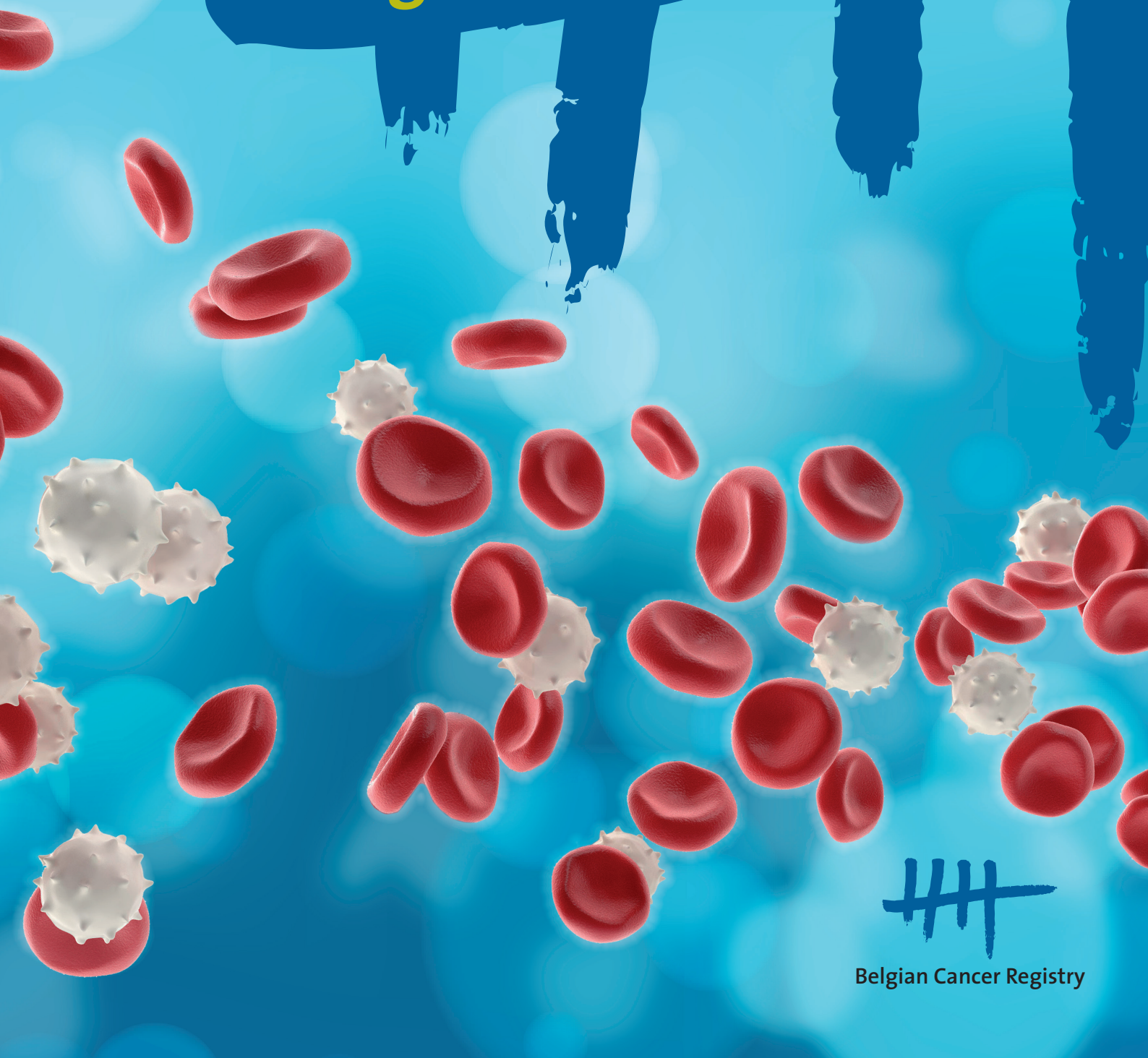
BELGIAN CANCER REGISTRY

Haematological malignancies
Belgium 2004-2018



Belgian Cancer Registry

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LIST OF ACRONYMS

ALL	Acute lymphoid leukaemia
AML	Acute myeloid leukaemia
AAPC	Average Annual Percentage Change
APC	Annual Percentage Change
AViQ	Agence wallonne de la santé, de la protection sociale, du handicap et des familles
BCR	Belgian Cancer Registry
BHS	Belgian Hematology Society
BPDCN	Blastic plasmacytoid dendritic cell neoplasm
BSPHO	Belgian Society of Paediatric Haematology Oncology
BTR	Belgian Transplant Registry
CBSS	Crossroads Bank for Social Security
cHL	Classical Hodgkin lymphoma
CI	Confidence interval
CLL	Chronic lymphocytic leukaemia
CML	Chronic myeloid leukaemia
CR	Crude incidence rate
DLBCL	Diffuse large B-cell lymphoma
ESR	Age-standardised incidence rate using the European Standard Population
FAB	French-American-British
HL	Hodgkin lymphoma
IMA-AIM	InterMutualistic Agency
ICD-O-3	International Classification of Diseases for Oncology (3rd edition)
ICD-10	International Classification of Diseases (10th edition)
INSZ-NISS	National social security number
LBCL	Large B-cell lymphoma
MCN	Mast cell neoplasm
MDS	Myelodysplastic syndrome
M/F	Male/Female
MOC-COM	Multidisciplinary Oncological Consult
MPN	Myeloproliferative neoplasm
NK-cell	Natural killer cell
PNK/TCL	Peripheral NK/T-cell lymphomas
PLN	Precursor lymphoid neoplasms
SLL	Small lymphocytic lymphoma
WHO	World Health Organization
WSR	Age-standardised incidence rate using the World Standard Population

FOREWORD

How to give a current picture of the epidemiological situation of haematological malignancies in Belgium based on data collected over a period of 15 years? Moreover, how to do this in a way that reveals the impact of improvements in the management of these haematological malignancies? This is the challenge taken up in this new publication issued six years after its predecessor, as a result of a close collaboration between the Belgian Cancer Registry and the Belgian Hematology Society (BHS). This publication has also benefited from the endorsement of the Belgian Society of Paediatric Haematology Oncology (BSPHO) with which the Belgian Cancer Registry also maintains a close partnership.

Haematological malignancies are relatively common (altogether, they comprise about 11% of the total cancer burden in Belgium) and, at the same time, rare (if one separately considers the more than 150 heterogeneous malignancies as defined in the latest WHO classification of 2017). The distinction of all these different entities is justified by specific clinico-biological characteristics, behaviour and outcome.

The research field of haematological malignancies has always been a pioneer and largely contributed to two major medical revolutions which extended to the management of all types of cancers:

- Use of molecular characterisation for diagnosis, classification, prognosis, follow-up of the minimal residual disease, and therapeutic decision making (1960: first identification of the chromosomal anomaly characteristics of chronic myeloid leukaemia).
- Design of a new generation of treatments which efficiently target the abnormal cells while sparing healthy tissues (1997: first use of monoclonal antibodies [rituximab] to treat mature B-cell lymphoid neoplasms; 1998: first cure of chronic myeloid leukaemia with a kinase inhibitor [imatinib]).

These pivotal innovations of the 20th century are at the origin of the development of precision medicine and thus have a significant impact on the epidemiological trends of haematological malignancies during the past two decades.

Compared with our previous publication on haematological malignancies in 2015, the current one benefits from 15 consecutive years of incidence data registration (2004-2018). The incidence trends over this period are supplemented by incidence projections till 2025. Survival data up to 10 years after diagnosis as well as survival trends over time and conditional 5-year relative survival are presented in this booklet.

- The main increase of incidence between 2004 and 2018 is observed in the group of myeloproliferative neoplasms that have benefited the most from molecular characterisation.
- The improved survival over time for the whole group of haematological malignancies is mostly identified in mature B-cell lymphoid neoplasms, acute lymphoblastic leukaemia / lymphoma and in chronic myeloid leukaemia, for which second and third generations of targeted treatments have been developed since the discovery of rituximab and imatinib, respectively.

This work would not have been possible without the precious and daily meticulous work of all pathologists, clinicians and hospital datamanagers. Our ambition is that our findings will be useful in the daily practice of people working in the large sphere of onco-haematology and will stimulate collaborations for future population-based research on real-world haematological malignancies with the ultimate goal to improve quality of care and life for patients.

Above all, we would like to dedicate this publication to all patients who have suffered or are suffering from a haematological malignancy and their relatives. Nowadays, they are increasingly confronted with a complex world of information when facing the diagnosis and treatment in the new era of precision medicine. We sincerely hope that this real-life study can provide objective, clear and useful light on haematological malignancies.

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Belgian Cancer Registry

BHS

BSPHO

INTRODUCTION

1 INTRODUCTION

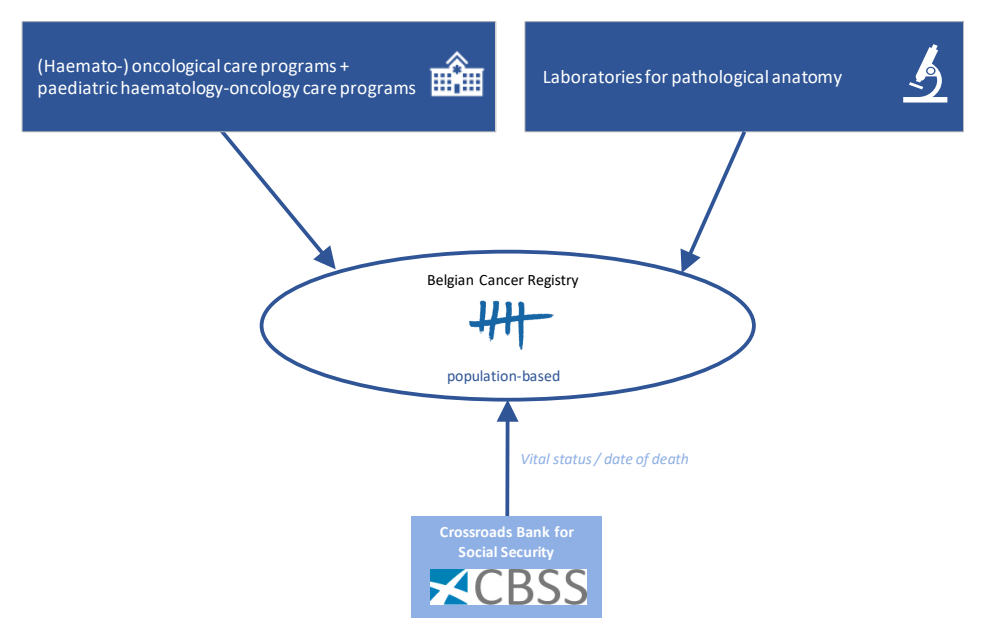
The main objective of this publication is to describe the epidemiological situation and trends of haematological malignancies in Belgium between 2004 and 2018.

1.1 Notification and submission to the Cancer Registry

New legislation initiatives since 2003 and the foundation of the Belgian Cancer Registry in 2005, forced a breakthrough in the Belgian cancer registration. Especially the Royal Decree on the oncological care programs in 2003 with the reimbursement of the multidisciplinary oncological consult (MOC-COM) and the creation of the specific law on the Cancer Registry in 2006 provided a firm legal basis for cancer registration in Belgium [1-2]. This legislation makes cancer registration compulsory for the oncological care programs, one the one hand, and for the laboratories for pathological anatomy and clinical biology / haematology on the other hand. Furthermore, the law authorises 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 of vital status and date of death of the patients.

A complete description of the data registration and data collection related to hospitals and pathology laboratories was reported in several previous publications[3-12]. As of the year of incidence 2004, Belgian cancer incidence data are available. The general data flow (**Figure 1**) relies on all information (notifications) coming from the (haemato-)oncological care programs and the paediatric haematology-oncology care programs ('clinical network') and the laboratories for pathological anatomy ('pathology network'). The notifications from laboratories from clinical biology / haematology remain to be established.

Figure 1 Dataflow of the Belgian Cancer Registry used in this publication



CBSS: Crossroads Bank for Social Security

In Belgium, haemato-oncological care for adult and paediatric patients is performed in haematology centres[13] and in paediatric haematology-oncology centres[14-15]. The haematology activities are organised within the Belgian Hematology Society (BHS) which has been founded in 1985. In the setting of this rapidly evolving field, the major aims of the BHS are to promote the quality of care, teaching, scientific research, exchanges between clinical and laboratory departments and the representation of Belgian Haematology at the national and international levels[13].

The Belgian Cancer Registry (BCR) has established fruitful collaborations with the BHS for more than ten years which resulted in the following achievements:

- The close collaboration between the BCR and the BHS first resulted in the setup of the Belgian Transplant Registry (BTR) with all haematopoietic stem cell transplants performed in Belgium. The BTR was created in 2011 with the support of the Belgian Foundation against Cancer (Stichting tegen Kanker/Fondation contre le Cancer). The main achievements of BTR are (i) annual reports of incidence and survival of transplants performed with haematopoietic stem cell from matched unrelated donor, (ii) individual feedback reports with descriptive statistics and outcomes for the Belgian hematopoietic stem cell transplant centres (2007-2013) and (iii) a scientific publication in an international peer-reviewed journal on the outcome on auto-grafts in Belgium[16].
- In 2015, the BCR published a first special issue on the epidemiology of haematological malignancies in Belgium[9] with the valuable input of experts from the BHS. The first publication covered incidence years 2004-2012 and the current one presents an update for 2004-2018 that results in 15 consecutive years of incidence data for Belgium.
- Haematological malignancies strongly differ from solid tumours. To continuously improve data quality and collect more accurate data for these neoplasms, the revision of the registration form of haematological malignancies by haemato-oncological care programs is underway as part of a working group initiated and led by RIZIV/INAMI.

The Belgian Cancer Registry also maintains a close partnership with the Belgian Society of Paediatric Haematology Oncology (BSPHO). This notably led to the publication of a special issue entitled “Cancer in children and adolescents, Belgium 2004-2016” [14] in 2019. That publication provides a description of the epidemiological situation of cancer in the youngest age groups (0-19 years of age) including the haematological malignancies.

METHODOLOGY

2 METHODOLOGY

2.1 CLASSIFICATION AND REPORTING OF HAEMATOLOGICAL MALIGNANCIES

Over the past 60 years, many classifications of acute leukaemias, myeloid disorders (French-American-British or FAB classification[17]) and lymphomas (Rappaport[18], Kiel[19], Lukes[20], NCI Working group[21], Revised European-American classification of lymphoid neoplasms or REAL[22]) have been proposed. Classifications were initially based on morphology analysis (cytology for acute leukaemia and myeloid disorders or so-called "liquid neoplasms", pathology for lymphomas or so-called "solid tumours"), completed by immunophenotyping (flow cytometry for "liquid neoplasms" and immunohistochemistry for "solid neoplasms"). The discovery of recurrent chromosomal aberrations (cytogenetics) leading to gene alterations (molecular biology) helped to identify new mechanisms of leukaemogenesis and lymphomagenesis. In addition, these advances made it possible to define "real" diseases that appeared to be distinct clinical entities and that can be recognized by pathologists and biologists using the available techniques. This guiding principle introduced by the REAL classification of lymphoid neoplasms has been generalised by the WHO classifications, which incorporate all available information (morphology, immunophenotype, genetic and clinical features) to define the diseases.

In 2001, the WHO published the first true worldwide consensus classification of haematological malignancies[(23)]. A revised version of this classification was published in 2008[(24)]. Based on this "WHO-2008" classification, a group of experts from different Cancer Registries created a coding manual for haematological malignancies in an effort to facilitate the use of this classification (Haemacare manual[25]). Since there have been significant improvements in the definition of current entities as well as newly introduced entities, the most recent developments were published in an updated WHO-version in 2017[(26)]. This current classification identifies 167 malignancies (and 26 borderline entities). Most of them are considered as rare cancers according to the definition of RARECARENet[(27)]. The growing importance of genetics in the identification of haematological malignancies is highlighted by the 43 malignant entities (26%) defined by gene alterations in the last WHO classification.

All the haematological malignancies are schematically grouped according to the cell lineage (myeloid, lymphoid or histiocytic dendritic cells), on the one hand, and to the level of cell differentiation (precursor or immature versus mature) on the other hand. This grouping is much more adequate than the historical subdivision of leukaemias and lymphomas which mixed heterogeneous entities. Moreover, it has been shown that a single entity can manifest as leukaemia or as lymphoma. Therefore, the term neoplasm has been introduced in the first edition of the WHO classification in 2001 to go beyond this distinction.

In this publication, all haematological malignancies are divided into one of the following four major groups, as a combination of the subdivisions by cell lineage, as proposed by Haemacare, and subdivisions by cell differentiation:

1. Mature lymphoid neoplasms
2. Precursor neoplasms
3. Chronic myeloid neoplasms
4. Histiocytic and dendritic cell neoplasms

Within each of these groups, malignancies are sub-divided according to the cell of origin, morphology, immunophenotype, genetic characteristics, and/or clinical features in line with the consensus grouping proposed by Haemacare[25]. Each subcategory is likely to have a distinct physiopathology and prognosis. A detailed overview of the groupings, used throughout this publication, can be found in **Table 1**. Since the classification of haematological malignancies has undergone changes during the incidence years 2004-2018, the **Table 1** also shows the evolution of the coding through these years to clarify how the subgroups are defined in this publication. A more recent, comprehensive list with the prospective codes to be used from 2020 for the registration of haematological malignancies in Belgium, can be found in **Appendix 1** (Haemacare manual[25],WHO 2017[26], ICD-O-3.2[28]).

