus and lung	3,062	3,004	3,041	3,267	3,188	3,255	3,343	3,277	3,261	3,367	3,359	3,441	3,420	3,441	3,376	3,201	58.0	55.6	55.2	58.0	55.9	55.9	56.5	54.6	52.5	52.5	52.2	52.0	50.3	50.1	48.6	44.8
C37	Thymus	6	7	5	18	10	10	9	9	11	10	19	13	15	17	19	17	0.1	0.1	0.1	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.3	0.3	0.4	0.4	0.3
C38	Heart, mediastinum and pleura	11	6	6	5	7	8	12	8	8	10	15	11	16	7	9	23	0.3	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.2	0.2	0.4	0.2	0.4	0.1	0.2	0.4
C39	Respiratory system and intrathoracic organs, NOS	-	-	1	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	0.0	-	0.0	-	-	-	-	-	-	-	-	0.0	-	-
C40	Bone and articular cartilage of limbs	24	19	21	23	22	20	20	17	13	22	16	18	17	19	26	16	0.8	0.6	0.7	0.8	0.7	0.8	0.7	0.5	0.5	0.7	0.6	0.6	0.6	0.6	0.9	0.5
C41	Bone and articular cartilage, NOS	19	21	22	22	20	18	22	20	14	24	13	27	21	25	21	24	0.5	0.6	0.6	0.7	0.5	0.5	0.5	0.6	0.4	0.6	0.3	0.8	0.6	0.7	0.5	0.5
C43	Malignant melanoma of skin	255	288	341	371	383	385	446	423	403	478	532	632	673	723	722	777	5.9	6.3	7.8	8.3	8.4	8.3	9.4	8.7	8.0	9.6	10.6	12.2	12.3	13.5	13.1	13.5
C44	Malignant neoplasms of skin	744	771	881	959	1,059	1,185	1,338	1,356	1,533	1,599	1,867	2,205	2,359	2,540	2,742	2,956	13.0	13.1	14.8	15.7	16.5	18.2	19.8	19.0	20.6	20.8	24.1	27.2	28.5	29.8	31.1	32.7

Males		N																WSR															
Primary site		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C45	Mesothelioma	128	98	118	138	139	146	133	144	135	148	165	164	156	175	161	149	2.5	1.9	2.2	2.5	2.5	2.6	2.2	2.4	2.2	2.3	2.4	2.3	2.2	2.4	2.2	1.9
C46	Kaposi's sarcoma	7	9	18	8	10	10	17	14	16	14	13	12	22	25	12	16	0.1	0.2	0.4	0.2	0.2	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.5	0.5	0.3	0.4
C47.C49	Soft tissues	96	93	117	108	97	90	114	110	118	96	97	108	116	138	114	134	2.2	2.1	2.8	2.5	2.1	2.2	2.4	2.3	2.7	1.9	2.1	2.2	2.2	2.5	1.9	2.5
C48	Retroperitoneum and peritoneum	18	11	13	15	17	18	18	14	15	20	15	15	10	16	15	12	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.2	0.3	0.3	0.2
C50	Breast	54	50	54	56	50	37	54	51	52	47	48	40	48	57	60	75	1.0	0.9	1.0	0.9	1.0	0.6	1.1	0.9	0.9	0.8	0.8	0.5	0.7	0.9	0.9	1.0
C60	Penis	30	31	35	38	37	53	44	42	48	51	40	55	53	46	51	60	0.5	0.6	0.6	0.7	0.6	1.0	0.8	0.7	0.8	0.8	0.6	0.9	0.8	0.6	0.7	0.9
C61	Prostate	5,419	4,995	5,568	5,922	6,128	5,956	5,966	5,857	5,748	5,695	5,910	5,460	5,002	5,101	5,416	5,899	99.2	91.1	100.4	105.1	107.4	104.4	102.0	98.3	95.0	91.2	93.8	85.5	76.9	76.6	79.4	85.3
C62	Testis	135	126	129	126	157	149	166	176	179	165	176	211	197	208	213	238	4.5	4.2	4.2	4.1	5.0	5.3	5.6	6.0	6.0	5.4	5.7	6.7	6.3	6.9	7.0	7.9
C63	Male genital organs, NOS	6	1	7	7	6	8	9	9	5	8	4	6	8	7	7	10	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
C64	Kidney	469	457	517	502	520	538	569	582	600	652	644	661	661	710	709	737	9.6	9.4	10.6	10.1	10.2	10.2	10.5	10.7	10.7	11.4	11.6	11.0	11.2	12.1	11.3	11.9
C65	Renal pelvis	62	57	76	57	73	61	72	69	85	91	81	90	95	101	116	90	1.2	1.0	1.4	0.9	1.1	1.0	1.2	1.0	1.3	1.4	1.1	1.2	1.3	1.3	1.5	1.1
C66	Ureter	47	40	37	51	40	57	48	67	71	74	68	72	68	73	57	77	0.8	0.7	0.7	0.8	0.7	0.9	0.8	1.0	1.0	1.1	1.0	0.9	0.9	1.0	0.7	0.9
C67	Bladder	994	918	888	955	977	1,023	1,043	1,050	1,064	1,089	1,108	1,126	1,070	1,095	1,109	1,075	17.4	15.8	15.1	15.9	15.8	16.2	16.2	15.4	15.3	15.7	15.3	15.0	14.2	14.2	14.0	13.4
C68	Urinary organs, NOS	13	13	14	13	11	12	17	19	11	34	29	38	39	26	39	32	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.4	0.4	0.5	0.5	0.3	0.5	0.4
C69	Eye and adnexa	31	39	25	28	19	31	38	43	38	33	44	47	45	49	41	36	0.7	1.1	1.0	0.6	0.5	0.8	0.9	0.7	1.0	0.8	1.0	1.0	0.8	0.9	0.7	0.6
C70	Meninges	4	8	6	7	3	4	-	3	3	3	4	6	4	4	6	5	0.1	0.2	0.1	0.1	0.0	0.1	-	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1
C71	Brain	220	250	270	246	258	256	270	266	284	261	268	281	295	281	299	317	5.7	6.2	6.8	5.7	6.3	5.9	6.1	5.6	6.5	5.7	6.0	6.4	6.1	6.2	6.1	6.7
C72	Spinal cord, cranial nerves and CNS, NOS	7	6	6	8	15	5	4	5	9	9	6	6	11	7	9	13	0.2	0.2	0.1	0.3	0.4	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.3	0.1	0.3	0.3
C73	Thyroid gland	50	52	55	64	70	78	76	91	110	92	133	115	111	117	125	126	1.1	1.2	1.3	1.4	1.6	1.8	1.8	2.0	2.2	2.1	2.7	2.6	2.3	2.6	2.7	2.4
C74	Adrenal gland	11	12	10	12	8	17	16	14	27	19	26	18	26	23	27	19	0.5	0.4	0.3	0.4	0.3	0.6	0.5	0.5	0.8	0.6	0.9	0.5	0.7	0.7	0.7	0.4
C75	Endocrine glands, NOS	3	6	6	8	4	9	7	7	9	7	10	12	6	8	7	12	0.1	0.2	0.2	0.3	0.1	0.3	0.2	0.2	0.3	0.2	0.2	0.4	0.1	0.2	0.2	0.4
C81	Hodgkin lymphoma	75	78	93	81	102	94	84	102	95	80	108	113	105	114	115	125	2.4	2.5	2.8	2.4	3.3	2.7	2.5	3.0	2.8	2.2	3.2	3.3	3.1	3.0	3.5	3.5
C82-C86	Non-Hodgkin lymphoma	489	475	513	557	548	624	582	579	589	606	602	710	740	740	664	686	10.7	9.9	10.5	11.3	10.8	12.1	11.3	10.9	10.6	10.9	10.8	12.4	12.4	12.1	10.6	10.9
C88	Malignant immunoproliferative diseases	20	38	46	68	60	73	62	71	74	64	76	89	100	105	100	116	0.4	0.8	0.9	1.4	1.3	1.3	1.2	1.3	1.3	1.0	1.3	1.4	1.6	1.7	1.6	1.8
C90	Multiple myeloma	197	202	250	222	218	213	232	237	252	245	248	259	280	272	281	294	3.6	3.7	4.6	3.9	3.7	3.7	4.0	4.0	4.1	3.9	4.0	4.0	4.2	4.0	4.0	4.2
C91	Lymphoid leukaemia	264	239	258	288	273	261	274	329	295	328	332	357	353	400	384	408	6.4	5.7	6.2	6.4	6.2	5.8	5.8	7.0	6.1	6.7	6.5	6.7	7.5	7.8	7.3	7.5
C92	Myeloid leukaemia	180	148	155	143	158	146	167	188	183	201	215	159	189	198	196	231	4.1	3.2	3.4	2.7	3.5	2.8	3.2	3.6	3.4	3.5	3.8	2.8	3.1	3.5	3.4	4.1
C93	Monocytic leukaemia	23	16	23	25	28	25	36	40	23	33	41	50	59	46	49	54	0.6	0.3	0.6	0.4	0.5	0.4	0.6	0.6	0.4	0.6	0.6	0.8	0.8	0.7	0.8	0.7
C94-C95	Leukaemia other	19	19	17	26	17	18	18	16	12	25	28	17	7	22	11	8	0.3	0.4	0.3	0.5	0.4	0.3	0.3	0.3	0.2	0.4	0.4	0.3	0.1	0.4	0.2	0.2
C96	Lymphoid, haematopoietic and related tissue, NOS	11	4	5	10	7	17	8	15	6	10	14	13	14	18	22	13	0.5	0.2	0.3	0.5	0.4	0.9	0.3	0.5	0.3	0.4	0.6	0.5	0.6	0.8	0.7	0.6
C76	Other and ill-defined sites	13	23	13	13	9	7	-	1	1	1	5	3	4	3	2	8	0.3	0.6	0.3	0.3	0.3	0.2	-	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1
C80	Unknown primary site	542	364	350	328	309	318	303	314	292	258	273	294	269	295	296	238	10.2	6.9	6.2	5.8	5.3	5.3	5.1	5.0	4.6	4.1	4.1	4.3	3.9	4.0	3.9	3.2
MPN	Myeloproliferative neoplasms	7	77	94	133	131	128	148	152	150	189	179	199	183	237	230	240	0.1	1.5	1.8	2.6	2.4	2.3	2.5	2.7	2.7	3.3	2.9	3.4	3.0	3.6	3.4	3.6
MDS	Myelodysplastic syndromes	8	77	83	166	167	189	184	208	208	214	239	203	250	273	286	276	0.2	1.4	1.4	2.7	2.8	2.9	2.8	3.1	3.0	3.1	3.3	2.8	3.2	3.5	3.5	3.5
Total		18,469	17,886	19,143	20,330	20,575	20,950	21,390	21,684	21,893	22,171	23,175	23,488	23,377	24,831	24,573	25,083	358.6	342.1	361.4	374.6	374.4	374.9	374.9	371.5	367.0	362.0	374.7	372.1	362.3	380.5	366.5	367.5
Total excl. non-melanoma		17,725	17,115	18,262	19,371	19,516	19,765	20,052	20,328	20,360	20,572	21,308	21,283	21,018	22,291	21,831	22,127	345.6	329.0	346.6	359.0	357.9	356.7	355.1	352.4	346.4	341.2	350.5	344.9	333.8	350.7	335.4	334.8
Total excl. non-melanoma and MDS, MPN		17,710	16,961	18,085	19,072	19,218	19,448	19,720	19,968	20,002	20,169	20,890	20,881	20,585	21,781	21,315	21,611	345.3	326.2	343.4	353.6	352.7	351.5	349.8	346.7	340.7	334.8	344.3	338.7	327.6	343.6	328.5	327.7

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

Source: Belgian Cancer Registry

Flemish Region: Females, number of invasive tumours and age-standardised incidence by primary site and incidence year, 2001-2016