Table 1 Classification of haematological malignancies (inclusion criteria used in this publication)[i]

Haematological malignancy	Classification ICD-O-3	Period during which the code was applied
Mature lymphoid neoplasms		
Hodgkin lymphomas		
Hodgkin lymphoma, nodular lymphocyte predominant	9659/3	1992 and later
Classical Hodgkin lymphoma		
Hodgkin lymphoma, nodular sclerosis		
Hodgkin lymphoma, nodular sclerosis, NOS	9663/3	1978 and later
Hodgkin lymphoma, nodular sclerosis, cellular phase	9664/3	1978 and later
Hodgkin lymphoma, nodular sclerosis, grade 1	9665/3	1992 and later
Hodgkin lymphoma, nodular sclerosis, grade 2	9667/3	1978 and later
Hodgkin lymphoma, mixed cellularity	9652/3	1978 and later
Hodgkin lymphoma, lymphocyte-rich	9651/3	2002 and later
Hodgkin lymphoma, lymphocyte depletion		
Hodgkin lymphoma, lymphocyte depletion, NOS	9653/3	1978 and later
Hodgkin lymphoma, lymphocyte depletion, diffuse fibrosis	9654/3	1978 and later
Hodgkin lymphoma, lymphocyte depletion, reticular	9655/3	1978 and later [obs]
Hodgkin lymphoma, NOS & varia		
Hodgkin lymphoma, NOS	9650/3	1978 and later
Hodgkin granuloma	9661/3	1992 and later [obs]
Hodgkin sarcoma	9662/3	1992 and later [obs]
Mature non-Hodgkin B-cell neoplasms		
Mature B-cell leukaemias and related lymphomas		
B-cell chronic lymphocytic leukaemia / small lymphocytic lymphoma		
B-cell chronic lymphocytic leukaemia[ii]	9823/3	9823/3: 1978 and later
Small lymphocytic lymphoma[ii]	9670/3; 9823/3	9670/3: 1978 - 2019; 9823/3: 2017 and later
Other mature B-cell leukaemias		
B-cell prolymphocytic leukaemia	9833/3	2002 and later
Hairy cell leukaemia	9940/3	1978 and later
Mature B-cell leukaemia, NOS[iii]	9591/3	1978 and later
Immunoproliferative diseases		
Waldenström macroglobulinemia	9761/3	1992 and later
Lymphoplasmacytic lymphoma	9671/3	1978 and later
Other Immunoproliferative diseases		
Heavy chain disease, NOS	9762/3	1992 and later
Immunoproliferative small intestinal disease	9764/3	1992 and later
Immunoproliferative disease, NOS	9760/3	1992 and later
Plasma cell neoplasms		
Plasma cell myeloma		
Plasma cell myeloma	9732/3	1978 and later
Plasma cell leukaemia	9733/3	2002 and later
Plasmacytoma		
Plasmacytoma, NOS / of bone	9731/3	1978 and later
Plasmacytoma, extramedullary	9734/3	2002 and later
Marginal zone lymphomas		
Splenic marginal zone lymphoma	9689/3	2002 and later
Marginal zone lymphoma, NOS	9699/3	1992 and later
Follicular lymphoma and related lymphoma		
Follicular lymphoma		
Follicular lymphoma, NOS	9690/3	1992 and later
Follicular lymphoma, grade 1	9695/3	1978 and later
Follicular lymphoma, grade 2	9691/3	1992 and later
Follicular lymphoma, grade 3	9698/3	1978 and later
Primary cutaneous follicle centre lymphoma	9597/3	2012 and later
Mantle cell lymphoma	9673/3	1992 and later
Diffuse large B-cell lymphoma and related large B-cell lymphomas		
DLBCL		
Diffuse large B-cell lymphoma, NOS	9680/3	1992 and later
Malignant lymphoma, large B-cell, diffuse, immunoblastic, NOS	9684/3	1992 and later
Other related large B-cell lymphomas		
T-cell/histiocyte rich large B-cell lymphoma	9688/3	2012 and later
Mediastinal large B-cell lymphoma	9679/3	2002 and later
ALK-positive large B-cell lymphoma	9737/3	2012 and later
Lymphomatoid granulomatosis, grade 3	9766/3	2020 and later
Intravascular large B-cell lymphoma	9712/3	Till 2001; 2012 and later
Primary effusion lymphoma	9678/3	2002 and later
Plasmablastic lymphoma	9735/3	2012 and later
HHV8-positive diffuse large B-cell lymphoma	9738/3	2012 and later
Other diffuse mixed small & large cell lymphoma	9675/3	1992 and later [obs]
Burkitt lymphoma / leukaemia		
Burkitt lymphoma[ii]	9687/3	9687/3: 1978 and later
Burkitt leukaemia[ii]	9826/3; 9687/3	9826/3: 1992-2019; 9687/3: 2017 and later
Mature T-cell and NK-cell neoplasms		
Primary cutaneous T-cell lymphomas		
Mycosis fungoïdes / Sezary syndrome		
Mycosis fungoides	9700/3	1978 and later
Sézary syndrome	9701/3	1978 and later
Other primary cutaneous T-cell lymphoma		
Primary cutaneous anaplastic large cell lymphoma	9718/3	2002 and later
Primary cutaneous γδ T-cell lymphoma	9726/3	2012 and later
Cutaneous T-cell lymphoma, NOS	9709/3	1992 and later

Haematological malignancy	Classification ICD-O-3	Period during which the code was applied
Mature T-cell and NK-cell neoplasms *(continued)*		
Peripheral NK/T-cell lymphomas		
Nodal PNK/TCL		
Peripheral NK/T-cell lymphoma, NOS	9702/3	1992 and later
Anaplastic large cell lymphoma	9714/3	1992 and later
Angioimmunoblastic T-cell lymphoma	9705/3	1992 and later
Leukaemic PNK/TCL		
T-cell prolymphocytic leukaemia	9834/3	2002 and later
Adult T-cell leukaemia / lymphoma (HTLV1 pos.)	9827/3	1992 and later
T-cell large granular lymphocytic leukaemia	9831/3	2012 and later
Systemic EBV-positive T-cell lymphoproliferative disease of childhood	9724/3	2012 and later
Aggressive NK-cell leukaemia	9948/3	2002 and later
Extra-nodal PNK/TCL		
Hepatosplenic T-cell lymphoma	9716/3	2002 and later
Intestinal T-cell lymphoma	9717/3	2002 and later
Extranodal NK/T-cell lymphoma, nasal and nasal-type	9719/3	2002 and later
Subcutaneous panniculitis-like T-cell lymphoma	9708/3	2002 and later
Other lymphoid neoplasms		
B-cell lymphoma, unclassifiable, with features intermediate between DLBCL and classical Hodgkin lymphoma	9596/3	2002 and later
Lymphoid neoplasms, NOS		
Lymphoma, NOS		
Malignant lymphoma, NOS	9590/3	1978 and later
Malignant lymphoma, non-Hodgkin, NOS [iii]	9591/3	1978 and later
Leukaemia, NOS		
Lymphoid leukaemia, NOS [iii]	9820/3; 9591/3	1978 and later
Prolymphocytic leukaemia, NOS	9832/3	2002 and later
Precursor neoplasms		
Precursor lymphoid neoplasms (PLN) or lymphoblastic leukaemia / lymphoma		
B-cell PLN or lymphoblastic leukaemia / lymphoma		
B-cell PLN with recurrent cytogenetic abnormalities		
B-cell PLN with t(9;22)(q34.1;q11.2); *BCR-ABL1*	9812/3	2012 and later
B-cell PLN with t(v;11q23.3); *KMT2A* rearranged	9813/3	2012 and later
B-cell PLN with t(12;21)(p13.2;q22.1); *ETV6-RUNX1*	9814/3	2012 and later
B-cell PLN with Hyperdiploidy	9815/3	2012 and later
B-cell PLN with Hypodiploidy	9816/3	2012 and later
B-cell PLN with t(5;14)(q31.1;q32.1); *IGH-IL3*	9817/3	2012 and later
B-cell PLN with t(1;19)(q23;p13.3); *TCF3-PBX1*	9818/3	2012 and later
B-cell PLN or lymphoblastic leukaemia / lymphoma, NOS	9811/3; 9728/3; 9836/3	9728/3 & 9836/3: 2002-2019; 9811/3: 2012 and later
T-cell and NK-cell PLN or lymphoblastic leukaemia / lymphoma	9729/3; 9837/3	9729/3: 2002-2019; 9837/3: 2002 and later
PLN or lymphoblastic leukaemia / lymphoma, NOS and related neoplasms	9727/3; 9835/3	9727/3: 2002 and later; 9835/3: 2002 and later
Including blastic plasmacytoid dendritic cell neoplasm	*9727/3*	*2012 and later*
Acute myeloid leukaemias and related precursor neoplasms		
Acute myeloid leukaemias with recurrent cytogenetic abnormalities		
AML with t(8;21)(q22;q22.1); *RUNX1-RUNX1T1*	9896/3	2002 and later
AML with inv/t(16;16)(p13.1;q22); *CBFB-MYH11*	9871/3	2002 and later
Acute promyelocytic leukaemia with t(15;17)(q22;q11-q12) and variant *RARA* transloc.	9866/3	1978 and later
AML with t(v;11q23.3); *KMT2A* rearranged	9897/3	2002 and later
AML with t(6;9)(p23;q34.1); *DEK-NUP214*	9865/3	2012 and later
AML with inv/t(3;3)(q21.3;q26.2); *GATA2, MECOM*	9869/3	2012 and later
AML with t(1;22)(p13.3;q13.1); *RBM15-MKL1*	9911/3	2012 and later
Acute myeloid leukaemias with specific conditions		
AML with myelodysplasia-related changes		
Acute myeloid leukaemia with myelodysplasia-related changes Refractory anemia with excess blasts in	9895/3 9984/3	2002 and later 2002 and later [obs]
Therapy-related myeloid neoplasm		
Therapy-related myeloid neoplasm (alkylating / epipodophyllotoxin)	9920/3	2002 and later
Therapy-related myelodysplastic syndrome, NOS	9987/3	2002 and later
Myeloid leukaemia associated with Down syndrome	9898/3	2012 and later
Other AML and related precursor neoplasms		
Other AML according to the FAB classification		
AML with minimal differentiation (FAB M0)	9872/3	2002 and later
AML without maturation (FAB M1)	9873/3	2002 and later
AML with maturation (FAB M2)	9874/3	2002 and later
Acute myelomonocytic leukaemia (FAB M4)	9867/3	1978 and later
Acute monocytic leukaemia (FAB M5)	9891/3	1978 and later
Acute erythroid leukaemia (FAB M6)	9840/3	1978 and later
Acute megakaryoblastic leukaemia (FAB M7)	9910/3	1978 and later
Acute basophilic leukaemia	9870/3	1978 and later
Other related myeloid precursor neoplasms		
Acute panmyelosis with myelofibrosis	9931/3	1978 and later
Myeloid sarcoma	9930/3	1992 and later
Acute myeloid leukaemias, NOS	9861/3	1978 and later
Acute leukaemias of ambiguous lineage		
Acute leukaemia, NOS	9801/3	1978 and later
Mixed phenotype acute leukaemia with t(9;22)(q34.1;q11.2); *BCR-ABL1*	9806/3	2012 and later
Mixed phenotype acute leukaemia with t(v;11q23.3); *KMT2A* rearranged	9807/3	2012 and later
Mixed phenotype acute leukaemia B/myeloid, NOS	9808/3	2012 and later
Mixed phenotype acute leukaemia T/myeloid, NOS	9809/3	2012 and later
Acute biphenotypic leukaemia, NOS	9805/3	2002 and later

Haematological malignancy	Classification ICD-O-3	Period during which the code was applied
Chronic myeloid neoplasms		
Myeloproliferative neoplasms		
Chronic myeloid leukaemia		
Chronic myeloid leukaemia; t(9;22)(q34;q11); *BCR-ABL1* positive	9875/3	2002 and later
Acute biphenotypic leukaemia, NOS	9863/3	1978 and later
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms		
Polycythaemia vera	9950/3	2002 and later
Essential thrombocythaemia	9962/3	2002 and later
Primary myelofibrosis	9961/3	2002 and later
Other MPN and related neoplasms		
Chronic neutrophilic leukaemia	9963/3	2002 and later
Myeloid/lymphoid neoplasm with *PDGFRA* rearr.	9965/3	2012 and later
Myeloid neoplasm with *PDGFRB* rearrangement	9966/3	2012 and later
Myeloid/lymphoid neoplasm with *FGFR1* abnormalities	9967/3	2012 and later
Chronic eosinophilic leukaemia, NOS	9964/3	2002 and later
Myeloproliferative neoplasm, NOS	9960/3	2002 and later
Mast cell neoplasms[iv]		
Mastocytoma, NOS	9740/1	1978 and later
Indolent systemic mastocytosis	9741/3; 9741/1	9741/3: 1978-2011; 9741/1: 2012 and later
Malignant mastocytosis	9741/3	1978 and later
Mast cell leukaemia	9742/3	2002 and later
Mast cell sarcoma	9740/3	1978 and later
Myelodysplastic syndrome		
Myelodysplastic syndrome (MDS) with single lineage dysplasia		
Refractory anemia, NOS	9980/3	2002 and later
Refractory neutropenia	9991/3	2012-2019
Refractory thrombocytopenia	9992/3	2012-2019
MDS with multilineage dysplasia	9985/3	2002 and later
MDS with ring sideroblasts	9982/3	2002 and later
MDS with excess blasts	9983/3	2002 and later
MDS with isolated del(5q)	9986/3	2002 and later
MDS, NOS	9989/3	2002 and later
Myelodysplastic/myeloproliferative neoplasms		
Chronic myelomonocytic leukaemia	9945/3	2002 and later
Other myelodysplastic/myeloproliferative neoplasm		
Juvenile myelomonocytic leukaemia	9946/3	2002 and later
Atypical chronic myeloid leukaemia, *BCR-ABL1* negative	9876/3	2002 and later
Myelodysplastic/myeloproliferative neoplasm, NOS	9975/3	2012 and later
Other leukaemias, NOS		
Myeloid leukaemia, NOS	9860/3	1978 and later
Leukaemia, NOS	9800/3	1978 and later
Histiocytic and dendritic cell neoplasms[v]		
Langerhans cell histiocytosis/granulomatosis; unifocal/monostotic	9752/1; 9751/3	9752/1: 2002-2011; 9751/3: 2012-2019
Langerhans cell histiocytosis, multifocal/polystotic	9753/1; 9751/3	9753/1: 2002-2011; 9751/3: 2012-2019
Langerhans cell histiocytosis, disseminated (multifocal)	9751/3; 9754/3	9754/3: 2002-2011; 9751/3: 2012 and later
Langerhans cell histiocytosis, NOS	9751/1; 9751/3	9751/1: 2002-2011; 9751/3: 2012-2019
Langerhans cell sarcoma	9756/3	2002 and later
Histiocytic sarcoma	9755/3	1992 and later
Dendritic cell tumour	9757/3	2002 and later
Follicular dendritic cell sarcoma	9758/3	2002 and later
Fibroblastic reticular cell tumour	9759/3	2012 and later
Malignant histiocytosis, NOS	9750/3	2002 and later

i. *Recently the classification of haematological malignancies has been updated. The correct inclusion criteria to be applied starting from incidence year 2020 are presented in the Appendices.*

ii. *For the correct classification of the following malignancies, additional inclusion criteria are applied based on topography:*
   - *The ICD-O-3 histology codes corresponding with "B-cell chronic lymphocytic leukaemia" and "Burkitt leukaemia" are combined with topography codes C42.0-C42.1.*
   - *The ICD-O-3 histology codes corresponding with "Small lymphocytic lymphoma" and "Burkitt lymphoma" are combined with all topography codes other than C42.0-C42.1.*

iii. *For the correct classification of the following malignancies, additional inclusion criteria are applied based on the differentiation grade and topography:*
   - *Malignancies with ICD-O-3 histology code 9591 and differentiation grade 6 ("B-cell") and topography codes C42.0-C42.1 are classified as "Mature B-cell leukaemia, NOS" (Part of "Mature non-Hodgkin B-cell neoplasms").*
   - *Malignancies with ICD-O-3 histology code 9591 and differentiation grade other than 6 and topography codes C42.0-C42.1 are classified as "Leukaemia, NOS" (Part of "Other lymphoid neoplasms").*
   - *Malignancies with ICD-O-3 histology code 9591 and differentiation grade other than 6 and topography codes other than C42.0-C42.1 are classified as "Lymphoma, NOS" (Part of "Other lymphoid neoplasms").*

iv. *All results presented for "Mast cell neoplasms" also include the subtypes "Mastocytoma, NOS" and "Indolent systemic mastocytosis", which are characterised by uncertain behaviour.*

2.2 QUALITY OF INCIDENCE DATA

2.2.1 COMPLETENESS OF THE CANCER REGISTRY

Number of notifications/data sources

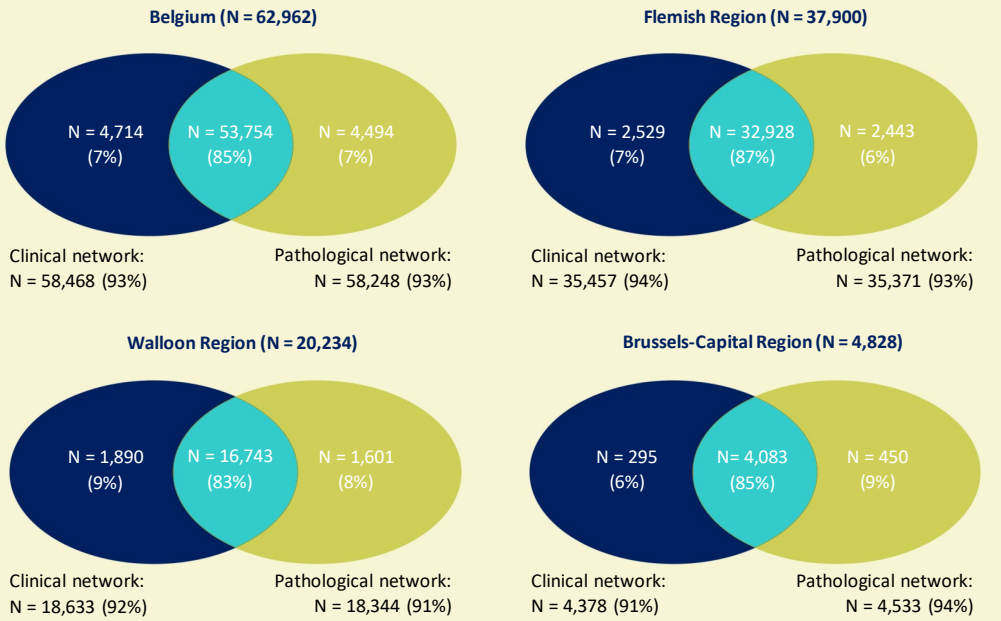
The number of independent registrations by different data sources per tumour is a raw indicator of completeness. The higher the average, the more complete the registration process. Linkage of data from different sources and source types leads to information that is more complete, precise and reliable.

In 2018, the Belgian Cancer Registry has recorded 70,524 invasive solid tumours and haematological malignancies (excl. non melanoma skin cancer), originating from 144,313 notifications (on average 2.0 notifications per tumour, range [1-7]). When also haematological malignancies are excluded from this group, this number decreases to 62,962 invasive tumours (excl. non melanoma skin cancer and excl. haematological malignancies), originating from 131,152 notifications (on average 2.1 notifications per tumour, range [1-7]). When considering the two main groups of source types (**Figure 1**), laboratories for pathological anatomy (pathological network) versus the oncological care programs (clinical network), 85% of the invasive tumours (excl. non melanoma skin cancer and excl. haematological malignancies) were notified by both groups (Belgium 2018). The overlap in the Flemish Region, the Walloon and the Brussels-Capital Region was 87%, 83% and 85%, respectively.

A total of 7,562 haematological malignancies were registered in 2018, originating from 13,161 notifications. For haematological malignancies, the average number of notifications per tumour is lower (1.7, range [1-6]) than for invasive solid tumours (**Table 2**). All haematological malignancies can be distinguished based on topography: “liquid” malignancies (Bone marrow and blood: ICD-O-3 C421;C420) and “solid” malignancies (Other localisations: ICD-O-3 C000-C419;C422-C809). The so-called “solid” haematological malignancies show an overlap (80%; **Figure 2**) that is more in line with the invasive tumours (excl. non melanoma skin cancer and excl. haematological malignancies). Almost 90% of all Hodgkin lymphoma, diffuse large B-cell lymphoma, follicular lymphoma and Burkitt lymphoma are recorded by a pathologist and an oncological care program.

The “liquid” malignancies, on the other hand, are characterised by a low proportion of notifications that come from both the clinical and the pathological network (46%; **Figure 2**). Especially for myeloid malignancies, a lower number of notifications is observed. This may have an impact on the completeness and precision of the registration data. For example, 47% of myelodysplastic syndrome diagnoses were not specified (“Myelodysplastic syndrome, NOS”) in 2013-2018. “Mature B-cell leukaemias and related lymphomas” (which consists for more than 90% of CLL/SLL) are only notified in 29.5% of the cases by both networks. This can be explained by the fact that the pathology network, which is important for the diagnosis of lymphomas (=“solid” malignancies), is not appropriate for most leukaemias and myeloid neoplasms (=“liquid” malignancies). These diagnoses are mainly performed in laboratories of clinical biology / haematology based on diagnostic procedure 4 (cytology; cf. **Figure 3**). A specific collaboration with these laboratories remains to be implemented, according to the specific law on the Cancer Registry in 2006[(2)], in order to improve the completeness and the precision of the information on haematological malignancies.

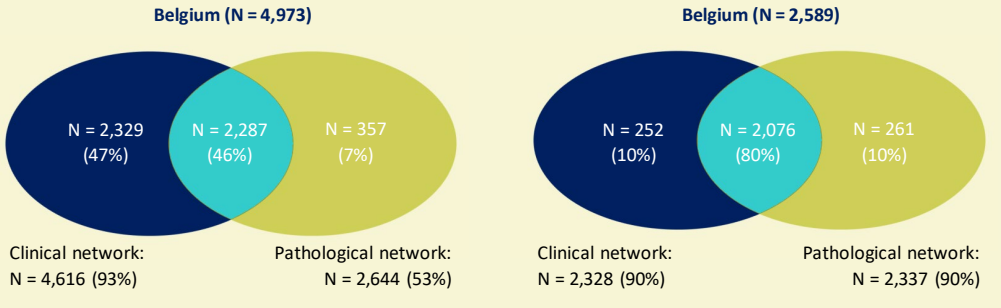
Figure 1 Invasive tumours (excl. non melanoma skin cancer and excl. haematological malignancies): Combination of notifications by source type and region, 2018



Source: Belgian Cancer Registry

Figure 2 Haematological malignancies: Combination of notifications by source type and topography, 2018

"Liquid" - Bone marrow and blood (ICD-O-3 C421;C420) "Solid" - Other localisations (ICD-O-3 C000-C419;C422-C809)



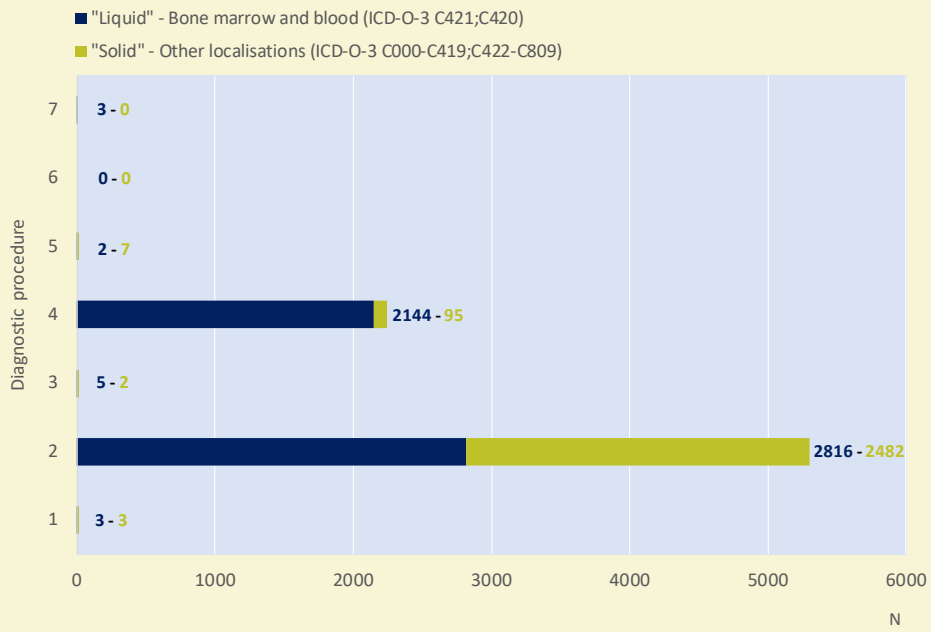
Source: Belgian Cancer Registry

Table 2 Haematological malignancies: Overview of notifications by source type and histology, Belgium 2018

	Total	Number of notifications		Notification by hospital and laboratory		Notification only by hospital		Notification only by laboratory	
	N	Average	Range	N	%	N	%	N	%
All haematological malignancies	7,562	1.7	[1-6]	4,363	57.7	2,581	34.1	618	8.2
Mature lymphoid neoplasms	4,680	1.8	[1-6]	3,034	64.8	1,279	27.3	367	7.8
Hodgkin lymphomas	364	2.2	[1-6]	321	88.2	27	7.4	16	4.4
Mature non-Hodgkin B-cell neoplasms	3,901	1.8	[1-6]	2,492	63.9	1,146	29.4	263	6.7
Mature B-cell leukaemias and related lymphomas	872	1.3	[1-4]	257	29.5	562	64.4	53	6.1
Immunoproliferative diseases	192	1.6	[1-4]	91	47.4	85	44.3	16	8.3
Plasma cell neoplasms	1,009	1.8	[1-5]	651	64.5	295	29.2	63	6.2
Marginal zone lymphomas	337	1.7	[1-4]	199	59.1	100	29.7	38	11.3
Follicular lymphoma and related lymphoma	413	2.2	[1-5]	359	86.9	30	7.3	24	5.8
Mantle cell lymphoma	147	2.0	[1-4]	118	80.3	23	15.6	6	4.1
Diffuse large B-cell lymphoma and related large B-cell lymphomas	875	2.2	[1-6]	765	87.4	48	5.5	62	7.1
Burkitt lymphoma / leukaemia	56	2.5	[1-5]	52	92.9	3	5.4	1	1.8
Mature T-cell and NK-cell neoplasms	302	1.9	[1-6]	184	60.9	53	17.5	65	21.5
Primary cutaneous T-cell lymphomas	108	1.7	[1-4]	53	49.1	11	10.2	44	40.7
Peripheral NK/T-cell lymphomas	194	2.0	[1-6]	131	67.5	42	21.6	21	10.8
Other lymphoid neoplasms	113	1.4	[1-5]	37	32.7	53	46.9	23	20.4
Precursor neoplasms	776	2.0	[1-5]	488	62.9	247	31.8	41	5.3
Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma	165	2.2	[1-5]	108	65.5	55	33.3	2	1.2
Acute myeloid leukaemias and related precursor neoplasms	595	1.9	[1-5]	372	62.5	184	30.9	39	6.6
Acute leukaemias of ambiguous lineage	16	1.7	[1-3]	8	50.0	8	50.0	0	0.0
Chronic myeloid neoplasms	2,064	1.4	[1-5]	820	39.7	1,047	50.7	197	9.5
Myeloproliferative neoplasms	943	1.4	[1-3]	369	39.1	501	53.1	73	7.7
Chronic myeloid leukaemia	158	1.7	[1-3]	100	63.3	49	31.0	9	5.7
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms	785	1.4	[1-3]	269	34.3	452	57.6	64	8.2
Mast cell neoplasms	36	1.1	[1-2]	2	5.6	18	50.0	16	44.4
Myelodysplastic syndrome	848	1.4	[1-5]	326	38.4	432	50.9	90	10.6
Myelodysplastic/myeloproliferative neoplasms	235	1.7	[1-5]	123	52.3	94	40.0	18	7.7
Other leukaemias, NOS	2	1.0	[1-1]	0	0.0	2	100.0	0	0.0
Histiocytic and dendritic cell neoplasms	42	1.9	[1-6]	21	50.0	8	19.0	13	31.0

Source: Belgian Cancer Registry

Figure 3 Haematological malignancies: Distribution of diagnostic procedures* by topography, 2018



** **Coding of diagnostic procedures:** 1 = autopsy (only in case of accidental discovery, not applicable with MOC-COM; 2 = histology of primary tumour; 3 = histology of metastasis; 4 = cytology/haematology; 5 = technical research; 6 = clinical examination; 7 = tumour marker (e.g. Ig, etc.)*

2.2.2 VALIDITY

Evaluation by linkage with other databases

The cancer registry validates the data quality on a regular basis[10]. In the context of this publication, BCR performed additional quality checks. For some haematological subtypes, the data quality was verified through linkage of the standard Belgian Cancer database with treatment information from administrative data gathered by the InterMutualistic Agency (IMA-AIM)[12,29]. More specifically, the correct classification of (amongst others) chronic myeloid leukaemia (CML) was reviewed by checking if a treatment based on the specific tyrosine kinase inhibitors was applied, which is known for its efficacy with CML[30]. Based on these analyses, it was possible to reclassify malignancies with less specific ICD-O-3 histology codes to more accurate codes (e.g. reclassification from ICD-O-3 9863/3 to 9875/3).

Stability of incidence data over time

As a result of delays in notification or by recovering additional information not available at time of registration, the number of cases registered for a given year will change over time. Due to the continuous and thorough data cleaning, this data is incorporated at a later date resulting in small changes over time in the number of new diagnoses for the same incidence year. Very often, the number of cases in the first year after publication will increase due to the inclusion of 'late arrivals', while later on, the number of cases decreases a little due to the thorough and consistent data cleaning that results in for example the exclusion of cases that after additional investigations were confirmed as non-malignant.

The number of new diagnoses for all haematological malignancies (**Table 3**) remains fairly stable and rarely exceeds 1% change between 2 consecutive publication years. The largest change was observed between the publication years 2005 and 2006 (more than 5%). High mortality/incidence ratios in the Walloon Region for leukaemia revealed a possible under-registration[4]. To identify cases missed by the data managers in the hospital, the Cancer Registry set up a temporary collaboration with the haematology departments in the Walloon Region and retrospectively collected additional diagnoses for 2004 and 2005, which have been included in the registry database. This explains the % difference observed for haematological malignancies between publication years 2005 and 2006. Since 2013, the difference between publication years never exceeded a change of 1%.

Table 3 Haematological malignancies: Stability of incidence data (N) over time, Belgium 2004-2018

		Incidence year														
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Publication year	2004	4,920														
	2005	4,924	4,658													
	2006	5,160	4,991	4,879												
	2008	5,203	5,062	5,028	5,322	5,453										
	2009	5,240	5,098	5,054	5,352	5,553	5,594									
	2010	5,252	5,111	5,071	5,372	5,590	5,643	5,930								
	2011	5,206	5,067	5,005	5,317	5,524	5,642	5,976	6,147							
	2012	5,191	5,058	4,997	5,309	5,534	5,657	5,997	6,242	6,529						
	2013	5,200	5,062	5,011	5,290	5,556	5,669	6,021	6,258	6,567	6,734					
	2014	5,203	5,067	5,021	5,304	5,584	5,692	6,047	6,262	6,594	6,776	7,086				
	2015	5,206	5,071	5,025	5,312	5,592	5,702	6,050	6,279	6,611	6,781	7,121	7,178			
	2016	5,212	5,076	5,026	5,321	5,607	5,713	6,045	6,295	6,623	6,809	7,142	7,109	7,231		
	2017	5,214	5,072	5,035	5,331	5,614	5,720	6,048	6,307	6,635	6,818	7,160	7,144	7,286	7,288	
	2018	5,210	5,062	5,039	5,332	5,624	5,725	6,065	6,318	6,639	6,821	7,172	7,156	7,318	7,372	7,562

Source: Belgian Cancer Registry

2.3 Calculation of incidence, trends, prevalence and survival

2.3.1 Incidence

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 2004-2018.

- 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 in the individual chapters 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).

The same principles are applicable 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. The mortality data (N), used in the general chapter 3 of this publication, are calculated according to the ICD-10 classification. Mortality results of all haematological malignancies include the ICD-10 codes C81-C97 and D45-D47.

Mortality statistics in Belgium are collected and treated by the three regions (Flemish Region: Agentschap Zorg en Gezondheid[31], Brussels-Capital Region: Observatorium voor Gezondheid en Welzijn van Brussel-Hoofdstad / l'Observatoire de la Santé et du Social de Bruxelles-Capitale[32], Walloon Region: Agence wallonne de la santé, de la protection sociale, du handicap et des familles (AViQ)[33]. The Directorate General Statistics Belgium[34] 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 encompass the incidence year 2018.

2.3.2 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 five year period and who are still alive at the end of the five year period. The prevalence data in this publication were estimated with an index date of 31st December 2018, representing people living in Belgium who were diagnosed with at least one haematological malignancy in the period from 1st January 2014 to 31st December 2018 and who were still alive at the end of 2018 (index date) for 5-year prevalence or from 1st January 2009 to 31st December 2018 for 10-year prevalence. Persons with more than one malignancy were included as prevalent cases in each subtype, but were counted only once in analyses regrouping multiple haematological subtypes.

The methodology for results on prevalence was described in detail in our publication 'Cancer Prevalence in Belgium 2010'[8].

2.3.3 INCIDENCE TRENDS

Since data have been collected from 2004 onwards, age-standardised incidence rates (WSR) could also be compared over time. In total, 15 consecutive years of incidence data are available for Belgium. The corresponding incidence trends are shown with the corresponding 95% confidence intervals (95% CI).