Females		N																WSR															
Primary site		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C00	Lip	12	10	16	14	15	11	6	11	15	7	17	18	18	8	15	10	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.1
C01	Base of tongue	7	8	9	9	7	12	10	15	17	23	19	14	18	19	18	21	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.3	0.4	0.3	0.3
C02	Tongue	25	28	35	31	42	34	18	43	41	34	43	38	48	49	50	46	0.4	0.5	0.6	0.7	0.8	0.7	0.3	0.8	0.8	0.7	0.7	0.7	0.9	0.8	0.7	0.7
C03	Gum	5	7	14	11	10	8	15	14	11	9	9	23	16	22	19	14	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.2
C04	Floor of mouth	18	27	14	28	27	20	29	14	18	22	28	36	25	32	39	26	0.4	0.6	0.3	0.6	0.5	0.4	0.5	0.3	0.3	0.4	0.5	0.6	0.4	0.5	0.6	0.4
C05	Palate	17	17	8	16	18	14	17	18	6	11	23	25	20	16	21	28	0.4	0.4	0.2	0.3	0.4	0.3	0.3	0.4	0.1	0.2	0.4	0.4	0.3	0.2	0.4	0.4
C06	Mouth, NOS	14	20	15	21	30	15	19	15	13	31	22	23	22	19	21	13	0.2	0.3	0.2	0.4	0.4	0.2	0.3	0.2	0.2	0.4	0.3	0.3	0.3	0.3	0.4	0.1
C07	Parotid gland	23	18	22	16	23	18	20	25	20	22	24	23	28	31	32	38	0.4	0.3	0.4	0.3	0.4	0.4	0.3	0.5	0.4	0.4	0.5	0.4	0.6	0.5	0.5	0.5
C08	Salivary glands, NOS	8	7	8	5	19	10	11	5	11	15	9	3	11	11	5	5	0.1	0.2	0.1	0.1	0.4	0.2	0.3	0.1	0.2	0.4	0.2	0.1	0.2	0.2	0.1	0.1
C09	Tonsil	20	17	22	20	21	32	19	31	32	37	31	40	41	39	46	52	0.5	0.3	0.5	0.4	0.4	0.7	0.4	0.5	0.7	0.6	0.5	0.7	0.7	0.7	0.8	0.8
C10	Oropharynx	7	3	4	14	3	5	12	14	24	21	11	20	20	15	22	25	0.2	0.1	0.1	0.3	0.1	0.1	0.3	0.3	0.5	0.4	0.2	0.4	0.3	0.3	0.3	0.4
C11	Nasopharynx	6	7	4	4	3	5	8	6	9	8	6	6	6	6	5	9	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.2
C12	Pyriform sinus	7	8	5	9	7	6	8	11	15	7	9	15	13	11	14	13	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.1	0.2	0.3	0.2	0.2	0.2	0.2
C13	Hypopharynx	5	3	6	6	5	3	13	2	10	6	6	4	4	11	6	5	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1
C14	Lip, oral cavity and pharyn, xNOS	5	4	4	2	-	6	2	4	2	1	5	4	3	3	3	3	0.1	0.1	0.1	0.0	-	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
C15	Oesophagus	92	89	115	120	130	125	136	114	133	128	153	143	134	142	154	160	1.5	1.3	1.8	1.7	1.9	1.8	1.9	1.5	1.9	1.6	1.9	1.8	1.7	1.7	1.9	2.0
C16	Stomach	325	351	304	337	344	352	300	314	355	336	340	330	337	352	342	323	4.1	4.5	3.7	4.3	4.3	4.6	4.0	3.9	4.6	4.1	4.2	3.8	4.2	4.5	4.0	3.7
C17	Small intestine	40	44	49	51	53	67	75	55	74	77	69	76	97	98	71	80	0.7	0.8	0.8	0.9	0.8	1.1	1.2	0.9	1.1	1.2	1.1	1.1	1.5	1.4	1.0	1.1
C18	Colon	1,386	1,362	1,414	1,386	1,394	1,477	1,561	1,605	1,677	1,665	1,645	1,763	1,748	2,051	1,814	1,733	19.5	18.5	19.8	18.4	18.7	20.0	20.1	21.1	21.4	21.0	20.3	21.2	21.1	26.1	22.3	20.5
C19	Rectosigmoid junction	113	112	122	135	106	78	63	71	80	61	68	78	60	38	23	29	1.8	1.5	1.8	1.8	1.5	1.0	0.8	0.9	1.1	0.7	0.9	1.0	0.7	0.5	0.3	0.3
C20	Rectum	520	489	539	530	502	588	590	618	574	615	512	551	602	608	543	529	8.2	7.3	8.0	7.8	7.5	8.8	8.5	9.0	7.9	8.7	7.2	7.8	8.2	8.4	7.4	7.0
C21	Anus and anal canal	21	35	48	27	34	33	38	37	45	48	40	42	57	63	58	60	0.4	0.6	0.9	0.4	0.6	0.5	0.5	0.5	0.7	0.8	0.6	0.7	0.8	1.0	0.8	1.0
C22	Liver and intrahepatic bile ducts	92	77	73	73	88	83	83	102	103	100	108	124	132	154	142	137	1.5	1.2	1.1	1.3	1.4	1.3	1.3	1.6	1.6	1.5	1.6	1.7	1.9	2.2	1.9	1.9
C23	Gallbladder	49	42	39	39	43	43	48	46	53	51	45	34	41	49	32	38	0.7	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.6	0.5	0.4	0.4	0.4	0.5	0.4	0.4
C24	Biliary tract, NOS	35	47	66	76	66	74	72	80	87	60	90	86	66	78	88	97	0.5	0.6	0.9	1.0	0.9	0.9	1.0	0.9	1.1	0.8	1.0	1.0	0.7	0.9	1.0	1.1
C25	Pancreas	250	310	294	281	310	301	320	315	380	415	416	440	463	495	489	512	3.7	4.2	3.9	4.0	4.6	4.3	4.6	4.4	5.1	5.5	5.5	5.7	5.9	6.3	6.1	6.6
C26	Other ill-defined digestive organs	2	4	3	2	3	2	4	9	5	8	8	6	5	12	4	9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.1
C30	Nasal cavity and middle ear	4	3	9	7	14	8	13	5	6	8	3	12	7	5	9	7	0.1	0.1	0.2	0.1	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1
C31	Accessory sinuses	9	7	11	8	9	9	6	18	9	10	19	9	14	9	12	8	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.3	0.1	0.2	0.3	0.2	0.3	0.2	0.2	0.1
C32	Larynx	39	38	53	45	34	30	44	37	46	37	48	46	50	35	52	43	0.8	0.7	0.9	0.9	0.6	0.6	0.8	0.7	0.7	0.7	0.8	0.8	0.9	0.5	0.8	0.6
C33	Trachea	2	1	3	1	3	5	3	1	1	1	2	2	1	4	2	3	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
C34	Bronchus and lung	652	679	690	825	862	888	996	975	1,076	1,206	1,251	1,271	1,345	1,419	1,452	1,499	11.8	12.6	12.6	14.7	14.9	15.3	16.7	16.3	17.8	19.8	20.2	19.9	20.9	21.3	21.5	22.0
C37	Thymus	8	8	6	10	5	9	4	9	9	7	7	16	16	6	7	13	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.3	0.3	0.1	0.1	0.2
C38	Heart, mediastinum and pleura	12	4	-	4	2	4	5	7	6	7	5	3	7	6	5	8	0.3	0.1	-	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
C39	Respiratory system and intrathoracic organs, NOS	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	21	18	18	20	29	18	21	18	11	18	22	19	24	9	14	15	0.7	0.5	0.5	0.6	1.0	0.7	0.6	0.6	0.3	0.7	0.9	0.5	0.9	0.3	0.4	0.6
C41	Bone and articular cartilage, NOS	17	21	29	12	21	19	20	14	17	11	18	15	18	13	17	12	0.4	0.7	0.8	0.4	0.5	0.5	0.5	0.3	0.3	0.2	0.4	0.3	0.5	0.3	0.5	0.2
C43	Malignant melanoma of skin	450	432	482	498	562	603	579	688	722	689	701	854	988	1,054	1,042	1,086	10.4	9.4	10.8	11.2	12.5	13.1	12.1	14.9	14.9	14.6	14.4	17.3	20.0	20.9	20.3	20.8
C44	Malignant neoplasms of skin	504	524	581	687	691	729	856	940	951	1,112	1,185	1,473	1,566	1,795	1,753	2,036	6.5	6.5	7.3	8.5	8.2	8.6	10.0	10.8	10.2	11.8	12.4	15.2	15.6	17.6	18.2	19.6

Females		N																WSR															
Primary site		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C45	Mesothelioma	21	20	13	19	33	23	32	36	28	36	38	29	29	29	38	43	0.4	0.3	0.2	0.3	0.6	0.4	0.4	0.5	0.3	0.5	0.5	0.4	0.4	0.4	0.5	0.5
C46	Kaposi's sarcoma	1	3	7	6	2	4	3	4	2	2	4	5	3	4	5	3	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0
C47.C49	Soft tissues	87	82	84	89	90	85	91	95	92	91	75	104	90	92	109	112	2.0	1.9	2.0	1.8	2.2	1.9	1.9	1.6	1.6	1.8	1.6	2.0	1.8	1.8	1.7	2.2
C48	Retroperitoneum and peritoneum	26	22	20	27	25	24	17	33	35	18	28	29	34	33	28	37	0.5	0.5	0.4	0.5	0.5	0.4	0.3	0.6	0.5	0.3	0.5	0.5	0.6	0.5	0.4	0.5
C50	Breast	5,278	5,222	5,511	5,287	5,472	5,488	5,662	5,479	5,531	5,710	6,104	6,085	6,194	6,013	6,133	6,291	109.4	106.8	111.6	104.9	106.5	105.1	106.7	102.4	101.2	103.5	109.3	105.7	108.6	103.9	103.7	106.0
C51	Vulva	73	89	87	87	99	101	84	109	118	128	110	131	127	134	107	125	1.1	1.3	1.3	1.3	1.4	1.5	1.3	1.6	1.5	1.7	1.3	1.7	1.6	1.8	1.4	1.6
C52	Vagina	23	26	22	28	27	26	25	19	25	28	21	29	24	22	21	20	0.3	0.4	0.3	0.5	0.4	0.4	0.3	0.2	0.4	0.4	0.2	0.4	0.2	0.3	0.3	0.3
C53	Cervix uteri	389	354	347	367	386	344	390	362	348	330	326	368	335	336	358	347	8.9	8.2	7.8	8.3	8.9	7.7	8.9	7.9	7.6	7.2	6.8	7.7	7.3	7.0	7.9	7.3
C54	Corpus uteri	810	764	797	860	828	839	860	909	894	827	860	918	851	884	887	871	14.5	13.5	13.5	14.4	13.5	13.9	14.0	14.0	13.8	12.4	12.6	13.5	11.8	11.8	12.5	11.5
C55	Uterus	27	36	49	18	27	16	3	5	5	4	7	6	2	6	2	4	0.5	0.6	0.9	0.3	0.4	0.3	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0
C56	Ovary	592	570	606	561	555	581	543	537	478	509	501	486	468	487	488	445	11.2	10.6	10.9	10.0	9.6	10.0	9.6	8.8	7.9	8.3	7.9	7.8	7.3	7.3	7.3	6.7
C57	Female genital organs, NOS	10	14	13	16	22	14	23	23	33	28	38	35	69	53	68	57	0.2	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.5	0.4	0.6	0.4	0.9	0.7	1.0	0.8
C58	Placenta	1	5	1	2	2	-	5	2	3	3	6	7	2	3	1	1	0.0	0.2	0.0	0.1	0.1	-	0.2	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.0	0.0
C64	Kidney	273	287	331	351	338	336	350	349	339	369	414	388	387	402	369	415	5.1	5.3	5.5	5.9	5.6	5.7	5.9	5.4	5.5	5.5	6.4	5.6	5.4	5.7	5.3	5.8
C65	Renal pelvis	30	36	37	45	44	43	45	48	50	52	55	58	61	52	45	55	0.4	0.5	0.4	0.6	0.6	0.5	0.5	0.6	0.5	0.6	0.6	0.6	0.7	0.5	0.5	0.5
C66	Ureter	23	26	25	17	12	18	27	28	26	26	26	30	24	22	33	34	0.3	0.3	0.4	0.2	0.1	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.3
C67	Bladder	244	226	218	245	268	254	257	289	274	286	281	296	289	303	288	285	2.9	2.8	2.7	3.0	3.3	3.1	3.1	3.3	3.1	3.4	3.3	3.2	3.0	2.9	2.8	2.8
C68	Urinary organs, NOS	2	1	3	4	4	-	4	6	5	5	3	4	5	7	7	3	0.0	0.0	0.0	0.1	0.0	-	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0
C69	Eye and adnexa	27	21	29	29	23	16	30	27	39	34	43	47	41	31	33	41	0.5	0.6	0.5	0.7	0.6	0.3	0.7	0.7	0.7	0.7	1.0	0.9	0.8	0.6	0.5	0.6
C70	Meninges	6	10	18	10	6	5	10	4	11	6	2	2	5	2	6	3	0.1	0.2	0.4	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.0	0.0	0.1	0.0	0.1	0.0
C71	Brain	180	213	174	205	158	158	186	194	203	191	201	193	191	196	205	212	4.4	4.9	4.1	4.3	3.5	4.1	4.2	4.2	4.2	3.8	4.2	3.8	4.1	3.8	4.5	4.2
C72	Spinal cord, cranial nerves and CNS, NOS	5	6	2	6	4	9	7	4	5	9	7	10	3	9	6	11	0.2	0.2	0.1	0.2	0.1	0.4	0.2	0.1	0.1	0.2	0.2	0.3	0.1	0.2	0.2	0.3
C73	Thyroid gland	132	162	160	164	226	217	207	222	261	284	324	319	302	380	368	381	3.0	3.7	4.0	4.2	5.3	5.2	4.9	5.2	6.3	6.4	7.6	7.2	7.0	9.0	8.4	8.8
C74	Adrenal gland	13	7	7	16	12	20	26	22	13	23	17	21	28	32	29	22	0.4	0.1	0.3	0.7	0.5	0.5	0.8	0.6	0.4	0.7	0.6	0.5	0.7	0.9	0.5	0.6
C75	Endocrine glands, NOS	5	2	2	4	5	6	5	5	2	4	7	10	6	12	9	9	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.2
C81	Hodgkin lymphoma	87	72	55	75	76	70	57	69	69	81	72	73	78	75	86	80	2.8	2.5	1.7	2.4	2.5	2.3	1.9	1.8	2.2	2.6	2.2	2.2	2.2	2.5	2.8	2.3
C82-C86	Non-Hodgkin lymphoma	434	399	420	456	436	472	484	495	503	537	491	523	541	532	523	530	7.4	7.2	7.2	7.7	7.1	7.8	7.9	7.8	7.8	8.2	7.0	7.4	7.9	7.4	7.2	7.6
C88	Malignant immunoproliferative diseases	9	36	37	48	58	45	44	50	42	62	57	73	76	79	74	81	0.1	0.7	0.5	0.7	0.9	0.7	0.7	0.8	0.6	1.0	0.8	0.9	1.2	1.2	1.0	1.0
C90	Multiple myeloma	199	189	163	212	183	172	188	186	193	201	209	197	194	221	197	248	3.1	2.7	2.5	3.1	2.6	2.7	2.7	2.7	2.5	2.7	2.7	2.6	2.5	2.9	2.5	2.9
C91	Lymphoid leukaemia	172	192	181	218	191	179	193	170	212	204	206	224	237	275	274	240	3.8	3.7	3.7	4.5	3.9	4.0	4.2	3.1	4.2	3.8	3.4	4.5	4.5	4.8	4.6	3.9
C92	Myeloid leukaemia	143	118	131	150	144	117	144	121	116	165	158	158	139	168	156	182	2.7	2.2	2.5	2.7	2.8	2.1	2.8	2.2	2.2	2.9	2.9	2.7	2.4	2.6	2.7	3.0
C93	Monocytic leukaemia	11	9	10	15	18	19	22	40	22	25	26	25	27	16	31	29	0.3	0.2	0.2	0.3	0.3	0.3	0.6	0.8	0.3	0.4	0.4	0.4	0.4	0.2	0.4	0.3
C94-C95	Leukaemia other	25	18	16	10	12	9	5	12	11	26	15	10	5	14	5	4	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.4	0.3	0.1	0.1	0.3	0.1	0.1
C96	Lymphoid, haematopoietic and related tissue, NOS	12	1	4	10	11	9	7	11	12	15	12	14	13	9	14	8	0.5	0.0	0.2	0.5	0.5	0.4	0.2	0.4	0.5	0.7	0.4	0.6	0.5	0.3	0.4	0.4
C76	Other and ill-defined sites	16	10	24	15	3	7	3	-	1	1	1	2	9	3	6	6	0.4	0.2	0.5	0.4	0.1	0.2	0.1	-	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
C80	Unknown primary site	481	290	309	269	253	214	269	272	203	208	201	228	252	219	235	233	7.8	4.1	4.2	3.7	3.5	2.8	3.7	3.6	2.4	2.4	2.4	2.7	2.8	2.5	2.6	2.6
MPN	Myeloproliferative neoplasms	9	82	99	111	125	138	168	144	158	175	159	184	228	213	239	228	0.2	1.4	1.5	1.6	2.1	2.1	2.5	2.2	2.4	2.6	2.3	2.8	3.4	2.8	3.2	3.0
MDS	Myelodysplastic syndromes	9	57	80	121	135	94	139	157	141	127	153	164	156	201	171	188	0.1	0.7	1.0	1.5	1.7	1.3	1.7	1.9	1.9	1.5	1.7	1.9	1.9	2.1	1.8	1.8
Total		14,707	14,558	15,227	15,553	15,848	15,916	16,659	16,844	17,167	17,754	18,275	19,170	19,596	20,356	20,095	20,629	273.5	264.8	273.9	274.9	278.0	277.4	283.7	280.0	280.7	287.2	292.1	297.8	304.5	309.4	304.2	305.8
Total excl. non-melanoma		14,203	14,034	14,646	14,866	15,157	15,187	15,803	15,904	16,216	16,642	17,090	17,697	18,030	18,561	18,342	18,593	267.1	258.3	266.6	266.4	269.8	268.8	273.7	269.2	270.5	275.4	279.7	282.6	288.9	291.8	286.0	286.2
Total excl. non-melanoma and MDS, MPN		14,185	13,895	14,467	14,634	14,897	14,955	15,496	15,603	15,917	16,340	16,778	17,349	17,646	18,147	17,932	18,177	266.8	256.2	264.1	263.3	266.0	265.5	269.5	265.0	266.2	271.3	275.8	277.8	283.6	286.9	281.1	281.3

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

Source: Belgian Cancer Registry

Walloon Region: Males, number of invasive tumours and age-standardised incidence by primary site and incidence year, 2004-2016

Males		N													WSR											
Primary site		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C00	Lip	15	17	15	11	15	15	5	11	5	7	6	7	11	0.6	0.6	0.6	0.4	0.5	0.5	0.1	0.4	0.1	0.3	0.2	0.3	0.3
C01	Base of tongue	18	28	32	31	43	39	33	41	48	46	42	32	42	0.8	1.1	1.3	1.3	1.7	1.5	1.3	1.5	1.6	1.6	1.5	1.1	1.4
C02	Tongue	77	63	70	63	71	80	55	52	73	60	64	62	76	3.1	2.5	3.0	2.6	2.7	3.0	2.1	1.9	2.7	2.2	2.3	2.1	2.5
C03	Gum	16	20	16	21	16	15	13	10	18	13	18	11	28	0.7	0.9	0.6	0.8	0.6	0.5	0.5	0.3	0.6	0.5	0.7	0.4	0.9
C04	Floor of mouth	58	69	47	69	57	67	67	69	71	48	52	57	46	2.4	3.0	1.9	2.8	2.3	2.6	2.6	2.6	2.6	1.8	1.9	1.9	1.6
C05	Palate	25	33	30	26	28	23	27	29	25	30	28	36	36	1.1	1.4	1.3	1.1	1.0	0.9	1.0	1.1	1.0	1.1	1.0	1.3	1.3
C06	Mouth, NOS	32	19	12	20	22	17	19	18	18	13	22	26	26	1.3	0.8	0.5	0.8	0.8	0.7	0.7	0.7	0.6	0.4	0.7	0.9	0.9
C07	Parotid gland	13	16	21	22	18	13	27	17	18	17	21	20	23	0.5	0.7	0.8	0.7	0.7	0.5	0.9	0.6	0.6	0.6	0.8	0.8	0.8
C08	Salivary glands, NOS	6	9	-	10	3	5	5	2	5	4	8	8	3	0.2	0.4	-	0.4	0.1	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.1
C09	Tonsil	66	63	45	82	78	68	53	69	71	68	59	69	81	2.8	2.6	1.9	3.3	3.2	2.7	2.0	2.7	2.6	2.6	2.1	2.4	2.8
C10	Oropharynx	47	54	44	47	61	48	46	54	74	63	52	80	61	2.0	2.3	1.9	1.9	2.4	1.9	1.7	2.1	2.7	2.2	1.9	2.8	2.1
C11	Nasopharynx	13	11	9	12	11	17	13	17	14	18	19	18	13	0.6	0.5	0.3	0.5	0.5	0.8	0.5	0.7	0.6	0.7	0.7	0.8	0.6
C12	Pyriform sinus	57	56	71	77	64	74	64	77	72	67	95	61	75	2.5	2.2	2.9	3.2	2.6	3.0	2.4	2.8	2.6	2.4	3.4	2.2	2.5
C13	Hypopharynx	14	15	19	27	26	35	24	24	34	31	34	23	27	0.6	0.6	0.8	1.1	1.0	1.2	0.9	0.9	1.3	1.1	1.2	0.8	0.9
C14	Lip, oral cavity and pharyn, xNOS	28	28	16	6	6	11	9	16	6	11	19	5	10	1.2	1.2	0.7	0.2	0.2	0.5	0.3	0.6	0.2	0.4	0.6	0.2	0.3
C15	Oesophagus	217	220	219	209	227	216	227	277	236	238	208	261	256	8.4	8.4	8.4	7.9	8.3	7.8	7.7	9.5	8.1	7.7	6.8	8.5	7.8
C16	Stomach	279	288	285	270	235	253	248	308	304	260	249	265	268	9.9	10.4	9.6	9.0	7.8	8.2	8.1	9.6	9.6	8.4	7.5	7.9	7.8
C17	Small intestine	28	36	34	33	40	46	35	71	65	53	64	67	74	1.0	1.3	1.2	1.2	1.5	1.6	1.3	2.4	2.1	1.7	2.2	2.1	2.4
C18	Colon	768	775	775	789	793	823	861	894	861	926	877	851	924	26.5	25.8	26.3	25.4	25.7	27.0	27.1	27.4	26.0	27.3	26.2	24.1	26.1
C19	Rectosigmoid junction	76	64	41	43	40	36	44	44	47	46	29	43	37	2.6	2.2	1.3	1.5	1.4	1.2	1.4	1.3	1.5	1.4	0.9	1.3	1.1
C20	Rectum	361	355	386	378	408	412	422	416	455	451	452	430	468	13.0	12.0	13.2	13.3	13.7	14.1	14.0	13.8	14.4	14.1	14.1	13.1	13.9
C21	Anus and anal canal	12	14	18	18	12	20	20	34	24	29	17	36	21	0.4	0.5	0.6	0.6	0.4	0.8	0.7	1.2	0.8	1.0	0.5	1.1	0.7
C22	Liver and intrahepatic bile ducts	95	105	143	155	167	150	181	219	235	252	270	279	282	3.3	3.8	5.5	5.9	6.1	5.4	6.4	7.6	7.5	8.2	8.6	9.0	8.9
C23	Gallbladder	14	8	4	4	9	3	10	11	14	13	9	11	8	0.3	0.3	0.1	0.1	0.2	0.1	0.3	0.4	0.4	0.4	0.3	0.3	0.2
C24	Biliary tract, NOS	43	35	31	50	43	47	51	51	50	47	61	65	56	1.7	1.2	1.0	1.7	1.6	1.5	1.6	1.6	1.5	1.4	1.7	1.9	1.8
C25	Pancreas	186	179	216	229	169	251	275	288	255	300	311	291	285	6.6	6.4	7.7	8.1	5.9	8.6	9.1	9.3	8.2	9.5	9.5	8.9	8.4
C26	Other ill-defined digestive organs	9	7	6	5	8	7	8	12	11	10	16	19	25	0.3	0.3	0.3	0.1	0.2	0.3	0.2	0.4	0.3	0.3	0.5	0.6	0.7
C30	Nasal cavity and middle ear	12	5	7	10	8	14	8	16	12	7	12	15	9	0.4	0.2	0.2	0.4	0.3	0.5	0.3	0.5	0.4	0.2	0.4	0.4	0.3
C31	Accessory sinuses	10	23	10	14	18	11	11	16	16	15	10	12	16	0.4	0.8	0.5	0.5	0.6	0.4	0.4	0.6	0.5	0.6	0.3	0.4	0.6
C32	Larynx	215	197	169	216	222	201	197	229	166	181	166	166	169	8.9	7.7	6.6	8.1	8.4	7.4	7.1	8.2	5.9	6.1	5.8	5.3	5.4
C33	Trachea	4	4	2	3	2	2	4	3	2	1	1	2	2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.1
C34	Bronchus and lung	1,840	1,832	1,750	1,802	1,824	1,874	1,825	1,908	1,989	1,913	1,962	1,968	1,839	66.3	65.6	62.7	63.6	62.6	64.2	60.1	61.8	63.9	60.6	60.9	59.6	55.5
C37	Thymus	4	5	6	6	5	2	13	1	6	3	8	10	8	0.2	0.2	0.2	0.3	0.2	0.1	0.5	0.0	0.2	0.1	0.4	0.3	0.2
C38	Heart, mediastinum and pleura	2	2	2	7	2	3	4	5	3	7	3	5	4	0.1	0.1	0.1	0.3	0.0	0.1	0.1	0.2	0.1	0.4	0.1	0.2	0.1
C39	Respiratory system and intrathoracic organs, NOS	1	-	-	-	-	1	2	1	1	1	-	2	-	0.0	-	-	-	-	0.0	0.1	0.0	0.0	0.0	-	0.1	-
C40	Bone and articular cartilage of limbs	12	8	11	14	11	12	6	8	4	4	14	10	17	0.8	0.5	0.6	0.9	0.6	0.7	0.5	0.5	0.3	0.2	0.8	0.6	1.0
C41	Bone and articular cartilage, NOS	11	8	10	11	7	4	9	11	9	7	7	12	10	0.6	0.6	0.4	0.6	0.4	0.2	0.5	0.5	0.4	0.3	0.4	0.7	0.4
C43	Malignant melanoma of skin	202	195	186	221	264	248	324	318	367	319	364	392	408	8.6	7.8	7.8	9.2	10.5	9.9	13.3	12.1	14.3	11.7	13.7	13.8	15.3
C44	Malignant neoplasms of skin	544	521	545	654	635	656	688	841	885	899	1,062	1,031	1,174	17.0	16.4	16.9	18.9	18.3	18.5	19.4	22.9	23.1	23.3	27.3	25.0	28.3