Trends in age-standardised incidence (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, age group and subtype. 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. 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 whichthe 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[35].
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[36].

2.3.4 INCIDENCE PROJECTIONS

The incidence projections for the period 2019-2025 were obtained from linear and log-linear Poisson regression models by extrapolating the observed incidence trends for the period 2004-2018. As the observed number of cancer diagnoses represent a counting process, Poisson models were used to model the relation between the crude incidence rate and the incidence year. The population size at the start of the calendar year was taken as the (log-) offset in the Poisson rate models and the number of observed cancer diagnoses as dependent variable. The modelling process consisted of 2 main steps. First a log-linear Poisson model was estimated. If a significant slope at the 5% level was obtained, the estimated log-linear Poisson model was selected as final model in case of a decreasing time trend (this to avoid projections that end up with a negative number of cancer cases) while a new linear Poisson model was estimated in case of an increasing time trend (to avoid exponential extrapolation). When the slope coefficient of the initial log-linear Poisson model was found to be non-significant, the mean yearly crude rate was estimated over the available time period.

Evolutions in the population size and age distribution were taken into account using the projections of potential population growth as published by Statistics Belgium. Gender specific incidence projections were performed per 5-year age category (0-4, 5-9, …, 80-84, 85+) to obtain projected sex and age specific crude rates. These projected rates were then applied to the projected population to obtain age-sex specific projected incidence counts. Finally these age-sex cancer incidence counts were summed and overall projected numbers of cancer diagnoses and crude incidence rates were obtained. Age-standardised rates (WSR) were directly calculated based on the age-sex specific projected cancer incidence rates. All projections were performed using SAS software version 9.3 (SAS Institute, Cary, NC, USA), p-values below 0.05 were considered statistically significant.

A more detailed description of the methodology can be found in our publication 'Cancer Incidence Projections in Belgium' [11].

2.3.5 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[37].

In this publication, 5-year and 10-year relative survival ratios are reported stratified by age group, sex and type of haematological malignancy. For the survival analyses with results for all ages together, cases with age younger than 15 years were excluded. In addition, the chapters also contain results for the age-specific 5-year relative survival showing more detailed data by age group (including cases below 15 years of age). The methodology was described in detail in our publication 'Cancer Survival in Belgium'[6].

The empirical life tables (by sex, age, region and calendar-year)[4], 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[38-41].

In this publication, relative survival results are not shown when the number of patients at risk is less than 30 cases and all relative survival results are presented with the corresponding 95% confidence intervals (95% CI).

2.3.6 CONDITIONAL RELATIVE SURVIVAL

The conditional relative survival reported in this publication is the relative survival proportion given that the person has already survived the first X years since diagnosis (results are shown for *X = 1, 2* and *3* years). It is calculated as the standard relative survival, although only patients who survived the first X years since diagnosis are considered. So in case of *X = 1,* 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.

2.3.7 RELATIVE SURVIVAL TRENDS

Relative survival has been compared between the cohorts 2004-2008, 2009-2013 and 2014-2018. Note that the follow-up period for the cohorts is not the same, as with as last date of follow-up the 1st of July 2020.

HAEMATOLOGICAL MALIGNANCIES

3 ALL HAEMATOLOGICAL MALIGNANCIES

MAIN SUBTYPES:

- *Mature lymphoid neoplasms*
- *Precursor neoplasms*
- *Chronic myeloid neoplasms*
- *Histiocytic and dendritic cell neoplasms*

KEYNOTES

Incidence (Table 1-2; Figure 1-10)

- Haematological malignancies (HM) generally occur more often in older age groups and in males (male/female ratio = 1.4).
- Between 2004 and 2018 the incidence of haematological malignancies increases in Belgium. This increase is mainly observed:
  - In the older age groups (i.e. 60+ years)
  - In the subtypes chronic myeloid neoplasms and mature lymphoid neoplasms.
- No consistent increase is seen for precursor neoplasms and histiocytic and dendritic cell neoplasms, which are the most common diagnosed HM in the youngest age groups.

Survival (Table 3; Figure 11-17)

- The 10-year relative survival is generally very similar in males (58%) and females (61%).
- The subtypes mature lymphoid neoplasms, chronic myeloid neoplasms and histiocytic and dendritic cell neoplasms have a considerably higher 5-year relative survival than precursor neoplasms in all age groups.
- Overall, the prognosis is good in the age group 0-29 years (5-year relative survival >80%) for all subtypes, while in the older patients (age group 60+), the 5-year relative survival ranges from 68% for mature lymphoid neoplasms to 13% for precursor neoplasms.
- In Belgium, the 5-year relative survival improves over time in both sexes (mostly in mature lymphoid neoplasms):
  - Males: From 64% in 2004-2008 to 69% in 2014-2018
  - Females: From 65% in 2004-2008 to 71% to 2014-2018

Table 1 All haematological malignancies: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	4,165	74.4	39.9
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	14,520	258.0	144.5
Prevalence (10 years), 2009-2018	22,638	402.2	228.6
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	19,732	68.5	[67.5;69.6]
10-year Relative survival, 2009-2018	36,448	57.6	[56.5;58.7]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	3,397	58.8	29.4
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	11,787	203.1	104.7
Prevalence (10 years), 2009-2018	18,945	326.5	168.8
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	15,712	70.7	[69.6;71.7]
10-year Relative survival, 2009-2018	29,249	60.9	[59.7;62.1]
Median age at diagnosis, 2018	70		
M/F-ratio, 2018	1.4		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Incidence (N) and mortality (N) of the ten most frequently occurring invasive tumours (excl. Non melanoma skin cancer) by sex, Belgium 2018 (extended with data for all haematological malignancies combined)

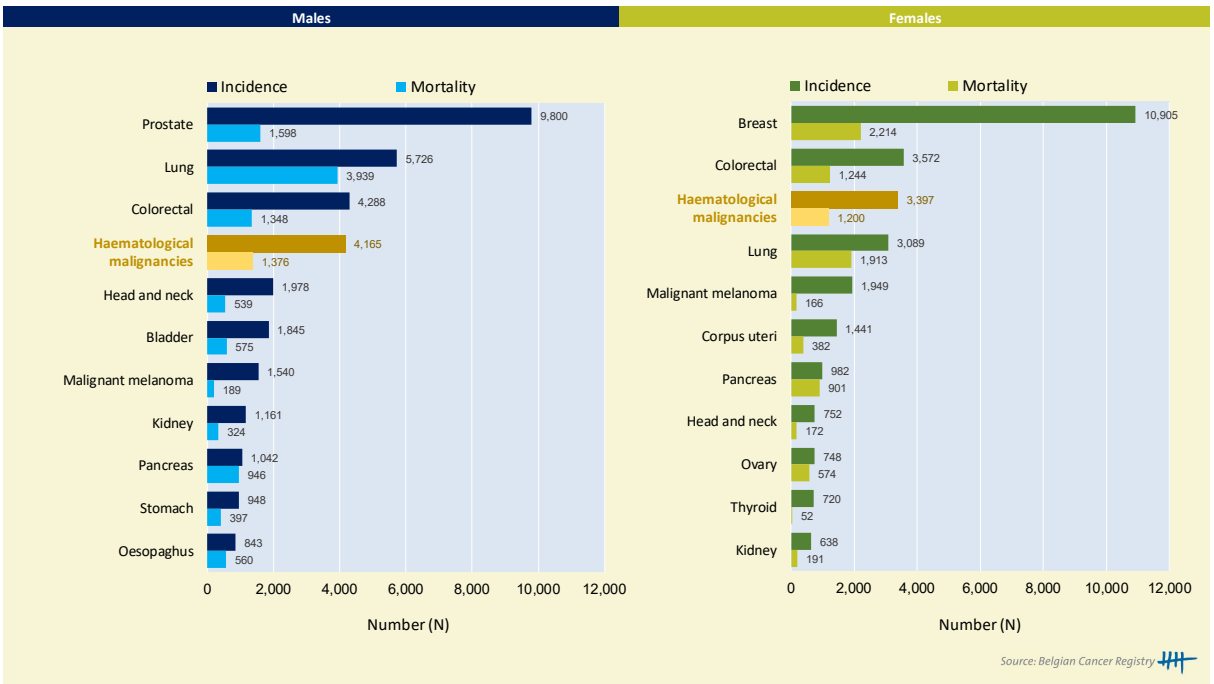


Figure 2 All haematological malignancies: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

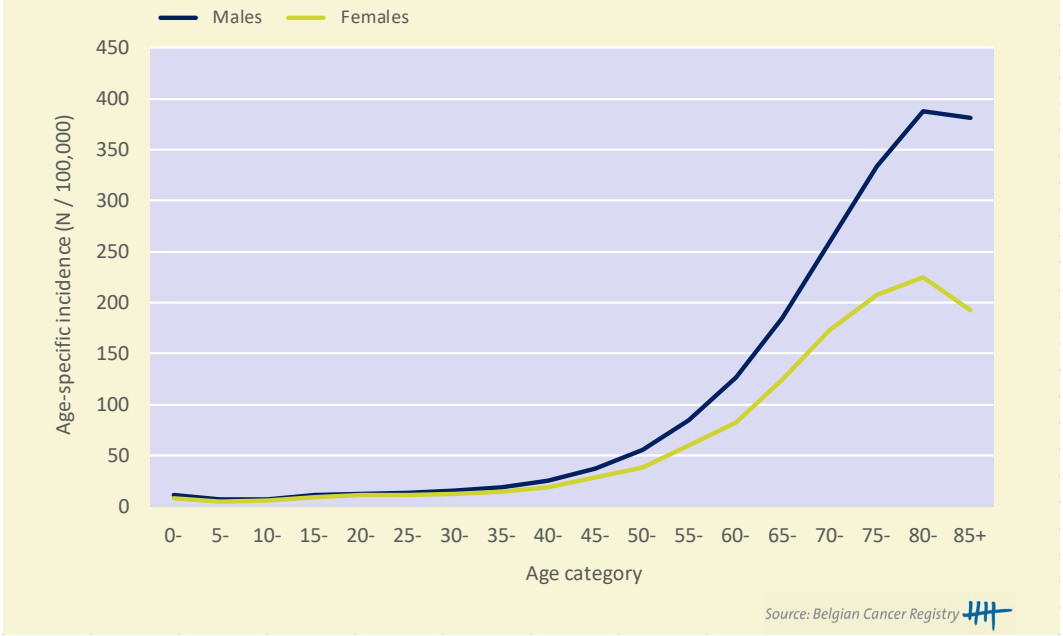
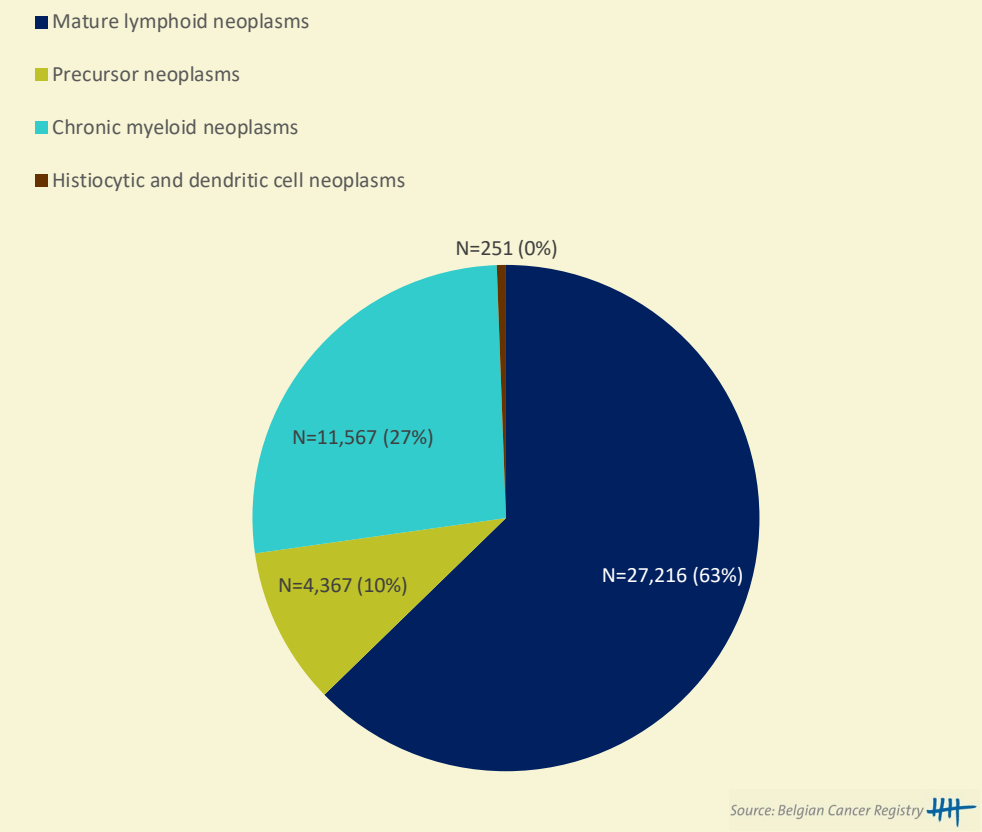
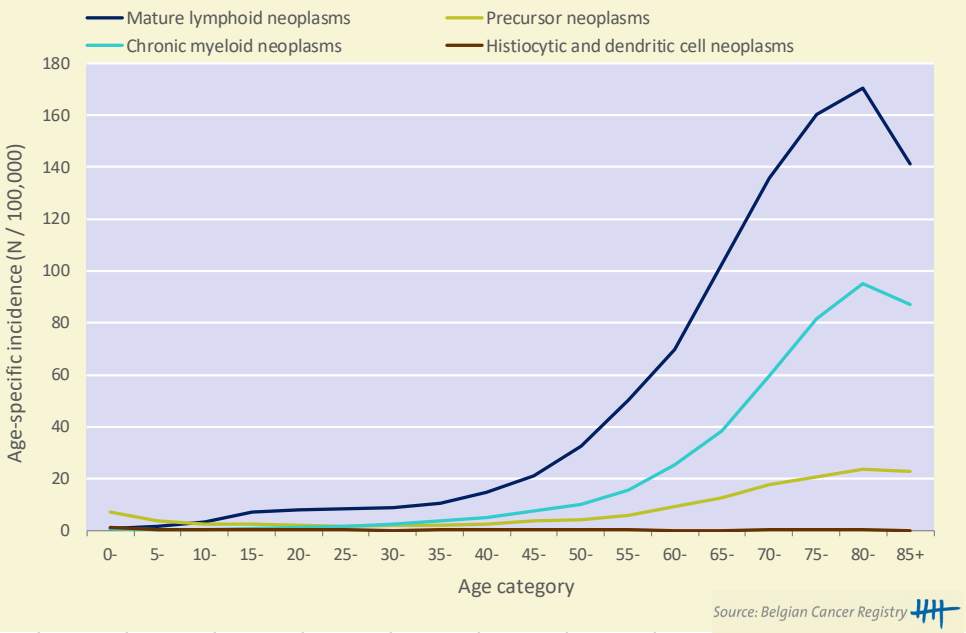


Figure 3 All haematological malignancies: Incidence by subtype, Belgium 2013-2018



Source: Belgian Cancer Registry

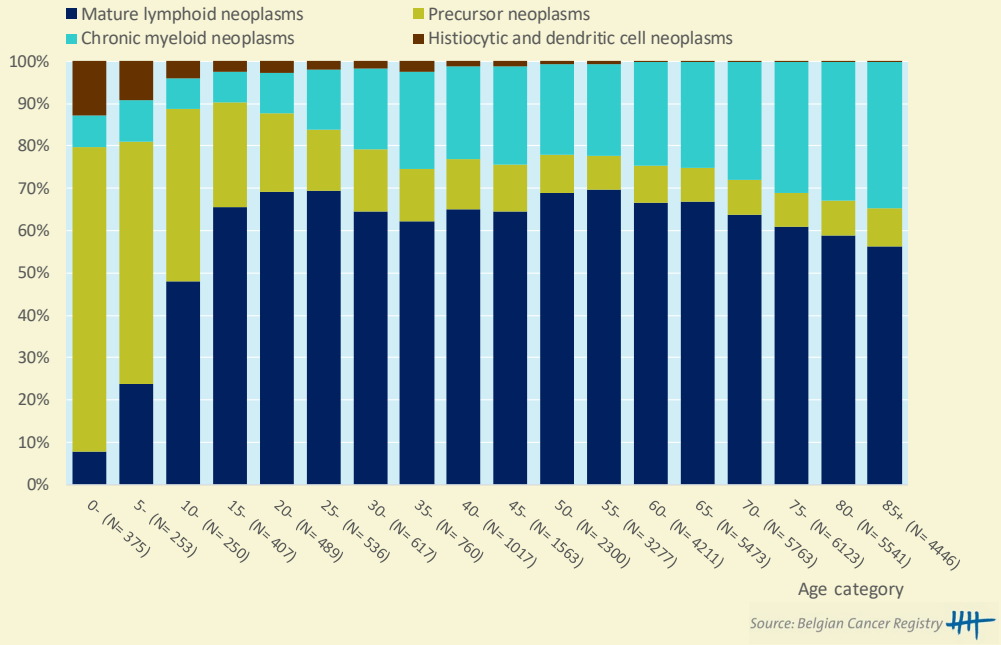
Figure 4 All haematological malignancies:
Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018