Males		N													WSR											
Primary site		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C45	Mesothelioma	63	60	47	46	55	51	51	52	64	62	63	67	58	2.3	2.0	1.4	1.5	1.8	1.6	1.6	1.5	1.9	1.9	1.8	1.9	1.5
C46	Kaposi's sarcoma	5	6	6	7	7	3	6	6	10	7	7	20	16	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.4	0.2	0.4	0.7	0.5
C47.C49	Soft tissues	47	52	41	52	58	40	50	54	60	48	49	70	47	1.8	2.3	1.8	2.4	2.6	1.9	2.3	2.4	2.7	1.8	2.1	2.4	1.7
C48	Retroperitoneum and peritoneum	9	4	3	8	14	2	7	6	11	5	15	12	6	0.4	0.1	0.1	0.4	0.6	0.1	0.3	0.2	0.4	0.3	0.6	0.6	0.2
C50	Breast	24	26	20	20	29	38	27	21	28	27	23	30	29	1.0	0.8	0.7	0.7	1.0	1.3	0.9	0.7	0.9	0.8	0.7	0.8	0.9
C60	Penis	22	19	17	23	20	26	29	34	27	38	25	35	27	0.8	0.7	0.7	0.9	0.7	0.9	1.0	1.0	0.9	1.1	0.8	1.1	0.9
C61	Prostate	3,194	2,916	2,732	2,455	2,399	2,389	2,489	2,558	2,273	2,324	2,283	2,440	2,584	112.8	102.4	96.6	85.8	82.5	80.6	82.9	84.0	72.0	72.8	68.1	71.3	74.6
C62	Testis	105	100	101	109	112	102	120	152	114	135	119	134	136	6.2	5.8	5.8	6.6	6.4	5.6	6.8	8.5	6.4	7.6	6.7	7.4	7.3
C63	Male genital organs, NOS	2	5	2	4	3	3	2	2	8	6	3	3	4	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.1
C64	Kidney	256	253	272	267	291	298	266	281	305	310	294	349	364	10.3	9.6	10.8	9.8	10.7	11.3	9.6	10.4	10.9	10.7	10.1	12.0	12.1
C65	Renal pelvis	32	33	30	40	35	27	41	42	37	47	33	53	31	1.0	1.1	0.9	1.2	1.2	0.7	1.3	1.3	1.1	1.4	1.0	1.5	0.8
C66	Ureter	34	23	19	29	24	40	25	43	31	30	37	36	37	1.2	0.8	0.6	0.8	0.7	1.2	0.8	1.3	0.8	0.9	1.0	1.0	1.1
C67	Bladder	566	511	461	510	527	537	535	576	597	661	678	614	616	18.9	17.0	15.0	16.2	16.4	16.4	16.0	17.4	17.4	19.2	19.1	17.0	16.9
C68	Urinary organs, NOS	8	12	11	11	7	7	15	15	15	17	14	25	20	0.3	0.3	0.4	0.3	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.7	0.6
C69	Eye and adnexa	7	13	18	18	14	12	20	12	18	24	24	23	30	0.4	1.0	0.8	0.8	0.7	0.9	0.8	0.4	1.0	1.0	1.0	0.9	1.7
C70	Meninges	4	2	-	-	2	-	3	3	4	3	2	4	3	0.2	0.1	-	-	0.1	-	0.1	0.1	0.1	0.1	0.1	0.1	0.1
C71	Brain	140	134	127	127	129	126	147	152	107	182	166	151	142	6.8	6.3	5.7	5.6	6.0	5.8	6.7	6.8	4.5	7.9	6.8	7.0	5.5
C72	Spinal cord, cranial nerves and CNS, NOS	11	-	2	1	2	3	1	-	8	5	4	6	6	0.5	-	0.2	0.1	0.1	0.1	0.0	-	0.3	0.3	0.2	0.3	0.4
C73	Thyroid gland	70	83	76	85	89	120	82	81	100	104	106	123	109	3.1	3.8	3.4	3.8	3.8	5.3	3.3	3.5	4.1	4.3	4.2	5.3	4.3
C74	Adrenal gland	3	4	7	10	6	9	8	12	7	16	13	13	11	0.2	0.3	0.4	0.8	0.6	0.6	0.3	0.7	0.4	1.0	0.7	0.8	0.5
C75	Endocrine glands, NOS	-	1	5	1	1	2	1	2	3	4	5	5	4	-	0.1	0.3	0.0	0.0	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.2
C81	Hodgkin lymphoma	58	52	60	58	63	52	46	70	54	70	78	57	68	3.3	3.0	3.3	3.0	3.2	2.9	2.4	3.7	2.7	3.5	4.2	2.8	3.4
C82-C86	Non-Hodgkin lymphoma	317	325	289	315	326	306	317	337	359	329	351	358	349	12.5	12.5	11.1	12.1	12.7	10.7	11.6	12.0	12.1	11.5	11.7	11.9	11.0
C88	Malignant immunoproliferative diseases	36	28	26	36	42	30	39	45	39	59	60	73	73	1.4	1.0	1.0	1.4	1.5	1.1	1.3	1.5	1.3	1.9	1.8	2.2	2.2
C90	Multiple myeloma	94	98	119	115	88	122	121	156	142	142	139	149	163	3.2	3.5	4.1	4.2	2.9	4.0	3.6	5.0	4.6	4.3	4.1	4.4	4.7
C91	Lymphoid leukaemia	124	130	120	120	134	158	148	134	190	183	197	209	219	6.1	5.8	5.1	5.3	5.6	7.2	5.7	5.2	8.3	7.1	6.8	7.1	8.5
C92	Myeloid leukaemia	81	90	69	97	95	98	96	87	125	120	113	115	100	3.4	4.0	3.0	4.0	3.4	3.6	3.3	3.1	4.3	4.0	4.0	4.2	3.3
C93	Monocytic leukaemia	12	13	15	25	14	24	26	40	26	18	31	28	27	0.4	0.5	0.6	0.8	0.5	0.8	0.9	1.5	0.8	0.5	1.0	0.7	0.9
C94-C95	Leukaemia other	7	11	10	9	9	8	8	13	4	15	9	9	6	0.2	0.5	0.3	0.3	0.3	0.4	0.3	0.4	0.1	0.5	0.3	0.3	0.3
C96	Lymphoid, haematopoietic and related tissue, NOS	7	3	4	3	9	7	8	3	8	5	9	3	3	0.5	0.3	0.4	0.3	0.8	0.5	0.5	0.3	0.4	0.5	0.6	0.1	0.2
C76	Other and ill-defined sites	2	6	9	2	-	-	-	-	2	-	4	2	1	0.1	0.3	0.5	0.0	-	-	-	-	0.1	-	0.1	0.1	0.0
C80	Unknown primary site	236	232	234	204	214	185	135	146	194	129	160	151	132	8.4	8.3	8.0	7.1	7.4	6.1	4.5	4.6	6.0	4.1	4.8	4.4	3.8
MPN	Myeloproliferative neoplasms	43	42	41	52	66	63	70	98	94	89	108	101	123	1.9	1.5	1.6	1.8	2.3	2.3	2.5	3.4	3.1	2.8	3.5	3.1	3.9
MDS	Myelodysplastic syndromes	77	61	55	47	89	116	124	140	155	187	158	191	147	2.7	1.8	1.7	1.4	2.5	3.4	3.6	4.0	4.6	5.3	4.1	5.1	4.0
Total		11,126	10,735	10,351	10,571	10,641	10,823	10,996	11,861	11,788	11,879	12,091	12,417	12,609	410.2	390.9	376.3	378.6	375.3	377.2	373.4	397.0	385.5	383.4	381.1	383.4	384.0
Total excl. non-melanoma		10,582	10,214	9,806	9,917	10,006	10,167	10,308	11,020	10,903	10,980	11,029	11,386	11,435	393.2	374.5	359.4	359.7	357.0	358.7	354.0	374.1	362.4	360.0	353.8	358.4	355.7
Total excl. non-melanoma and MDS, MPN		10,462	10,111	9,710	9,818	9,851	9,988	10,114	10,782	10,654	10,704	10,763	11,094	11,165	388.7	371.3	356.2	356.5	352.2	353.0	347.9	366.6	354.7	352.0	346.2	350.2	347.9

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

Source: Belgian Cancer Registry

Walloon Region: Females, number of invasive tumours and age-standardised incidence by primary site and incidence year, 2004-2016