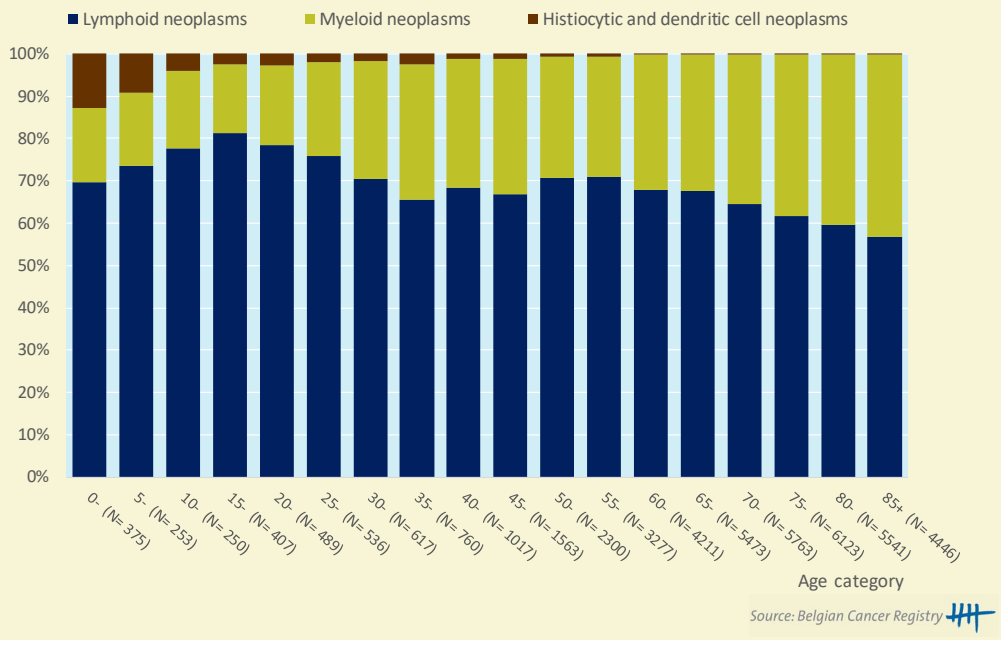
Source: Belgian Cancer Registry

Figure 5 **All haematological malignancies: Incidence by subtype / cell lineage* and age group, Belgium 2013-2018**

Incidence by subtype



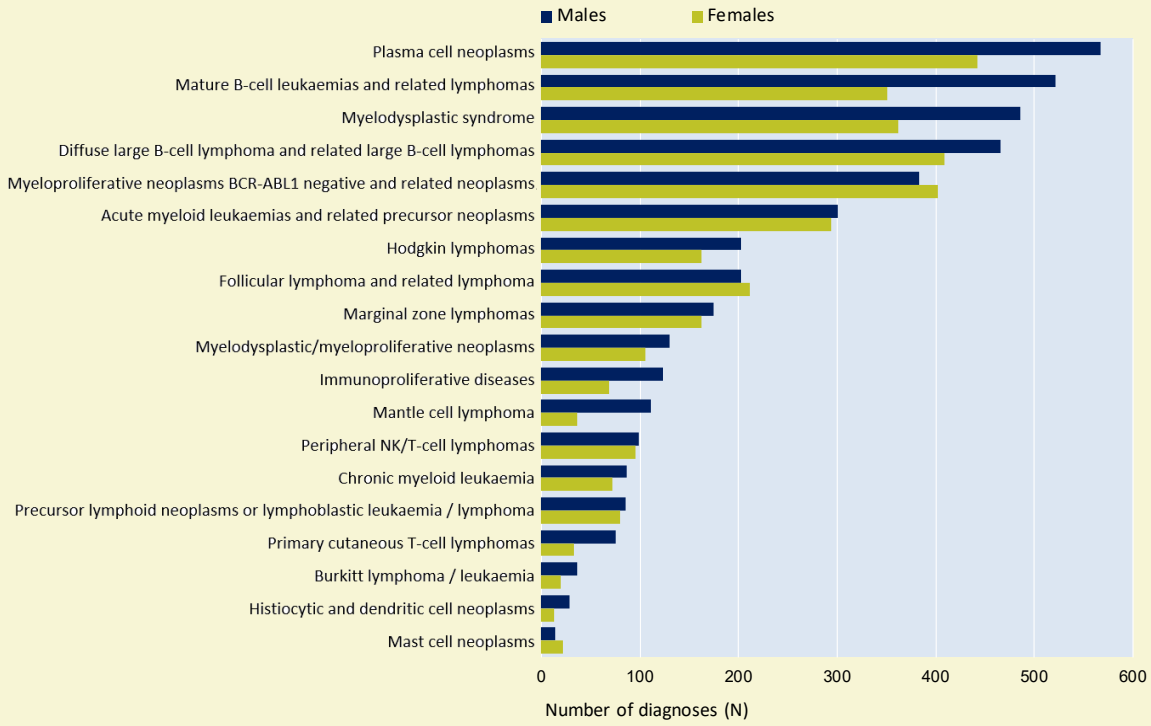
Incidence by cell lineage*



** In this figure:*
- "Lymphoid neoplasms" include the subtypes "mature lymphoid neoplasms", "precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma" and "acute leukaemias of ambiguous lineage".
- "Myeloid neoplasms" include the subtypes "chronic myeloid neoplasms" and "acute myeloid leukaemias and related precursor neoplasms".

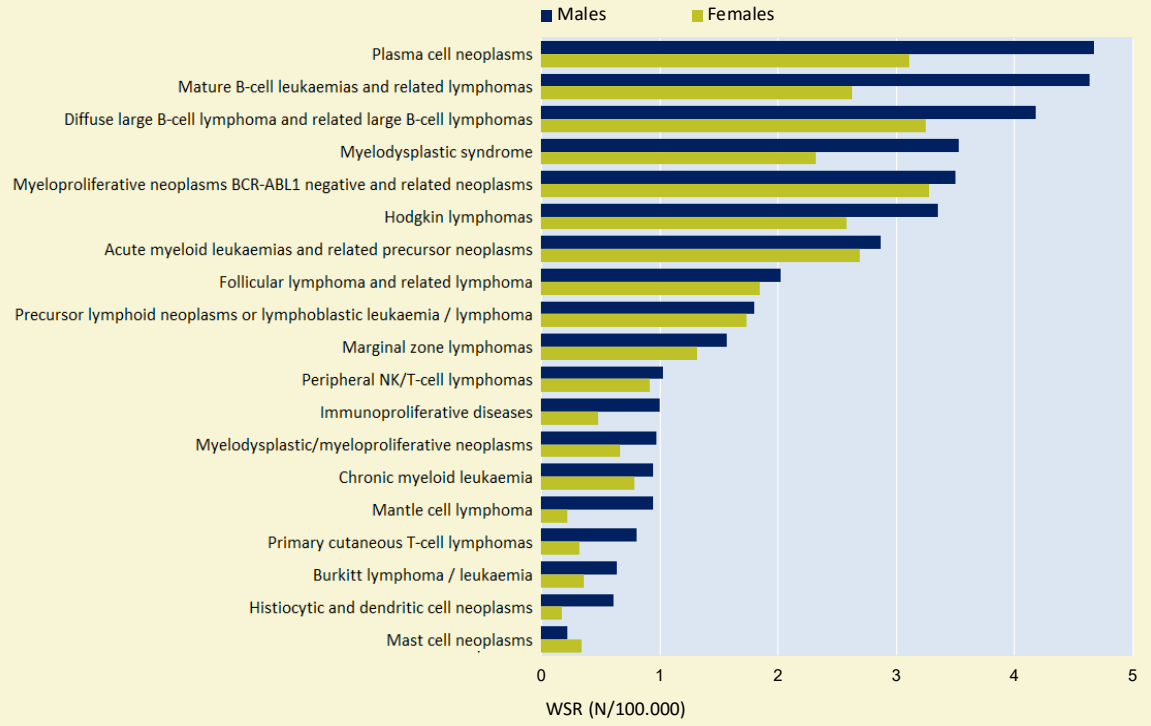
Figure 6 All haematological malignancies: Incidence by subtype and sex, Belgium 2018

Number of new diagnoses (N)



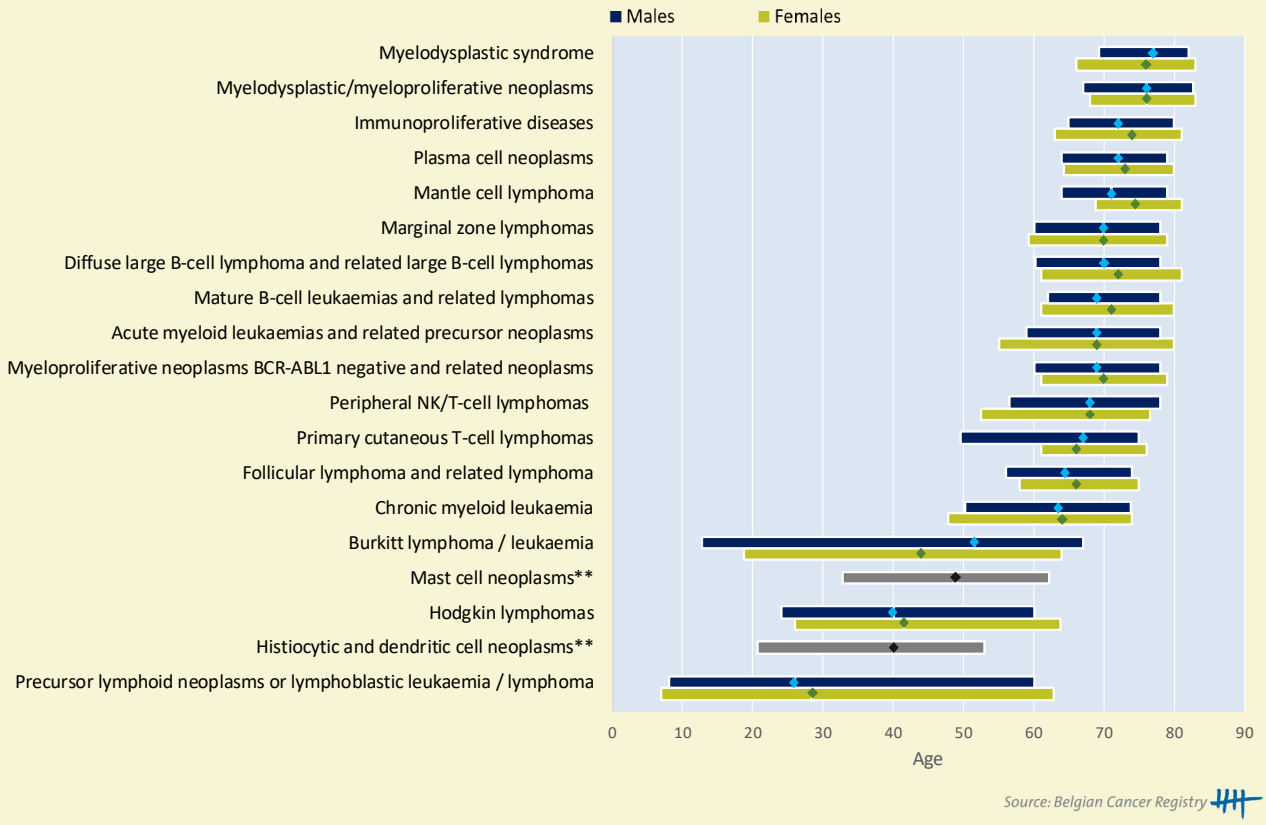
Source: Belgian Cancer Registry

Age-standardised incidence rate (WSR)



Source: Belgian Cancer Registry

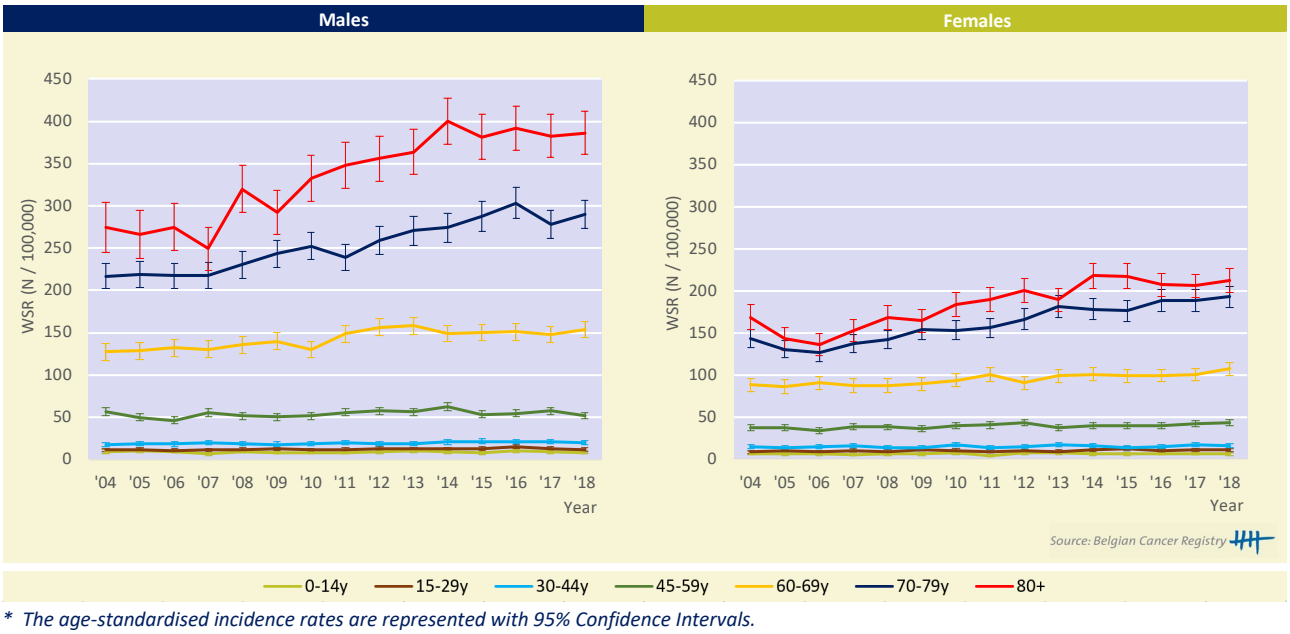
Figure 7 All haematological malignancies: Median age at diagnosis (with interquartile range)* by subtype and sex, Belgium 2018



** Each bar in the figure represents the interquartile range with the first quartile (Q1), the median (Q2; diamond) and the third quartile (Q3).*
*** Due to the low number of cases (N<50), the results for males and females were merged for "mast cell neoplasms" and "histiocytic and dendritic cell neoplasms".*

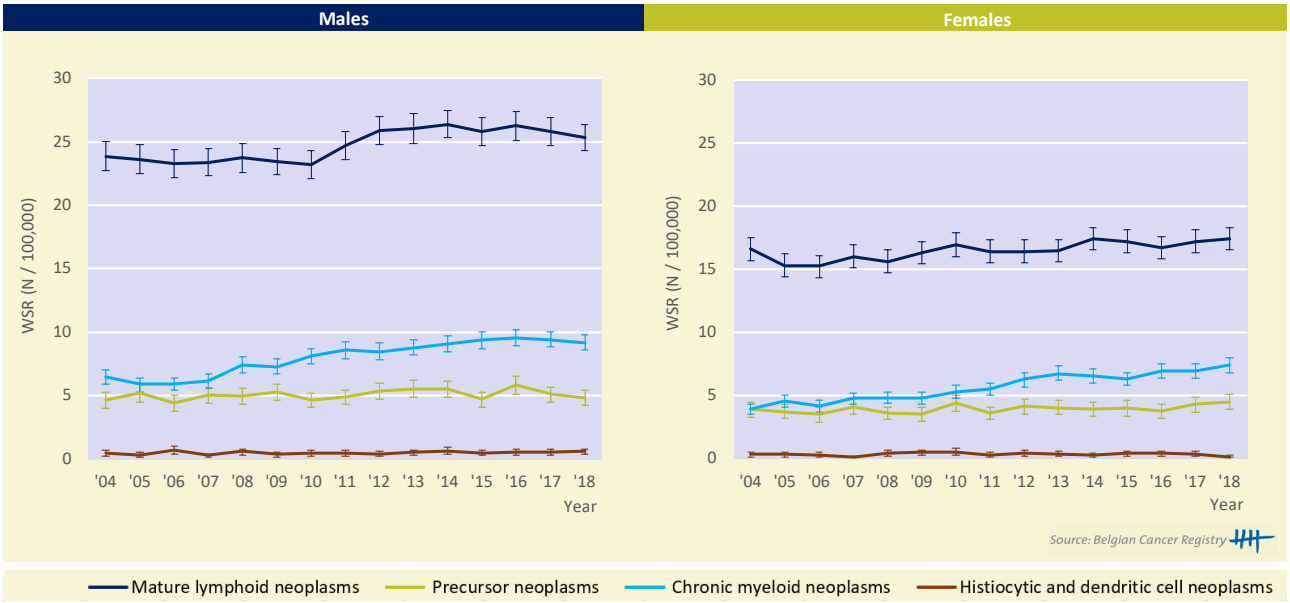
Incidence trends

Figure 8 All haematological malignancies: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 9 All haematological malignancies: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 All haematological malignancies: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0-14 yrs	-0.1	[-1.7; 1.5]	2004-2018	0.4	[-1.3; 2.2]	2004-2018
15-29 yrs	1.0	[0.2; 1.9]	2004-2018	1.2	[-0.1; 2.5]	2004-2018
30-44 yrs	1.1	[0.5; 1.7]	2004-2018	0.5	[-0.6; 1.6]	2004-2018
45-59 yrs	0.6	[-0.3; 1.6]	2004-2018	1.1	[0.4; 1.7]	2004-2018
60-69 yrs	1.3	[0.9; 1.8]	2004-2018	1.4	[1.0; 1.8]	2004-2018
	2.3	[1.5; 3.0]	2004-2013			
	-0.3	[-1.8; 1.1]	2013-2018			
70-79 yrs	2.5	[2.1; 3.0]	2004-2018	3.0	[2.5; 3.6]	2004-2018
80+	3.0	[2.2; 3.9]	2004-2018	3.1	[2.1; 4.0]	2004-2018
	4.3	[3.1; 5.4]	2004-2014			
	0.0	[-3.0; 3.2]	2014-2018			
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Mature lymphoid neoplasms	0.8	[0.4; 1.2]	2004-2018	0.8	[0.4; 1.1]	2004-2018
	-0.4	[-2.5; 1.8]	2004-2007			
	1.1	[0.6; 1.7]	2007-2018			
Precursor neoplasms	0.6	[-0.3; 1.6]	2004-2018	0.9	[0.0; 1.8]	2004-2018
Chronic myeloid neoplasms	3.7	[2.9; 4.4]	2004-2018	4.5	[3.8; 5.2]	2004-2018
	5.3	[3.9; 6.8]	2004-2012			
	1.5	[-0.4; 3.5]	2012-2018			
Histiocytic and dendritic cell neoplasms	2.7	[-0.7; 6.2]	2004-2018	-0.4	[-5.6; 5.0]	2004-2018

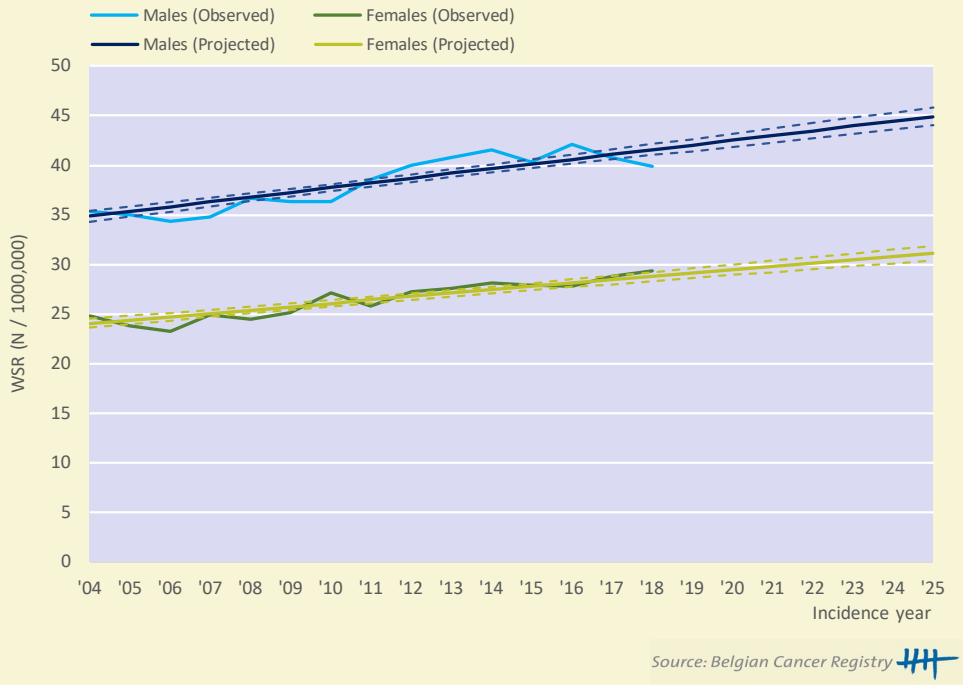
Source: Belgian Cancer Registry

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.

Incidence projections

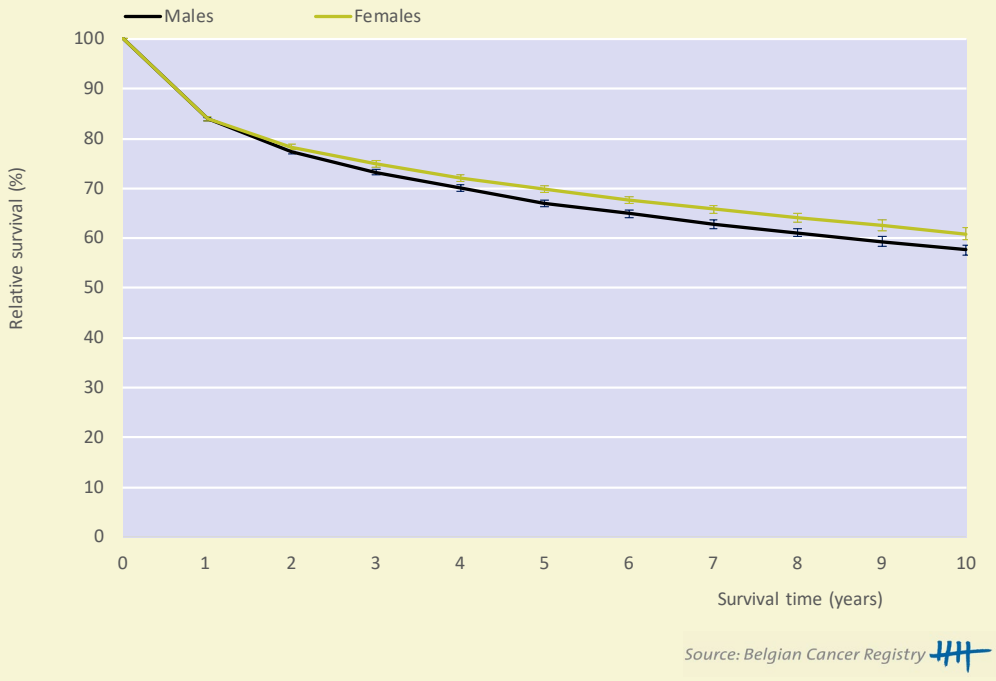
Figure 10 All haematological malignancies: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 11 All haematological malignancies: Relative survival* by sex, Belgium 2009-2018



Source: Belgian Cancer Registry

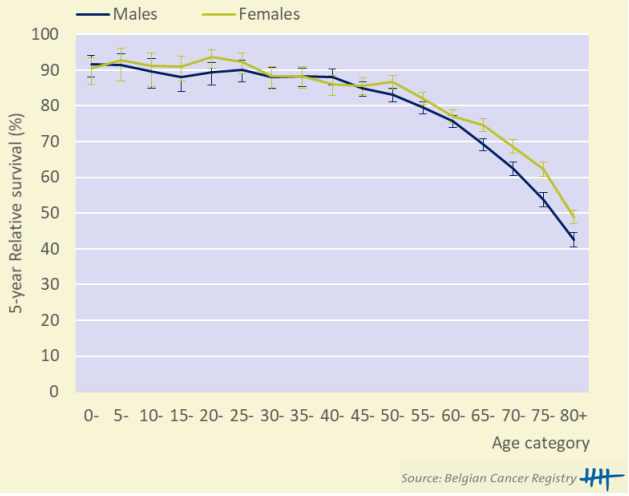
* *The relative survival values are represented with 95% Confidence Intervals*

Table 3 All haematological malignancies: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

Males		
X years since diagnosis	N at risk	%
1 year	29,450	77.4
2 year	24,040	81.2
3 year	19,258	83.5
Females		
X years since diagnosis	N at risk	%
1 year	23,850	80.6
2 year	19,797	84.0
3 year	16,087	85.7

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Figure 12 All haematological malignancies: Age-specific 5-year relative survival* by sex, Belgium 2009-2018



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

Figure 13 All haematological malignancies: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018

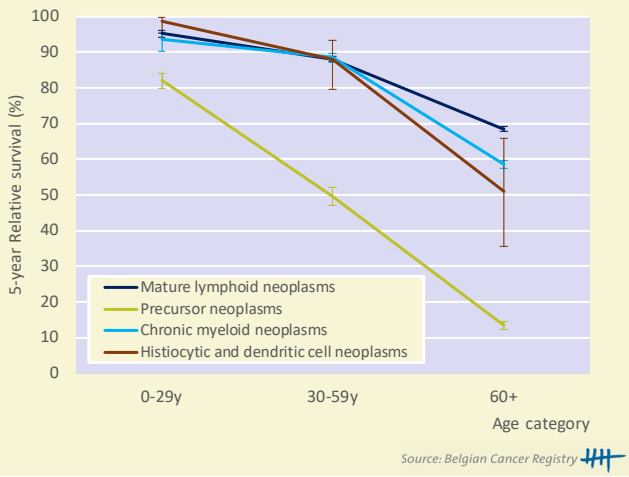
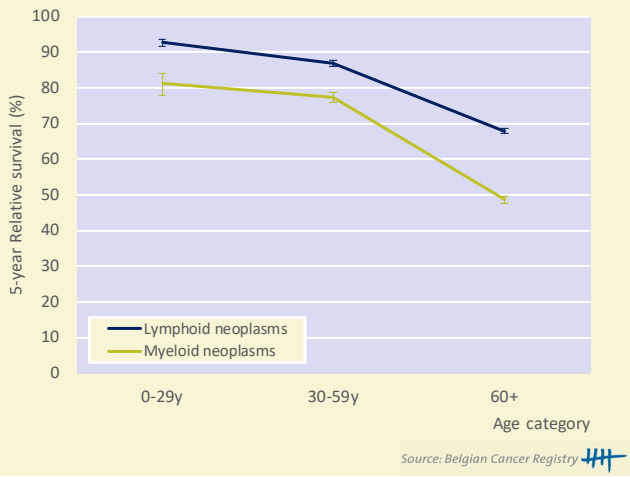
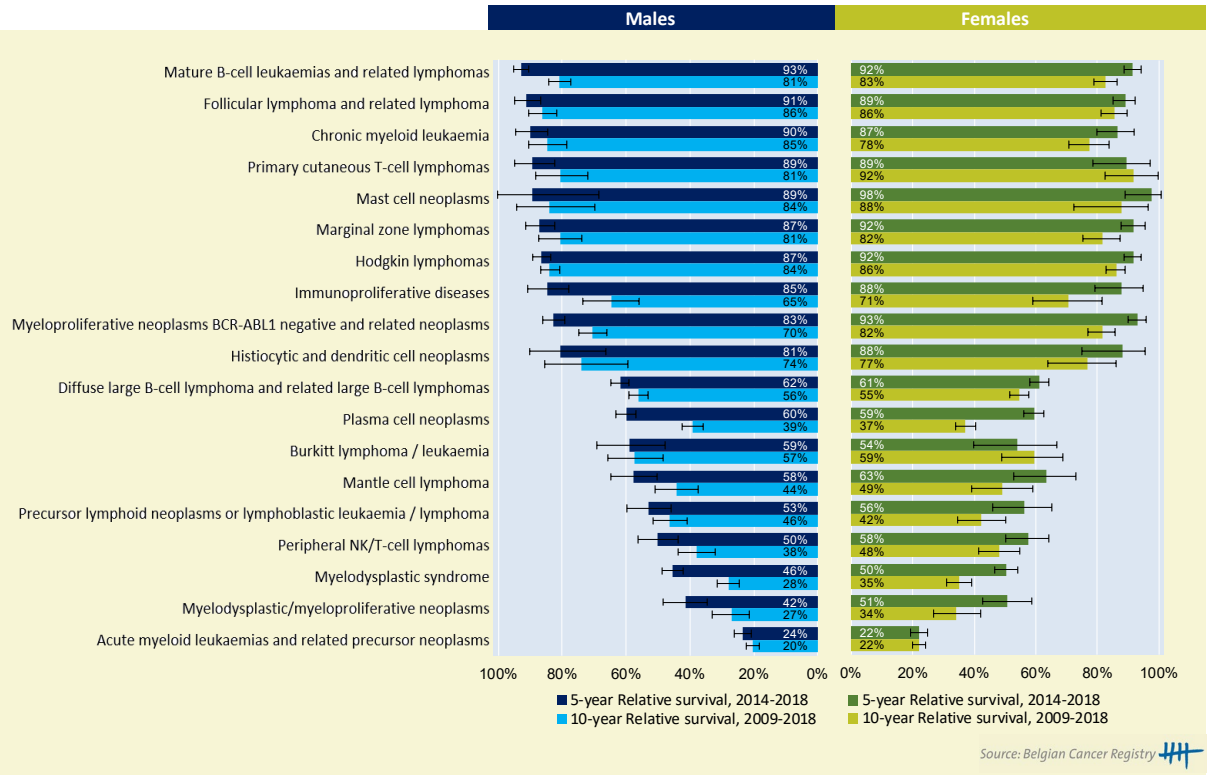


Figure 14 All haematological malignancies: Age-specific 5-year relative survival by cell lineage**, Belgium 2009-2018



** The relative survival values are represented with 95% Confidence Intervals.*
*** In this figure:*
- "Lymphoid neoplasms" include the subtypes "mature lymphoid neoplasms", "precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma" and "acute leukaemias of ambiguous lineage".
- "Myeloid neoplasms" include the subtypes "chronic myeloid neoplasms" and "acute myeloid leukaemias and related precursor neoplasms".

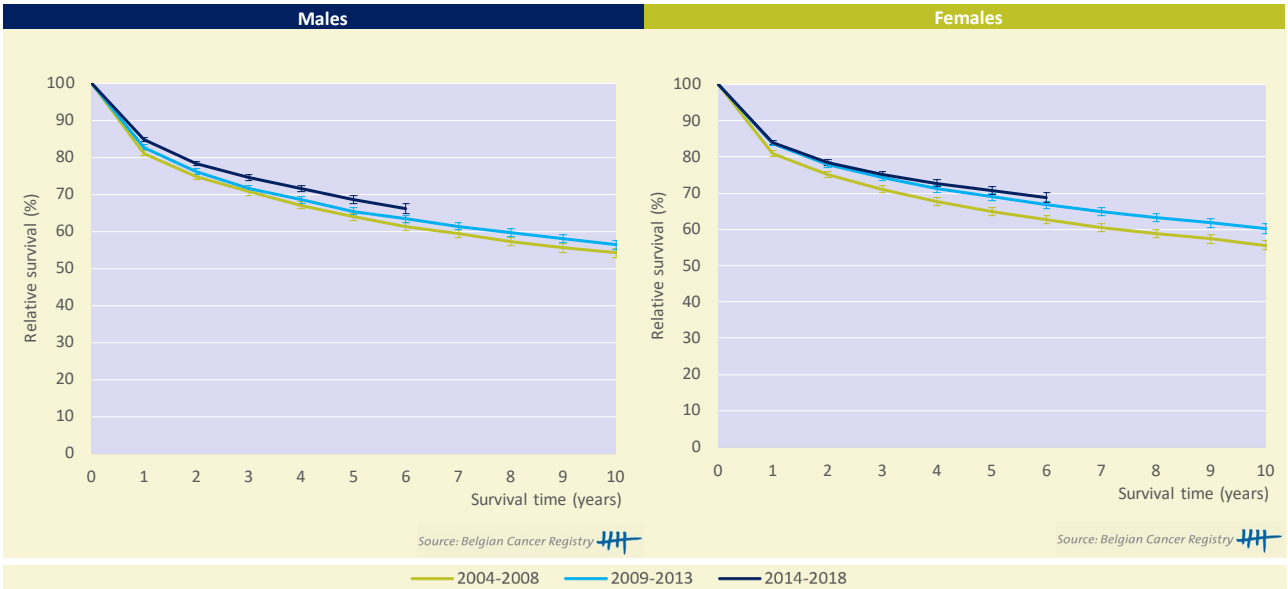
Figure 15 All haematological malignancies: 5- and 10-year relative survival by subtype and sex in Belgium