Females		N													WSR											
Primary site		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C00	Lip	4	9	7	6	1	-	4	4	1	4	5	2	7	0.1	0.2	0.2	0.1	0.0	-	0.1	0.1	0.0	0.1	0.1	0.0	0.1
C01	Base of tongue	7	6	8	14	13	18	10	18	6	13	17	14	16	0.3	0.3	0.3	0.5	0.5	0.6	0.3	0.6	0.2	0.4	0.6	0.4	0.5
C02	Tongue	28	22	26	23	21	24	39	27	37	28	39	35	36	1.0	0.8	1.0	0.9	0.6	0.9	1.3	0.8	1.1	0.9	1.2	1.1	0.9
C03	Gum	14	11	8	13	15	20	16	17	7	15	17	19	12	0.5	0.3	0.3	0.4	0.5	0.5	0.4	0.4	0.2	0.3	0.5	0.4	0.3
C04	Floor of mouth	11	11	7	23	17	23	21	21	25	20	26	15	24	0.4	0.5	0.3	0.9	0.6	0.8	0.7	0.7	0.8	0.6	0.9	0.5	0.7
C05	Palate	13	8	12	8	18	9	12	17	17	6	18	17	13	0.6	0.3	0.4	0.3	0.6	0.3	0.4	0.5	0.5	0.1	0.6	0.6	0.4
C06	Mouth, NOS	15	10	9	11	7	13	12	13	10	7	10	13	15	0.4	0.3	0.3	0.4	0.2	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.4
C07	Parotid gland	13	16	15	24	14	15	18	16	20	17	15	12	10	0.4	0.5	0.5	0.9	0.5	0.6	0.6	0.5	0.8	0.5	0.5	0.4	0.3
C08	Salivary glands, NOS	8	3	6	2	5	4	2	5	5	7	4	5	10	0.3	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2
C09	Tonsil	29	22	24	36	36	21	28	24	29	24	41	31	32	1.1	0.9	0.9	1.3	1.2	0.8	0.9	0.8	1.0	0.7	1.3	1.0	1.0
C10	Oropharynx	11	13	15	17	14	17	15	10	30	18	15	24	26	0.3	0.5	0.5	0.6	0.5	0.6	0.5	0.4	1.1	0.6	0.5	0.8	0.8
C11	Nasopharynx	4	4	1	4	5	8	4	1	4	3	6	7	5	0.2	0.1	0.0	0.2	0.2	0.4	0.2	0.0	0.2	0.1	0.3	0.3	0.2
C12	Pyriform sinus	6	4	13	8	11	19	13	12	11	16	9	20	15	0.2	0.1	0.5	0.3	0.4	0.7	0.5	0.4	0.4	0.5	0.3	0.7	0.5
C13	Hypopharynx	5	9	4	4	11	5	3	11	9	7	5	4	8	0.2	0.3	0.2	0.1	0.4	0.2	0.1	0.4	0.3	0.2	0.1	0.1	0.2
C14	Lip, oral cavity and pharyn, xNOS	5	9	7	2	2	4	-	6	2	1	4	5	1	0.2	0.3	0.3	0.1	0.1	0.1	-	0.2	0.1	0.0	0.1	0.1	0.0
C15	Oesophagus	85	78	73	82	83	85	92	81	100	99	116	100	109	2.3	2.2	2.2	2.3	2.4	2.2	2.6	2.0	2.7	2.7	2.7	2.6	2.6
C16	Stomach	152	150	166	155	165	135	166	183	151	169	173	150	169	4.0	3.6	4.1	4.0	4.1	3.3	3.8	4.7	3.5	4.0	4.1	3.7	4.0
C17	Small intestine	35	36	38	38	34	47	36	50	40	61	55	53	43	1.0	1.0	1.3	1.1	0.9	1.2	1.0	1.4	1.1	1.8	1.6	1.4	1.2
C18	Colon	775	771	785	795	779	813	723	829	814	846	805	836	821	18.6	19.0	18.8	18.5	17.7	18.7	16.3	19.0	18.5	19.4	18.0	18.8	18.4
C19	Rectosigmoid junction	75	54	45	31	31	46	49	53	37	38	32	26	21	2.0	1.3	1.0	0.9	0.8	1.2	1.2	1.4	0.9	1.0	0.9	0.7	0.5
C20	Rectum	276	309	259	310	301	259	303	306	345	291	290	305	318	7.3	8.7	6.2	8.3	7.8	6.9	7.8	7.7	8.9	7.3	7.3	7.5	7.6
C21	Anus and anal canal	26	29	32	27	33	29	43	39	44	37	34	45	56	0.8	0.8	0.9	0.7	1.1	0.9	1.3	1.1	1.2	1.0	0.9	1.3	1.8
C22	Liver and intrahepatic bile ducts	28	51	51	50	71	69	78	77	91	99	86	99	104	0.8	1.8	1.3	1.3	1.9	1.9	2.2	2.3	2.8	2.7	2.0	2.5	2.5
C23	Gallbladder	20	13	22	13	22	13	32	23	13	20	21	22	19	0.4	0.3	0.6	0.3	0.5	0.3	0.7	0.5	0.2	0.4	0.4	0.5	0.3
C24	Biliary tract, NOS	34	27	14	40	34	47	49	46	37	59	38	37	40	0.8	0.7	0.4	0.9	0.7	1.1	1.0	1.0	0.9	1.3	0.8	0.6	0.8
C25	Pancreas	173	184	203	187	205	219	253	272	238	281	268	321	297	4.7	5.1	5.1	5.2	5.2	6.0	6.4	6.7	5.6	6.9	6.1	7.6	7.4
C26	Other ill-defined digestive organs	6	8	6	6	6	5	6	10	12	6	10	8	24	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.3	0.2	0.1	0.3	0.2	0.6
C30	Nasal cavity and middle ear	5	3	6	2	7	8	4	4	6	5	10	6	1	0.1	0.1	0.3	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0
C31	Accessory sinuses	6	9	5	6	6	5	3	5	5	2	4	6	5	0.1	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1
C32	Larynx	43	39	38	23	39	50	37	50	38	41	37	39	28	1.5	1.4	1.3	0.8	1.4	1.9	1.3	1.7	1.2	1.2	1.2	1.2	0.8
C33	Trachea	1	2	1	3	1	4	2	3	1	1	1	1	1	0.0	0.1	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
C34	Bronchus and lung	544	564	627	688	666	797	825	866	874	911	1,014	972	1,015	18.5	19.2	20.6	22.8	21.5	26.1	25.7	26.1	26.9	27.4	29.6	27.4	29.2
C37	Thymus	6	4	3	5	4	3	8	5	3	5	8	8	5	0.2	0.2	0.1	0.1	0.2	0.1	0.3	0.1	0.1	0.2	0.3	0.3	0.2
C38	Heart, mediastinum and pleura	-	6	3	2	6	2	-	1	1	1	1	1	4	-	0.3	0.1	0.1	0.2	0.1	-	0.1	0.0	0.0	0.0	0.0	0.2
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	1	1	-	2	-	-	-	-	-	-	-	-	-	-	0.0	0.0	-	0.0	-
C40	Bone and articular cartilage of limbs	9	7	8	7	11	9	7	18	6	8	7	16	10	0.5	0.4	0.5	0.3	0.7	0.5	0.4	0.9	0.3	0.4	0.3	0.8	0.6
C41	Bone and articular cartilage, NOS	14	7	15	7	12	4	10	10	13	4	9	11	6	0.7	0.3	0.7	0.3	0.6	0.2	0.5	0.5	0.6	0.2	0.3	0.5	0.3
C43	Malignant melanoma of skin	310	331	286	309	378	362	464	452	447	462	560	496	562	13.2	13.7	11.8	12.5	15.1	14.6	19.7	18.0	17.4	17.8	21.0	18.7	21.0
C44	Malignant neoplasms of skin	385	408	357	456	477	461	484	614	685	719	750	725	793	7.6	8.9	7.1	9.2	9.5	8.3	9.7	11.5	13.0	13.3	13.9	13.4	13.6

Females		N													WSR											
Primary site		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C45	Mesothelioma	6	10	15	10	14	10	10	9	12	13	16	18	8	0.2	0.3	0.4	0.3	0.4	0.3	0.3	0.2	0.4	0.3	0.3	0.4	0.2
C46	Kaposi's sarcoma	2	4	4	1	2	4	1	3	4	4	5	3	2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.0
C47.C49	Soft tissues	52	26	44	54	51	41	36	47	43	39	40	49	47	2.1	1.0	1.7	1.9	1.8	1.3	1.2	2.1	2.1	1.5	1.4	1.9	1.9
C48	Retroperitoneum and peritoneum	7	14	21	16	18	15	24	16	20	19	14	14	31	0.3	0.6	0.7	0.6	0.5	0.5	0.8	0.5	0.6	0.5	0.3	0.7	0.8
C50	Breast	3,174	3,045	3,069	3,085	3,223	3,143	3,254	3,492	3,523	3,544	3,476	3,362	3,509	114.9	107.3	108.9	107.4	108.6	105.3	108.6	114.3	113.0	112.2	110.4	105.4	107.3
C51	Vulva	48	54	53	63	53	59	68	71	66	75	88	91	94	1.2	1.5	1.3	1.5	1.3	1.6	1.9	1.8	1.7	1.9	2.3	2.5	2.5
C52	Vagina	20	14	19	15	12	12	13	7	18	11	15	16	19	0.5	0.4	0.4	0.5	0.2	0.3	0.4	0.2	0.4	0.2	0.3	0.4	0.4
C53	Cervix uteri	201	183	165	223	208	169	209	239	245	222	266	232	225	8.3	7.5	6.7	9.0	8.4	6.6	8.3	9.2	9.8	8.7	10.4	9.2	8.8
C54	Corpus uteri	458	446	408	429	437	445	477	468	451	409	473	460	453	13.7	13.5	12.3	12.2	12.2	12.3	12.9	12.4	11.7	10.8	12.2	11.7	11.7
C55	Uterus	32	24	6	6	1	4	3	7	7	5	7	4	8	0.9	0.7	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
C56	Ovary	275	287	278	302	269	244	277	252	253	258	278	260	241	9.0	9.3	8.8	9.5	8.5	7.1	8.4	7.4	7.9	7.5	7.8	7.6	6.9
C57	Female genital organs, NOS	10	13	15	4	18	17	13	26	31	27	27	22	26	0.4	0.4	0.4	0.2	0.5	0.6	0.3	0.8	0.9	0.8	0.7	0.6	0.6
C58	Placenta	1	1	-	2	-	1	-	5	2	3	-	2	4	0.0	0.1	-	0.1	-	0.1	-	0.3	0.1	0.2	-	0.1	0.3
C64	Kidney	148	166	162	145	161	148	148	201	174	183	171	176	177	5.0	5.6	4.8	4.3	5.1	4.4	4.6	6.3	5.2	5.5	5.0	5.3	5.2
C65	Renal pelvis	22	21	22	26	23	24	24	21	29	14	21	28	35	0.5	0.4	0.5	0.6	0.4	0.4	0.5	0.4	0.6	0.3	0.4	0.6	0.7
C66	Ureter	12	7	14	4	8	15	13	15	19	20	14	25	18	0.4	0.1	0.4	0.0	0.2	0.3	0.3	0.3	0.4	0.4	0.2	0.5	0.4
C67	Bladder	117	140	99	127	157	155	146	154	158	149	164	175	180	2.6	3.2	2.6	2.6	3.4	3.2	3.0	3.1	3.2	2.9	3.5	3.7	3.8
C68	Urinary organs, NOS	2	1	1	-	-	3	4	1	3	5	1	3	5	0.0	0.0	0.0	-	-	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1
C69	Eye and adnexa	15	9	20	12	15	20	14	17	20	19	20	14	26	0.7	0.5	0.8	0.5	0.6	0.8	0.6	0.5	0.7	0.6	0.9	0.6	0.9
C70	Meninges	4	3	3	4	2	2	1	3	5	2	4	6	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1
C71	Brain	90	109	98	100	98	116	100	98	105	89	116	96	111	4.0	4.9	3.7	4.0	4.3	5.1	4.1	3.9	3.9	3.8	4.6	3.5	4.2
C72	Spinal cord, cranial nerves and CNS, NOS	6	4	2	3	-	1	1	1	2	-	3	6	5	0.2	0.3	0.1	0.2	-	0.1	0.0	0.0	0.1	-	0.1	0.4	0.3
C73	Thyroid gland	231	219	228	219	260	276	278	242	254	278	289	266	285	10.0	9.6	10.3	9.9	11.3	12.1	12.0	10.7	11.6	12.0	12.1	11.4	11.7
C74	Adrenal gland	5	9	7	8	6	6	8	12	9	19	12	12	16	0.3	0.8	0.4	0.4	0.2	0.4	0.5	0.6	0.4	1.2	0.5	0.8	1.0
C75	Endocrine glands, NOS	-	-	2	4	2	5	3	2	5	8	7	9	8	-	-	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.4	0.4	0.4	0.2
C81	Hodgkin lymphoma	36	36	38	42	42	42	53	45	43	37	50	54	49	1.9	2.3	1.8	2.4	2.4	2.6	3.1	2.3	2.2	2.2	3.0	2.8	2.5
C82-C86	Non-Hodgkin lymphoma	276	246	257	279	283	274	281	308	288	289	283	293	281	8.4	7.6	7.3	8.3	8.6	7.8	7.6	8.6	8.0	7.6	7.3	7.6	7.3
C88	Malignant immunoproliferative diseases	36	23	37	43	27	33	42	37	43	48	66	55	55	1.1	0.7	1.0	1.2	0.9	0.8	1.1	1.0	1.2	1.2	2.0	1.3	1.3
C90	Multiple myeloma	104	76	88	83	89	111	90	116	100	94	134	143	125	2.9	2.0	2.4	2.3	2.3	2.6	2.3	2.9	2.5	2.5	3.3	3.4	2.9
C91	Lymphoid leukaemia	92	73	80	85	89	128	146	124	133	154	137	171	132	3.7	2.9	3.0	2.8	3.3	4.6	5.1	3.8	4.7	4.8	4.2	4.9	4.3
C92	Myeloid leukaemia	67	69	73	79	75	77	82	88	109	114	117	116	101	2.5	2.6	2.5	3.0	2.4	2.2	2.9	2.6	3.4	3.5	3.2	3.4	3.0
C93	Monocytic leukaemia	8	9	10	11	10	12	15	23	24	17	28	25	18	0.2	0.2	0.2	0.3	0.2	0.4	0.5	0.6	0.7	0.6	0.8	0.6	0.4
C94-C95	Leukaemia other	9	6	3	4	7	8	7	8	12	11	9	7	4	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.2	0.3	0.1
C96	Lymphoid, haematopoietic and related tissue, NOS	3	1	5	2	4	5	4	4	3	2	9	9	7	0.2	0.1	0.2	0.1	0.4	0.4	0.2	0.2	0.3	0.1	0.6	0.5	0.4
C76	Other and ill-defined sites	6	4	1	-	2	2	2	3	1	2	1	3	5	0.1	0.3	0.0	-	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.1
C80	Unknown primary site	199	189	167	199	201	139	140	111	142	125	153	145	135	5.0	4.9	4.4	5.2	4.9	3.3	3.3	2.7	3.3	2.8	3.5	3.1	3.0
MPN	Myeloproliferative neoplasms	44	44	49	52	70	79	71	86	96	104	114	113	142	1.2	1.3	1.7	1.5	1.8	2.4	1.9	2.6	2.6	2.6	3.1	2.7	3.9
MDS	Myelodysplastic syndromes	61	55	70	45	75	73	86	116	131	132	136	126	136	1.4	1.5	2.0	1.0	1.7	1.5	2.0	2.4	2.4	2.8	2.8	2.6	2.7
Total		9,060	8,887	8,838	9,223	9,573	9,590	10,015	10,677	10,798	10,896	11,324	11,117	11,409	295.9	290.1	283.0	291.4	297.2	295.0	308.0	319.4	320.6	318.2	327.6	318.5	322.8
Total excl. non-melanoma		8,675	8,479	8,481	8,767	9,096	9,129	9,531	10,063	10,113	10,177	10,574	10,392	10,616	288.3	281.2	275.9	282.2	287.7	286.7	298.3	307.8	307.6	304.9	313.7	305.0	309.2
Total excl. non-melanoma and MDS, MPN		8,570	8,380	8,362	8,670	8,951	8,977	9,374	9,861	9,886	9,941	10,324	10,153	10,338	285.7	278.4	272.2	279.6	284.2	282.8	294.4	302.8	302.6	299.5	307.9	299.7	302.7