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

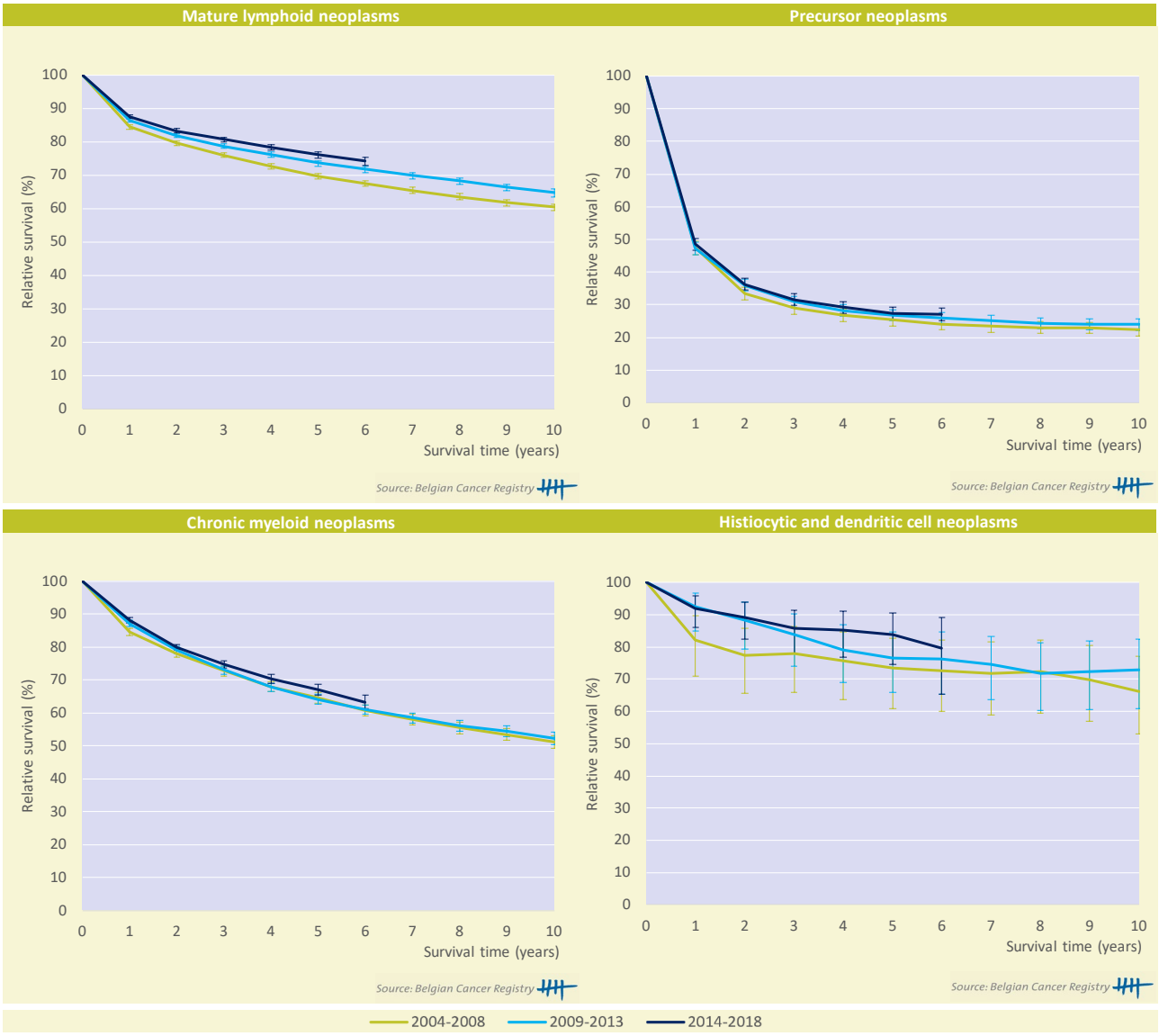
Survival trends

Figure 16 All haematological malignancies: Relative survival* by cohort and sex, Belgium 2004-2018



** The relative survival values are represented with 95% Confidence Intervals.*
For the most recent time period (2014-2018) the relative survival could only be calculated until 6 years after diagnosis.

Figure 17 All haematological malignancies: Relative survival* by cohort and subtype, Belgium 2004-2018



** The relative survival values are represented with 95% Confidence Intervals.*
For the most recent time period (2014-2018) the relative survival could only be calculated until 6 years after diagnosis.

3.1 MATURE LYMPHOID NEOPLASMS

MAIN SUBTYPES:

- *Hodgkin lymphomas*
- *Mature T-cell and NK-cell neoplasms*
- *Mature B-cell neoplasms*
- *Other lymphoid neoplasms*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- Mature lymphoid neoplasms form the largest group (63%) of haematological malignancies.
- Between 2004 and 2018 the incidence rates of mature lymphoid neoplasms increase in Belgium. This increase is the most pronounced in the older population (i.e. 70+ years) in both sexes.
- The increasing trend is observed in the three main subtypes. The decreasing incidence of the group 'Other lymphoid neoplasm' can be explained by better registration.

Survival (Table 3; Figure 8-11)

- The 10-year relative survival is very similar in males (65%) and females (66%)
- The relative survival varies according to the subtype and age group. In younger patients (i.e. < 60 years) the age-specific 5-year relative survival is the highest for Hodgkin lymphoma, while mature B-cell neoplasms have the best prognosis in older patients (>60 years).
- The 5-year relative survival improves over time in both sexes:
  - Males: from 70% in 2004-2008 to 76% in 2014-2018
  - Females: from 69% in 2004-2008 to 76% to 2014-2018

Table 1 Mature lymphoid neoplasms: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	2,640	47.2	25.4
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	9,847	175.0	95.7
Prevalence (10 years), 2009-2018	15,792	280.6	153.5
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	12,769	76.0	[74.8;77.3]
10-year Relative survival, 2009-2018	23,886	65.1	[63.6;66.5]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	2,040	35.3	17.4
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	7,611	131.2	65.3
Prevalence (10 years), 2009-2018	12,572	216.6	106.6
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	9,816	75.9	[74.6;77.2]
10-year Relative survival, 2009-2018	18,698	66.2	[64.7;67.7]
Median age at diagnosis, 2018	69		
M/F-ratio, 2018	1.5		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Mature lymphoid neoplasms: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

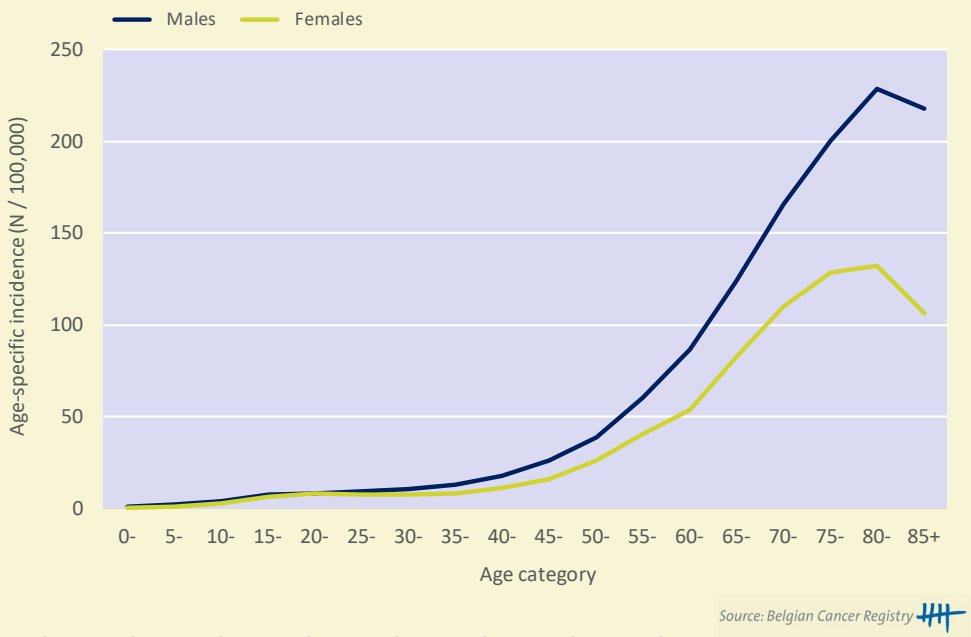


Figure 2 Mature lymphoid neoplasms: Incidence by subtype, Belgium 2013-2018

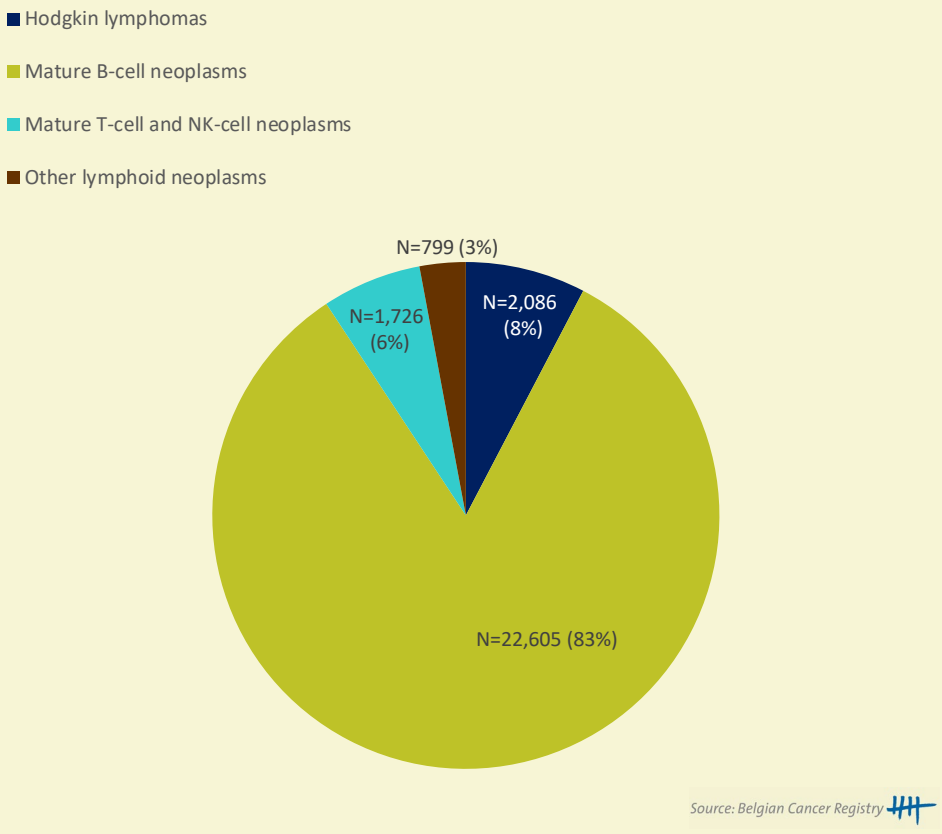
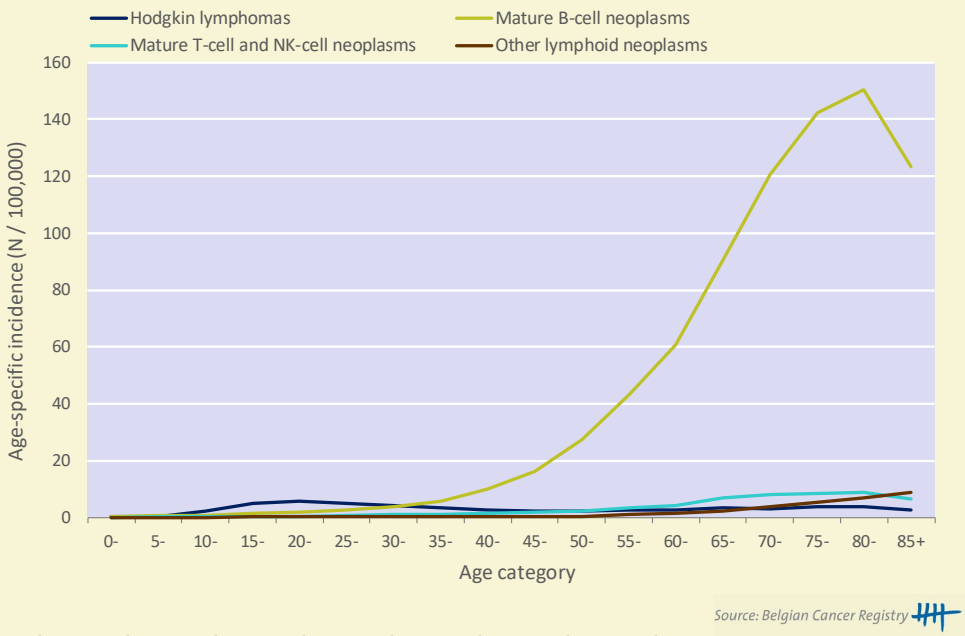
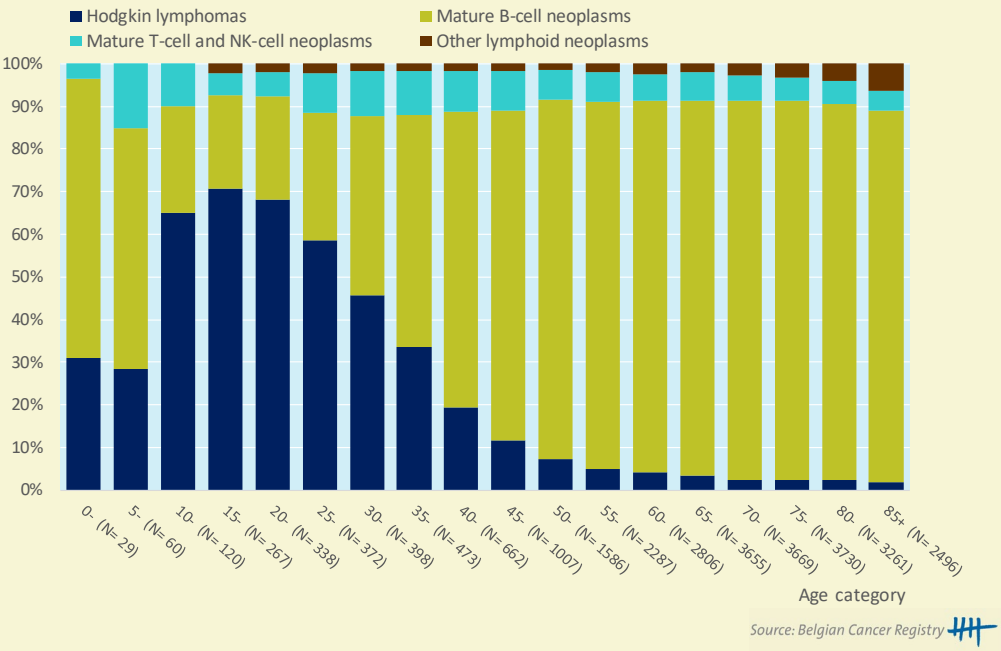


Figure 3 Mature lymphoid neoplasms: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018



Source: Belgian Cancer Registry

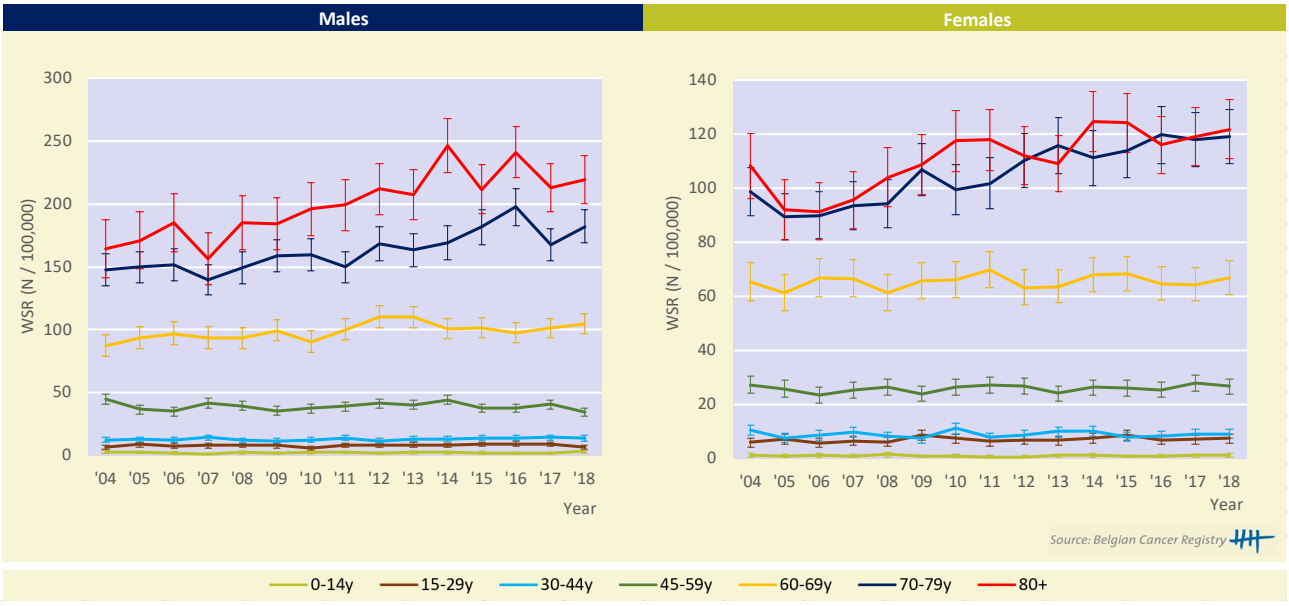
Figure 4 Mature lymphoid neoplasms: Incidence by subtype and age group, Belgium 2013-2018