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

Source: Belgian Cancer Registry

Brussels Capital Region: Males, number of invasive tumours and age-standardised incidence by primary site and incidence year, 2004-2016																										
Males		N													WSR											
Primary site		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C00	Lip	-	-	-	4	4	5	3	5	2	6	3	2	3	-	-	-	0.5	0.4	0.7	0.5	0.6	0.3	0.6	0.4	0.3	0.4
C01	Base of tongue	7	6	10	5	5	12	7	8	11	13	12	10	8	1.1	1.1	1.7	0.8	0.9	1.8	0.9	1.2	1.6	1.8	1.6	1.3	0.9
C02	Tongue	12	16	18	18	12	11	19	19	8	19	12	15	10	2.0	2.5	2.9	2.8	2.0	1.6	2.9	2.9	1.3	2.5	1.6	1.8	1.4
C03	Gum	2	4	5	2	2	1	2	6	6	4	4	2	3	0.4	0.7	0.7	0.2	0.3	0.2	0.3	0.9	0.8	0.5	0.5	0.3	0.3
C04	Floor of mouth	17	5	14	22	11	8	12	8	10	9	7	9	12	2.8	0.8	2.3	3.4	1.6	1.2	1.9	1.1	1.3	1.3	1.1	1.4	1.7
C05	Palate	4	6	1	5	3	3	6	5	4	6	7	2	2	0.8	1.0	0.2	0.9	0.4	0.5	0.9	0.5	0.5	0.8	1.0	0.3	0.3
C06	Mouth, NOS	6	4	2	9	4	8	6	10	5	2	3	4	5	1.0	0.4	0.2	1.4	0.4	1.1	0.9	1.5	0.8	0.3	0.3	0.5	0.6
C07	Parotid gland	3	3	4	4	3	6	2	10	6	5	2	8	8	0.4	0.5	0.5	0.4	0.4	0.7	0.3	1.4	0.8	0.6	0.3	0.9	1.0
C08	Salivary glands, NOS	3	3	3	2	-	3	2	1	3	-	1	1	1	0.5	0.4	0.2	0.2	-	0.5	0.2	0.2	0.4	-	0.1	0.2	0.1
C09	Tonsil	13	16	21	24	20	15	13	8	17	8	14	18	25	2.1	2.4	2.9	3.5	3.2	2.1	1.9	1.3	2.4	1.2	2.0	2.4	3.6
C10	Oropharynx	8	13	10	10	14	12	13	11	10	12	12	5	17	1.3	2.0	1.5	1.7	2.3	1.8	2.1	1.7	1.3	1.8	1.7	0.6	2.3
C11	Nasopharynx	9	8	15	7	4	8	9	7	9	12	12	18	6	1.5	1.4	2.9	1.2	0.7	1.3	1.2	1.1	1.5	1.6	1.7	2.6	0.8
C12	Pyriform sinus	13	16	6	13	16	6	10	15	11	10	15	17	13	2.4	2.7	0.9	2.0	2.4	0.9	1.5	2.1	1.6	1.4	2.3	2.2	1.9
C13	Hypopharynx	7	5	6	5	10	5	4	5	5	7	8	6	8	1.2	0.9	1.0	0.7	1.3	0.6	0.7	0.7	0.5	1.0	0.9	0.7	1.1
C14	Lip, oral cavity and pharyn, xNOS	5	2	1	2	2	-	1	4	1	-	1	2	-	0.7	0.3	0.1	0.3	0.3	-	0.1	0.6	0.1	-	0.1	0.3	-
C15	Oesophagus	46	45	51	45	47	52	41	49	51	47	58	36	37	6.8	6.7	7.6	6.6	6.6	7.6	5.2	6.5	6.9	5.5	7.4	4.3	4.9
C16	Stomach	75	69	76	85	66	67	73	87	82	78	83	69	77	10.1	8.6	9.7	11.6	8.9	9.1	9.0	10.6	10.4	9.8	10.0	8.5	9.4
C17	Small intestine	5	11	7	8	12	7	10	10	11	14	8	17	15	0.7	1.4	1.0	1.1	1.7	1.1	1.2	1.5	1.2	1.8	0.9	2.2	2.0
C18	Colon	206	223	208	231	230	186	243	244	212	223	222	195	229	27.1	28.5	24.4	28.4	28.4	22.8	29.6	30.3	24.5	25.6	25.0	22.5	26.5
C19	Rectosigmoid junction	21	17	15	12	15	9	23	12	17	11	8	16	9	2.7	2.7	2.0	1.4	2.1	1.1	2.8	1.3	2.0	1.2	0.8	1.7	1.1
C20	Rectum	70	76	85	92	92	85	88	96	89	77	83	90	93	9.7	9.7	11.5	11.8	12.0	11.2	12.5	11.4	10.8	9.8	10.8	10.3	11.7
C21	Anus and anal canal	5	8	8	10	7	6	7	7	9	10	10	8	11	0.7	0.9	1.0	1.6	0.8	0.8	1.0	1.0	1.2	1.3	1.2	0.9	1.4
C22	Liver and intrahepatic bile ducts	19	30	35	33	38	53	59	50	63	55	55	61	63	2.8	4.1	4.8	5.0	5.3	7.4	8.0	7.0	8.4	7.5	7.2	7.4	8.1
C23	Gallbladder	2	1	3	2	5	-	4	3	3	3	8	7	1	0.2	0.2	0.4	0.4	0.6	-	0.6	0.4	0.3	0.4	1.0	1.0	0.1
C24	Biliary tract, NOS	5	9	11	12	6	8	15	12	22	12	10	6	11	0.7	1.1	1.6	1.4	0.7	1.0	2.2	1.4	2.7	1.3	1.1	0.7	1.1
C25	Pancreas	50	39	39	61	66	63	70	62	72	63	68	84	65	6.8	4.8	5.2	8.4	8.7	9.0	8.7	8.1	9.3	7.8	8.6	10.6	8.2
C26	Other ill-defined digestive organs	-	1	1	-	3	2	5	2	1	2	1	1	3	-	0.2	0.2	-	0.5	0.3	0.7	0.3	0.2	0.2	0.1	0.2	0.4
C30	Nasal cavity and middle ear	1	-	-	3	2	2	4	2	3	1	1	6	4	0.1	-	-	0.4	0.3	0.4	0.5	0.2	0.6	0.1	0.1	0.9	0.6
C31	Accessory sinuses	1	3	6	2	1	3	4	8	4	2	5	2	-	0.2	0.4	0.7	0.2	0.2	0.4	0.7	1.1	0.6	0.2	0.8	0.3	-
C32	Larynx	59	51	51	65	51	51	43	41	36	48	48	38	49	9.8	7.9	7.5	9.7	7.5	7.5	6.2	5.6	4.8	6.5	6.1	4.9	6.4
C33	Trachea	-	1	1	2	-	1	1	1	-	1	-	-	-	-	0.2	0.2	0.3	-	0.2	0.1	0.2	-	0.1	-	-	-
C34	Bronchus and lung	405	393	369	354	367	375	459	377	379	384	388	369	399	57.5	57.3	50.8	49.6	51.1	49.7	61.8	48.6	49.8	49.0	49.1	46.1	48.3
C37	Thymus	1	2	2	1	1	6	2	1	1	-	2	3	4	0.2	0.2	0.3	0.2	0.2	1.0	0.3	0.1	0.1	-	0.3	0.4	0.5
C38	Heart, mediastinum and pleura	1	1	1	1	-	2	1	2	2	3	2	-	3	0.2	0.1	0.1	0.1	-	0.5	0.2	0.3	0.2	0.5	0.3	-	0.5
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	7	3	2	3	4	3	8	3	3	7	7	2	4	1.4	0.8	0.4	0.4	0.8	0.5	1.6	0.7	0.5	1.4	1.3	0.4	0.8
C41	Bone and articular cartilage, NOS	7	5	4	2	2	1	6	1	3	5	5	5	6	0.9	1.0	0.7	0.3	0.3	0.3	1.2	0.3	0.5	0.8	0.8	0.7	0.7
C43	Malignant melanoma of skin	59	65	58	72	72	81	85	100	95	94	103	82	98	8.9	8.6	7.9	10.4	10.0	11.5	11.8	13.0	12.4	11.9	13.3	10.2	12.2
C44	Malignant neoplasms of skin	156	161	149	217	193	192	241	212	251	266	244	289	288	16.3	18.2	16.0	24.0	19.9	20.8	23.3	23.1	25.3	25.8	23.5	28.5	27.7

Males		N													WSR												
Primary site		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C45	Mesothelioma	8	8	8	12	6	7	5	5	8	10	6	11	10	0.8	1.0	1.1	1.2	1.0	1.0	0.8	0.7	0.8	1.1	0.7	1.3	0.9
C46	Kaposi's sarcoma	11	9	3	11	13	20	12	16	13	12	7	14	7	1.8	1.4	0.5	1.7	2.1	3.1	1.6	2.4	1.9	1.6	0.8	1.9	0.9
C47.C49	Soft tissues	14	20	26	19	12	19	10	16	14	18	14	16	17	2.3	3.2	3.6	2.9	1.9	3.1	1.6	1.9	1.7	2.7	2.0	2.0	2.4
C48	Retroperitoneum and peritoneum	1	2	4	-	3	1	4	4	-	4	3	1	4	0.1	0.3	0.6	-	0.3	0.2	0.6	0.6	-	0.7	0.5	0.1	0.7
C50	Breast	7	7	8	8	6	7	9	6	10	5	12	3	7	1.1	0.9	1.2	1.1	0.7	1.0	1.2	0.6	1.4	0.5	1.4	0.3	0.9
C60	Penis	6	11	7	7	11	5	7	6	7	10	6	9	7	0.6	1.5	0.9	0.9	1.5	0.7	0.9	0.9	0.7	1.3	0.8	1.2	0.7
C61	Prostate	597	666	583	544	605	563	530	609	550	577	544	517	567	77.8	85.9	78.3	75.0	80.0	74.0	68.4	79.3	71.0	73.9	67.1	63.5	69.5
C62	Testis	17	21	24	21	31	29	32	24	29	19	31	28	29	3.2	3.7	4.3	4.1	5.4	4.9	5.1	3.6	4.3	3.0	4.6	4.2	4.1
C63	Male genital organs, NOS	1	2	1	3	1	1	3	-	1	3	1	-	1	0.1	0.5	0.2	0.4	0.2	0.1	0.4	-	0.2	0.3	0.1	-	0.2
C64	Kidney	57	68	42	55	76	60	74	68	82	82	66	83	81	8.2	9.7	6.4	8.4	10.9	8.5	10.3	9.9	11.3	10.7	8.2	11.1	10.7
C65	Renal pelvis	7	8	7	12	14	9	10	9	13	7	10	6	12	1.0	1.1	1.2	2.0	1.9	0.9	1.2	1.2	1.7	0.9	1.0	0.6	1.2
C66	Ureter	5	5	5	5	1	7	6	-	15	4	7	10	4	0.7	0.6	0.5	0.6	0.1	1.0	0.7	-	2.1	0.4	0.8	1.1	0.4
C67	Bladder	135	140	122	129	127	128	140	148	122	149	131	153	150	15.8	16.2	14.7	16.6	14.9	15.0	17.3	16.9	14.1	17.2	14.8	17.7	16.9
C68	Urinary organs, NOS	-	6	1	3	2	4	1	2	11	3	3	4	1	-	0.7	0.1	0.3	0.3	0.5	0.2	0.3	1.2	0.3	0.3	0.5	0.1
C69	Eye and adnexa	3	6	5	2	7	3	8	4	4	5	4	5	5	0.6	1.1	0.5	0.3	1.0	0.6	1.5	0.5	0.7	1.1	0.5	0.9	0.5
C70	Meninges	-	1	-	-	-	1	1	-	1	-	-	1	2	-	0.1	-	-	-	0.1	0.2	-	0.2	-	-	0.1	0.3
C71	Brain	26	35	28	26	37	47	39	33	35	39	40	39	42	4.5	6.1	4.6	4.0	5.7	7.3	6.3	4.5	4.9	6.2	5.7	5.9	6.1
C72	Spinal cord, cranial nerves and CNS, NOS	3	2	2	3	1	3	5	1	1	4	-	1	1	0.5	0.3	0.5	0.6	0.3	0.5	0.7	0.3	0.2	0.6	-	0.1	0.3
C73	Thyroid gland	23	16	21	25	32	28	30	27	36	35	42	35	31	3.5	2.6	3.4	3.8	4.8	4.3	4.8	3.8	5.2	5.0	5.8	4.8	4.5
C74	Adrenal gland	3	1	2	5	2	5	3	2	3	6	4	2	6	1.0	0.2	0.5	1.1	0.4	1.1	0.7	0.1	0.4	0.9	0.8	0.2	1.0
C75	Endocrine glands, NOS	1	-	-	1	2	-	1	2	1	-	1	1	2	0.3	-	-	0.2	0.5	-	0.1	0.3	0.2	-	0.2	0.1	0.4
C81	Hodgkin lymphoma	20	23	23	19	16	26	28	18	18	20	25	17	17	3.6	4.3	4.2	3.9	2.9	4.6	4.4	2.8	2.9	3.3	3.7	2.7	2.9
C82-C86	Non-Hodgkin lymphoma	83	83	68	77	83	88	90	89	107	86	99	95	103	12.8	11.3	9.8	10.3	11.7	12.2	12.2	11.8	13.1	11.3	12.3	12.5	13.5
C88	Malignant immunoproliferative diseases	11	4	9	8	10	13	8	7	9	17	19	15	18	1.2	0.6	1.3	1.0	1.3	1.7	1.2	0.7	1.2	2.4	2.1	1.7	2.0
C90	Multiple myeloma	33	34	28	28	26	31	37	35	40	35	30	36	44	4.1	4.5	4.1	3.9	3.4	4.1	4.6	4.3	5.1	4.1	3.8	4.2	5.1
C91	Lymphoid leukaemia	31	50	27	34	34	43	40	41	43	46	34	59	46	5.4	9.6	4.9	5.4	5.5	7.3	5.5	5.2	6.0	6.7	4.8	8.5	6.4
C92	Myeloid leukaemia	21	21	23	22	19	30	21	34	28	32	26	29	28	3.2	3.2	3.3	3.5	2.5	4.2	3.2	4.6	3.6	4.3	3.5	3.4	3.4
C93	Monocytic leukaemia	2	3	3	6	7	8	2	8	10	8	11	7	6	0.2	0.4	0.3	0.8	0.8	1.2	0.2	0.9	1.1	0.9	1.1	0.7	0.8
C94-C95	Leukaemia other	2	3	1	2	-	1	3	7	5	2	5	8	6	0.4	0.6	0.2	0.2	-	0.1	0.4	1.1	0.8	0.2	0.8	0.7	1.0
C96	Lymphoid, haematopoietic and related tissue, NOS	-	-	3	-	2	1	2	3	3	2	3	3	5	-	-	0.8	-	0.6	0.1	0.4	0.7	0.5	0.3	0.4	0.4	0.9
C76	Other and ill-defined sites	1	1	1	-	-	1	-	1	2	1	1	2	-	0.1	0.2	0.1	-	-	0.2	-	0.1	0.4	0.1	0.2	0.2	-
C80	Unknown primary site	84	54	55	53	59	37	50	34	53	36	44	27	51	11.3	7.1	7.2	7.3	7.5	4.4	6.3	4.8	6.7	4.5	5.0	3.0	6.0
MPN	Myeloproliferative neoplasms	13	9	11	8	22	18	22	21	30	26	26	23	30	1.9	1.2	1.6	1.2	3.1	2.2	2.9	2.9	3.9	3.0	3.3	2.9	3.3
MDS	Myelodysplastic syndromes	25	24	11	11	23	27	22	24	37	42	29	37	39	2.9	3.0	1.6	1.5	2.6	3.5	3.2	2.7	3.5	4.4	3.1	4.0	4.7
Total		2,561	2,664	2,460	2,604	2,680	2,629	2,856	2,808	2,858	2,864	2,816	2,802	2,969	352.9	363.8	334.4	357.9	358.8	352.6	374.7	361.1	360.7	357.6	345.5	341.2	361.4
Total excl. non-melanoma		2,405	2,503	2,311	2,387	2,487	2,437	2,615	2,596	2,607	2,598	2,572	2,513	2,681	336.5	345.6	318.3	333.9	338.9	331.8	351.4	338.0	335.4	331.9	322.0	312.6	333.7
Total excl. non-melanoma and MDS, MPN		2,367	2,470	2,289	2,368	2,442	2,392	2,571	2,551	2,540	2,530	2,517	2,453	2,612	331.8	341.5	315.2	331.2	333.3	326.2	345.3	332.4	327.9	324.5	315.6	305.7	325.7

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

Source: Belgian Cancer Registry

Brussels Capital Region: Females, number of invasive tumours and age-standardised incidence by primary site and incidence year, 2004-2016

Females		N													WSR											
Primary site		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C00	Lip	-	-	2	1	3	-	-	3	3	-	-	4	2	-	-	0.2	0.1	0.1	-	-	0.1	0.3	-	-	0.4	0.2
C01	Base of tongue	2	1	5	-	1	5	5	-	3	2	3	5	5	0.4	0.1	0.5	-	0.1	0.7	0.7	-	0.3	0.3	0.3	0.5	0.7
C02	Tongue	11	6	13	9	9	9	7	10	11	12	10	14	5	1.5	0.5	1.9	1.2	0.9	0.9	0.9	1.3	1.5	1.3	1.1	1.3	0.6
C03	Gum	3	3	6	2	2	1	-	-	1	3	2	4	2	0.3	0.3	0.7	0.3	0.3	-	-	-	0.1	0.1	0.3	0.3	0.1
C04	Floor of mouth	4	2	3	5	-	6	7	3	4	2	5	2	2	0.5	0.3	0.5	0.8	-	0.9	0.8	0.5	0.3	0.2	0.7	0.2	0.3
C05	Palate	2	6	7	3	2	4	3	7	3	5	4	1	8	0.3	0.9	0.9	0.4	0.3	0.6	0.5	0.8	0.4	0.6	0.6	0.1	0.9
C06	Mouth, NOS	4	4	1	-	6	3	4	4	2	2	3	7	5	0.5	0.4	0.2	-	0.5	0.5	0.4	0.4	0.3	0.2	0.3	0.6	0.4
C07	Parotid gland	4	6	1	2	1	2	2	3	4	2	1	1	5	0.4	0.6	0.1	0.2	0.1	0.3	0.3	0.5	0.7	0.4	0.1	0.1	0.7
C08	Salivary glands, NOS	1	2	2	1	-	1	2	4	1	-	1	2	-	-	0.2	0.2	-	-	0.1	0.3	0.4	0.1	-	0.1	0.3	-
C09	Tonsil	7	11	6	10	6	13	5	6	6	6	7	4	4	0.9	1.6	0.8	1.3	0.9	1.8	0.7	0.8	0.8	0.7	0.8	0.6	0.3
C10	Oropharynx	2	4	2	3	6	3	4	9	2	5	3	9	5	0.1	0.5	0.3	0.2	0.9	0.4	0.4	1.2	0.2	0.5	0.4	0.9	0.6
C11	Nasopharynx	2	2	2	4	3	3	4	6	6	3	4	7	4	0.3	0.2	0.4	0.6	0.5	0.5	0.5	0.9	0.7	0.4	0.6	1.1	0.8
C12	Pyriform sinus	2	4	5	1	3	3	4	2	7	1	5	-	1	0.3	0.5	0.7	0.2	0.5	0.3	0.5	0.3	0.9	0.1	0.7	-	-
C13	Hypopharynx	1	2	1	-	2	1	2	-	3	2	2	2	2	-	0.2	0.2	-	0.3	0.1	0.2	-	0.3	0.3	0.3	0.3	0.3
C14	Lip, oral cavity and pharyn, xNOS	2	3	-	-	3	1	-	3	1	1	-	1	-	0.2	0.3	-	-	0.4	0.1	-	0.3	0.1	0.1	-	0.1	-
C15	Oesophagus	26	22	16	32	32	16	24	22	26	24	19	23	29	3.1	2.3	1.9	3.2	2.9	1.4	2.5	2.2	2.4	2.3	1.9	2.3	3.2
C16	Stomach	34	41	33	41	64	59	52	45	47	49	58	38	56	2.4	4.1	2.5	3.8	7.0	4.5	4.3	4.2	3.9	4.2	5.6	3.2	6.1
C17	Small intestine	6	8	10	7	9	4	5	13	9	8	9	12	14	0.5	0.9	1.2	0.4	0.9	0.6	0.7	1.4	1.0	0.8	0.9	1.1	1.4
C18	Colon	232	251	257	218	228	191	240	249	215	220	231	216	223	18.0	20.0	20.7	18.8	18.7	14.1	19.3	19.2	18.2	18.4	19.3	17.8	19.1
C19	Rectosigmoid junction	22	10	11	5	16	10	16	15	10	5	6	12	10	2.5	0.9	1.3	0.2	1.4	1.1	1.3	1.3	0.9	0.4	0.4	1.1	0.9
C20	Rectum	73	64	81	67	57	73	60	75	75	72	59	77	70	6.3	5.8	8.4	6.2	5.4	7.2	6.5	6.5	5.7	6.7	5.4	7.2	6.7
C21	Anus and anal canal	15	9	13	13	17	11	16	16	17	16	18	23	13	1.7	0.8	1.2	1.4	1.8	1.4	2.0	1.8	1.8	1.6	1.8	2.2	1.2
C22	Liver and intrahepatic bile ducts	13	25	18	11	21	26	24	26	29	22	31	27	28	1.0	2.7	1.8	1.0	2.1	2.6	2.4	3.0	2.6	2.5	3.2	2.7	2.5
C23	Gallbladder	4	4	6	6	2	4	8	7	6	8	10	6	10	0.4	0.4	0.7	0.4	0.3	0.5	0.8	0.7	0.6	0.7	0.8	0.5	0.7
C24	Biliary tract, NOS	8	10	12	9	9	12	19	16	10	9	13	9	18	0.9	0.7	0.8	0.9	0.8	1.1	1.6	1.4	0.7	1.1	1.0	0.6	1.6
C25	Pancreas	42	35	67	39	60	64	69	70	67	69	78	72	82	4.2	3.5	7.3	3.7	5.8	6.1	6.5	5.8	7.0	6.0	7.7	6.2	6.6
C26	Other ill-defined digestive organs	2	1	-	-	-	2	1	2	2	3	2	-	1	0.2	-	-	-	-	0.1	0.2	0.2	0.3	0.4	0.3	-	0.1
C30	Nasal cavity and middle ear	-	-	-	3	2	3	2	1	2	1	3	1	2	-	-	-	0.4	0.2	0.3	0.2	0.1	0.3	0.1	0.4	0.1	0.1
C31	Accessory sinuses	2	1	1	1	-	-	2	3	2	1	-	1	1	0.4	-	0.1	0.2	-	-	0.3	0.3	0.2	0.1	-	0.1	0.1
C32	Larynx	12	11	14	5	8	8	13	6	10	6	1	6	6	1.3	1.4	1.4	0.8	1.1	1.0	1.8	0.8	1.3	0.6	0.1	0.8	0.8
C33	Trachea	1	-	-	1	-	2	-	-	-	-	-	-	-	0.1	-	-	-	-	0.3	-	-	-	-	-	-	-
C34	Bronchus and lung	183	164	188	195	169	201	210	223	219	237	222	231	221	20.5	19.7	22.2	22.2	20.2	22.9	23.8	25.4	23.2	26.2	22.7	24.1	22.7
C37	Thymus	3	1	-	3	2	2	2	1	2	2	1	2	1	0.3	0.1	-	0.2	0.3	0.2	0.3	0.2	0.3	0.3	-	0.1	0.1
C38	Heart, mediastinum and pleura	1	-	-	-	-	2	1	1	2	-	1	-	3	0.4	-	-	-	-	0.2	0.1	0.1	0.4	-	0.2	-	0.5
C39	Respiratory system and intrathoracic organs, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C40	Bone and articular cartilage of limbs	4	5	3	8	5	3	1	5	4	7	5	7	2	0.5	1.4	0.6	1.3	1.0	0.5	0.2	0.8	0.5	0.9	0.9	1.2	0.4
C41	Bone and articular cartilage, NOS	2	5	2	2	5	1	4	2	4	2	-	1	5	0.2	0.6	0.2	0.2	0.7	0.1	0.6	0.1	0.9	0.4	-	0.1	0.6
C43	Malignant melanoma of skin	85	85	87	99	97	113	104	111	112	106	115	98	138	10.9	10.9	11.2	12.9	11.7	13.4	12.8	12.7	13.7	12.4	12.9	11.6	14.7
C44	Malignant neoplasms of skin	88	112	122	158	136	156	183	179	214	221	221	252	233	6.5	8.9	8.4	11.2	9.4	11.7	10.9	12.1	16.8	14.3	14.8	15.8	15.1

Females		N													WSR											
Primary site		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
C45	Mesothelioma	1	3	2	5	-	3	6	3	3	2	3	8	3	0.1	0.4	0.3	0.5	-	0.1	0.5	0.4	0.3	0.1	0.3	0.5	0.2
C46	Kaposi's sarcoma	1	2	4	-	4	4	3	2	4	1	6	1	4	0.2	0.3	0.7	-	0.4	0.4	0.3	0.3	0.3	0.1	0.6	0.1	0.5
C47.C49	Soft tissues	14	16	11	18	11	12	13	6	11	7	8	16	19	1.7	2.7	1.6	2.7	1.2	1.4	1.9	0.8	1.5	1.1	1.0	2.2	2.5
C48	Retroperitoneum and peritoneum	4	1	4	6	2	3	3	3	5	5	4	4	7	0.4	0.2	0.5	0.7	0.3	0.2	0.4	0.3	0.6	0.5	0.3	0.4	0.7
C50	Breast	919	863	929	915	856	899	917	923	918	948	961	894	935	120.3	109.6	118.4	114.9	104.6	111.1	111.2	110.7	107.2	109.1	108.1	103.5	103.3
C51	Vulva	16	13	12	25	25	17	16	16	14	21	15	21	12	1.4	1.2	1.1	2.2	2.2	1.8	1.5	1.5	1.0	1.7	1.8	1.7	1.2
C52	Vagina	5	5	3	5	5	7	2	8	1	6	6	6	12	0.3	0.5	0.5	0.6	0.5	0.7	0.2	1.0	0.3	0.7	0.4	0.7	1.3
C53	Cervix uteri	62	63	77	70	63	74	60	60	66	73	59	53	68	8.1	8.8	10.5	10.2	8.2	9.5	7.6	7.1	8.5	9.2	7.5	6.7	8.4
C54	Corpus uteri	111	104	102	105	117	122	113	100	79	124	104	110	114	11.4	10.5	10.5	11.1	11.6	12.8	11.4	9.3	7.8	11.5	10.4	10.8	11.5
C55	Uterus	3	3	1	1	-	2	1	1	-	4	1	2	1	0.4	0.4	0.1	0.1	-	0.1	0.1	-	-	0.4	0.1	0.2	-
C56	Ovary	73	86	63	75	79	62	79	76	64	47	76	62	66	9.6	9.4	7.6	8.6	8.6	7.6	8.2	8.8	7.5	4.7	7.9	6.5	7.0
C57	Female genital organs, NOS	2	2	3	2	9	2	4	5	4	3	2	5	7	0.3	0.2	0.3	0.1	0.9	0.3	0.3	0.5	0.5	0.3	0.2	0.6	0.6
C58	Placenta	1	-	-	-	2	-	-	1	2	3	-	-	-	0.2	-	-	-	0.3	-	-	0.2	0.3	0.4	-	-	-
C64	Kidney	28	33	35	27	33	36	38	45	40	50	41	42	41	3.5	4.4	4.0	3.2	3.6	4.1	3.6	4.5	4.6	5.6	4.2	5.1	3.7
C65	Renal pelvis	5	6	8	9	10	8	4	7	9	8	4	4	3	0.8	0.5	0.7	0.7	0.9	0.8	0.3	0.7	0.7	0.8	0.4	0.2	0.2
C66	Ureter	3	3	1	3	6	5	-	2	3	2	2	3	2	0.1	0.1	0.1	0.3	0.5	0.4	-	0.2	0.2	0.2	0.2	0.3	0.1
C67	Bladder	32	45	39	37	32	36	45	38	41	42	41	45	41	2.4	3.8	3.3	2.6	2.6	2.7	3.3	3.2	2.9	3.2	3.2	3.6	3.1
C68	Urinary organs, NOS	-	1	-	2	2	-	2	-	2	1	1	-	-	-	0.2	-	0.1	0.2	-	0.2	-	0.1	0.1	0.1	-	-
C69	Eye and adnexa	7	8	2	4	3	5	10	5	2	7	4	5	7	0.8	2.0	0.4	0.5	0.6	0.7	1.7	0.9	0.6	0.9	0.8	0.6	0.7
C70	Meninges	2	-	1	-	2	-	2	-	-	1	-	2	-	0.2	-	-	-	0.1	-	0.3	-	-	0.3	-	0.3	-
C71	Brain	27	21	35	15	31	35	28	23	29	34	29	28	23	3.8	4.0	5.7	1.6	4.4	5.4	4.2	3.0	4.1	4.2	3.9	3.4	3.1
C72	Spinal cord, cranial nerves and CNS, NOS	1	1	-	-	1	-	-	-	1	2	2	2	3	0.1	0.1	-	-	0.2	-	-	-	0.1	0.3	0.2	0.3	0.4
C73	Thyroid gland	77	53	64	87	66	97	88	103	133	108	134	106	110	12.2	7.9	10.0	13.5	10.2	14.6	12.3	14.2	17.6	14.3	18.5	14.1	13.9
C74	Adrenal gland	1	2	4	3	2	-	2	2	4	8	3	6	6	0.2	0.5	0.9	0.4	0.3	-	0.3	0.2	0.9	1.4	0.4	0.8	1.0
C75	Endocrine glands, NOS	-	-	1	1	1	-	1	-	-	3	1	1	4	-	-	0.2	0.1	0.3	-	0.2	-	-	0.4	0.2	0.1	0.5
C81	Hodgkin lymphoma	14	8	8	11	16	12	13	8	25	16	14	13	16	2.0	1.6	1.4	1.9	3.2	1.9	1.8	1.9	3.4	2.3	2.1	2.0	3.1
C82-C86	Non-Hodgkin lymphoma	79	86	71	88	87	96	92	95	94	75	72	70	75	8.7	8.9	8.9	8.8	7.7	9.5	9.6	10.0	9.9	6.6	7.4	7.5	7.0
C88	Malignant immunoproliferative diseases	7	14	12	15	11	6	17	15	14	7	14	21	19	0.5	1.3	1.4	2.0	1.5	0.6	1.7	2.0	1.8	0.9	1.2	1.6	1.7
C90	Multiple myeloma	41	29	25	30	27	32	28	39	41	27	35	28	27	4.4	3.3	2.7	3.0	2.3	3.2	2.5	3.6	4.0	2.0	3.5	2.6	2.2
C91	Lymphoid leukaemia	32	25	18	33	31	26	31	30	23	34	27	33	23	4.2	4.1	2.7	4.9	3.5	2.9	3.4	3.3	2.6	4.5	3.0	4.4	3.0
C92	Myeloid leukaemia	31	26	19	30	28	20	39	25	18	25	26	26	24	4.1	3.8	2.0	3.7	3.4	2.3	4.7	3.1	2.0	2.6	2.5	2.9	2.7
C93	Monocytic leukaemia	1	-	2	5	8	4	4	6	6	6	5	6	10	-	-	0.2	0.3	1.1	0.5	0.5	0.6	0.4	0.3	0.4	0.2	0.7
C94-C95	Leukaemia other	2	2	2	2	2	2	-	3	3	3	2	2	1	0.2	0.2	0.2	0.1	0.1	0.3	-	0.2	0.3	0.5	0.3	0.2	-
C96	Lymphoid, haematopoietic and related tissue, NOS	-	-	1	-	5	3	4	-	1	3	-	2	2	-	-	0.3	-	1.2	0.8	1.1	-	0.1	0.6	-	0.6	0.3
C76	Other and ill-defined sites	1	1	2	-	1	1	-	-	-	-	-	2	1	-	-	0.3	-	0.2	0.2	-	-	-	-	-	0.1	0.1
C80	Unknown primary site	67	44	64	52	63	49	40	31	39	35	38	39	32	5.4	4.0	5.6	4.6	5.4	4.4	3.1	2.4	3.0	2.8	3.7	2.9	2.2
MPN	Myeloproliferative neoplasms	8	19	13	16	22	13	18	26	28	42	25	19	26	0.6	2.0	1.7	1.9	1.8	1.6	1.5	2.4	2.4	4.2	2.6	1.9	2.3
MDS	Myelodysplastic syndromes	16	17	11	18	18	13	10	30	32	40	33	37	37	1.4	1.0	0.8	1.4	1.3	1.1	0.3	2.3	2.9	3.1	2.7	2.3	3.0
Total		2,599	2,525	2,646	2,679	2,667	2,724	2,838	2,885	2,900	2,957	2,951	2,901	2,997	298.5	289.8	305.0	302.1	292.8	302.4	305.8	307.1	310.2	307.5	306.3	297.2	303.4
Total excl. non-melanoma		2,511	2,413	2,524	2,521	2,531	2,568	2,655	2,706	2,686	2,736	2,730	2,649	2,764	292.0	280.9	296.6	290.9	283.4	290.7	294.9	295.0	293.4	293.1	291.6	281.5	288.3
Total excl. non-melanoma and MDS, MPN		2,487	2,377	2,500	2,487	2,491	2,542	2,627	2,650	2,626	2,654	2,672	2,593	2,701	290.0	277.9	294.1	287.6	280.3	288.0	293.0	290.3	288.1	285.8	286.4	277.2	283.0

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

Source: Belgian Cancer Registry

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