Source: Belgian Cancer Registry

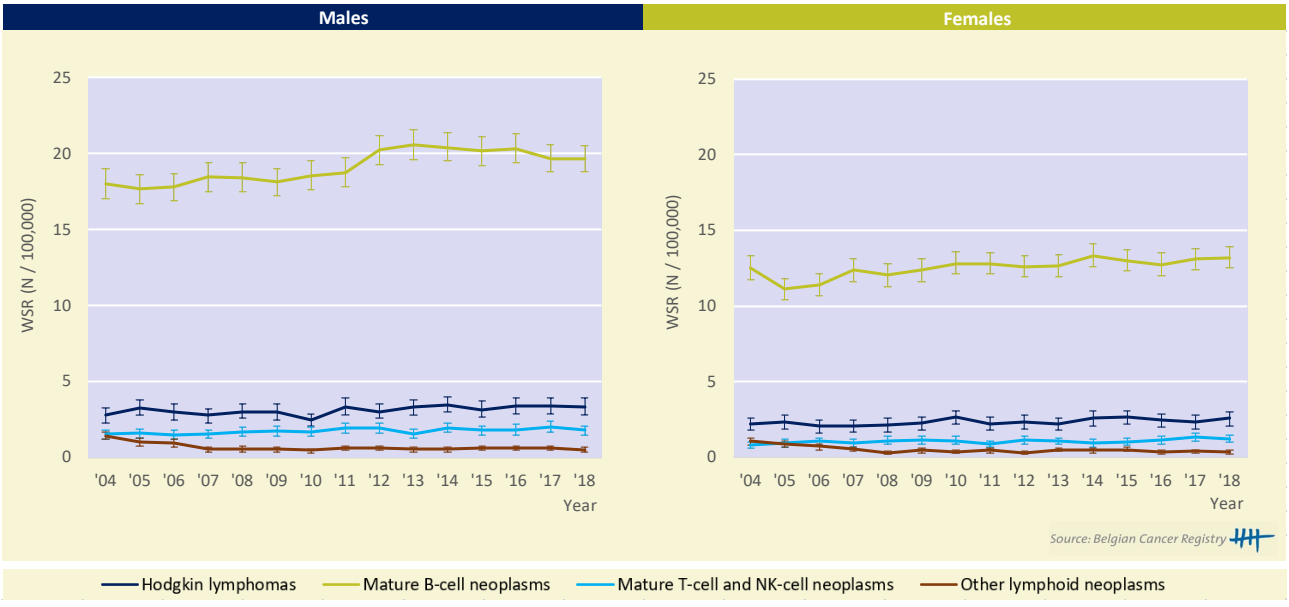
Incidence trends

Figure 5 Mature lymphoid neoplasms: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Mature lymphoid neoplasms: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Mature lymphoid neoplasms: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0-14 yrs	0.6	[-3.2; 4.6]	2004-2018	-0.8	[-3.9; 2.3]	2004-2018
				-8.3	[-14.4; -1.7]	2004-2011
				7.3	[0.1; 15.0]	2011-2018
15-29 yrs	0.7	[-0.8; 2.3]	2004-2018	1.2	[-0.2; 2.6]	2004-2018
30-44 yrs	0.9	[0.0; 1.7]	2004-2018	0.0	[-1.6; 1.6]	2004-2018
45-59 yrs	-0.2	[-1.2; 0.9]	2004-2018	0.3	[-0.4; 0.9]	2004-2018
60-69 yrs	1.0	[0.3; 1.7]	2004-2018	0.2	[-0.3; 0.7]	2004-2018
70-79 yrs	1.8	[1.1; 2.5]	2004-2018	2.1	[1.6; 2.7]	2004-2018
80+	2.6	[1.6; 3.5]	2004-2018	1.8	[1.0; 2.7]	2004-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Hodgkin lymphomas	1.2	[0.2; 2.3]	2004-2018	1.3	[0.4; 2.1]	2004-2018
Mature B-cell neoplasms	0.8	[0.5; 1.2]	2004-2018	0.9	[0.4; 1.3]	2004-2018
	1.5	[1.0; 1.9]	2004-2015			
	-1.5	[-3.3; 0.3]	2015-2018			
Mature T-cell and NK-cell neoplasms	1.6	[0.7; 2.6]	2004-2018	1.9	[0.5; 3.3]	2004-2018
Other lymphoid neoplasms	-6.4	[-7.9; -4.8]	2004-2018	-7.0	[-9.3; -4.6]	2004-2018
	-27.3	[-33.3; -20.7]	2004-2007	-22.0	[-29.3; -14.0]	2004-2008
	0.3	[-1.7; 2.3]	2007-2018	-0.2	[-3.6; 3.3]	2008-2018

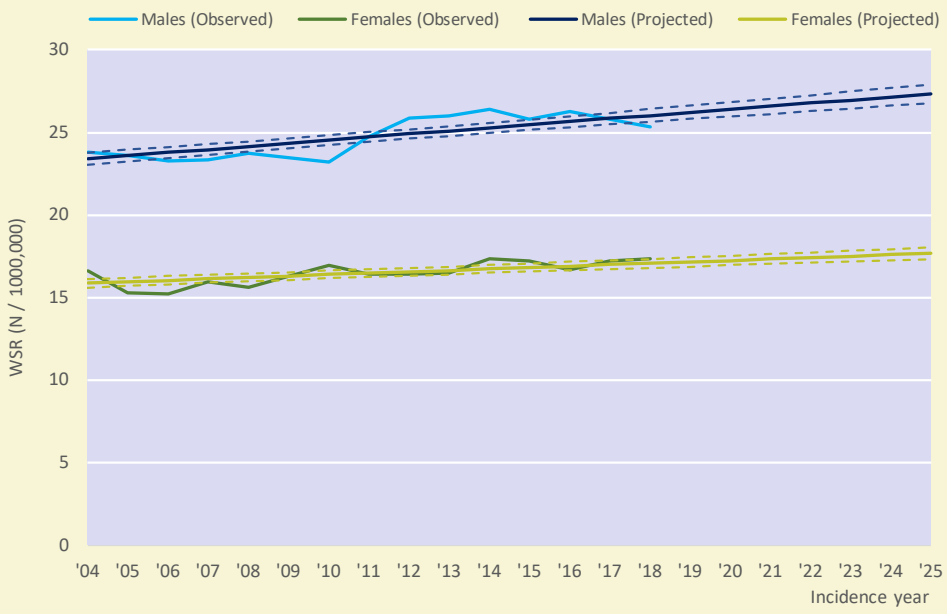
Source: Belgian Cancer Registry

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.

Incidence projections

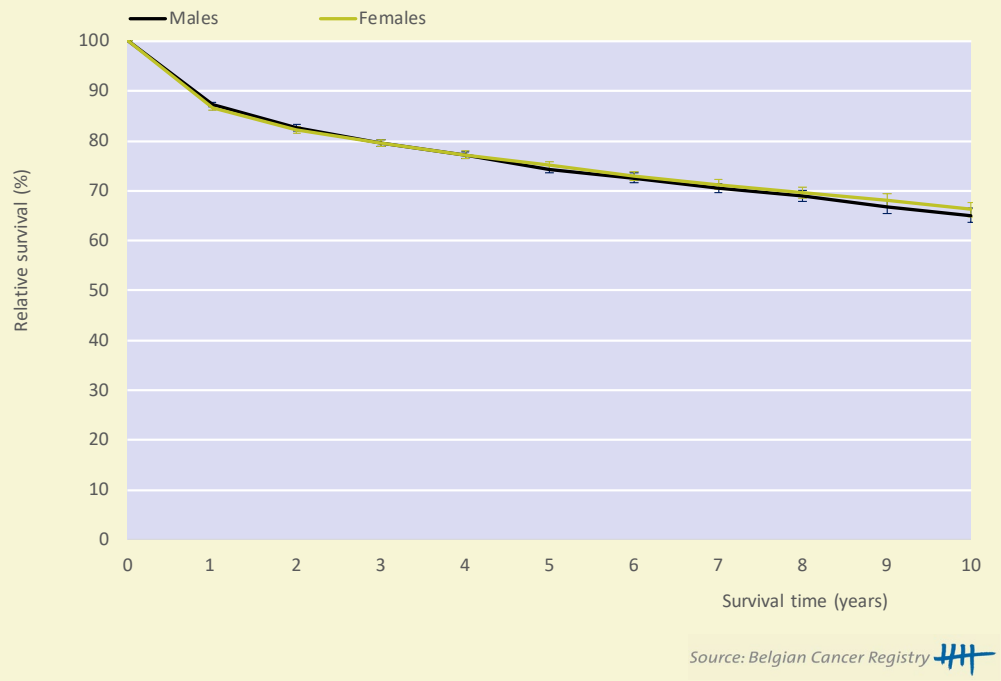
Figure 7 Mature lymphoid neoplasms: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Mature lymphoid neoplasms: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Mature lymphoid neoplasms: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

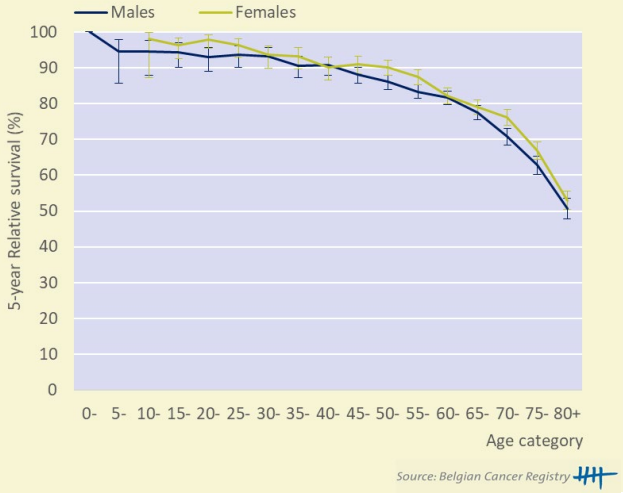
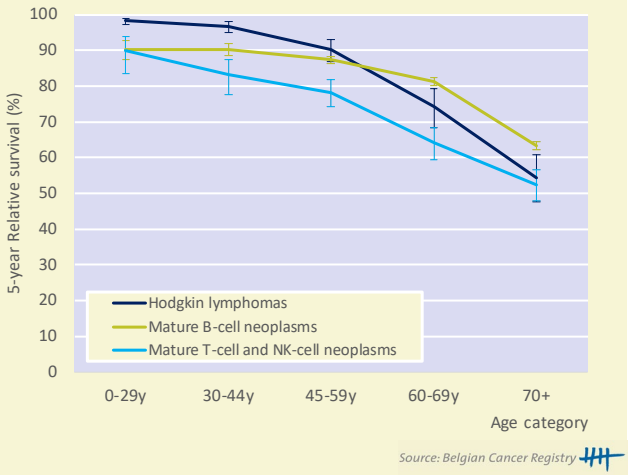


Figure 10 Mature lymphoid neoplasms: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



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

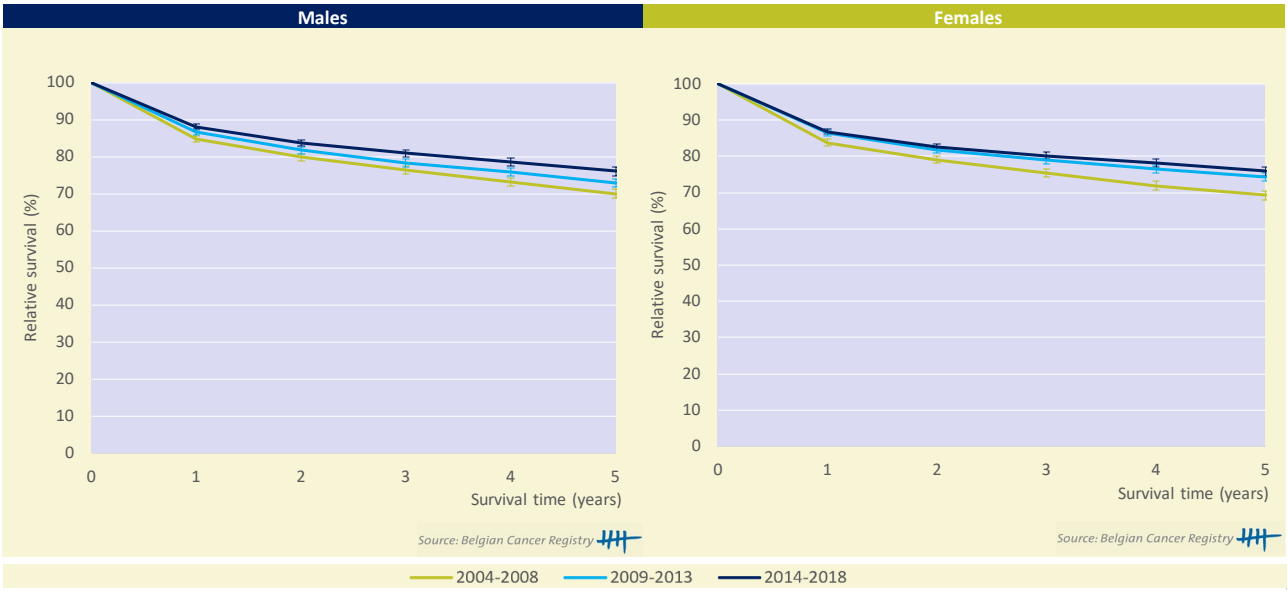
Table 3 Mature lymphoid neoplasms: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

Males		
X years since diagnosis	N at risk	%
1 year	20,112	83.1
2 year	16,907	85.3
3 year	13,816	86.6
Females		
X years since diagnosis	N at risk	%
1 year	15,745	84.3
2 year	13,366	86.6
3 year	11,047	87.6

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Mature lymphoid neoplasms: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.1.1 HODGKIN LYMPHOMAS

MAIN SUBTYPES:

- *Classical Hodgkin lymphoma – nodular sclerosis*
- *Classical Hodgkin lymphoma – lymphocyte-rich*
- *Hodgkin lymphoma, nodular lymphocyte predominant*
- *Classical Hodgkin lymphoma – mixed cellularity*
- *Classical Hodgkin lymphoma – lymphocyte depletion*
- *Hodgkin lymphoma, NOS & varia*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- The age-specific incidence rate of Hodgkin lymphomas (HL) is characterised by two peaks, namely:
  - First incidence peak in adolescents and young adults
  - Second incidence peak in the older population (70+)
- The most common subtype of classical HL, nodular sclerosis cHL (61% of all HL), is the main contributor of the 1st incidence peak, while nodular sclerosis cHL and mixed cellularity cHL are predominant in the 2nd peak.

Survival (Table 3; Figure 8-11)

- The 5-year relative survival is very high in younger patients (>90%), but decreases with age starting from the age 50.
- The improvement of the relative survival is mainly observed in females (5-year relative survival: from 85% in 2004-2008 to 92% in 2014-2018).

Table 1 Hodgkin lymphomas: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	202	3.6	3.4
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	888	15.8	14.5
Prevalence (10 years), 2009-2018	1,588	28.2	25.3
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	960	86.6	[83.5;89.3]
10-year Relative survival, 2009-2018	1,822	83.9	[80.7;86.8]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	162	2.8	2.6
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	676	11.6	11.4
Prevalence (10 years), 2009-2018	1,211	20.9	19.8
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	699	91.8	[88.7;94.3]
10-year Relative survival, 2009-2018	1,345	86.1	[82.7;89.0]
Median age at diagnosis, 2018	40		
M/F-ratio, 2018	1.3		

Source: Belgian Cancer Registry

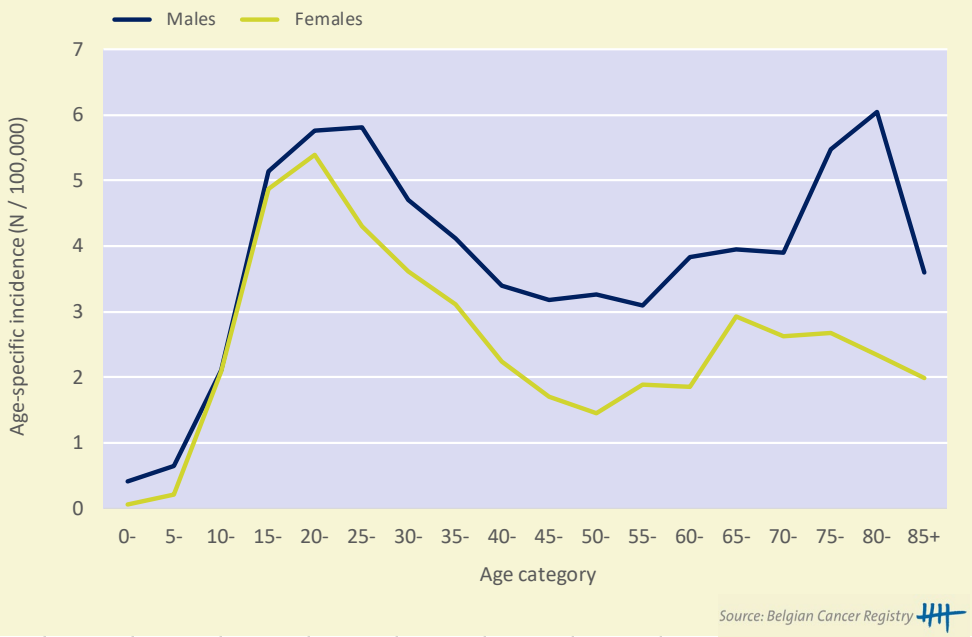
CR: crude (all ages) rate (N/100,000 person years)

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

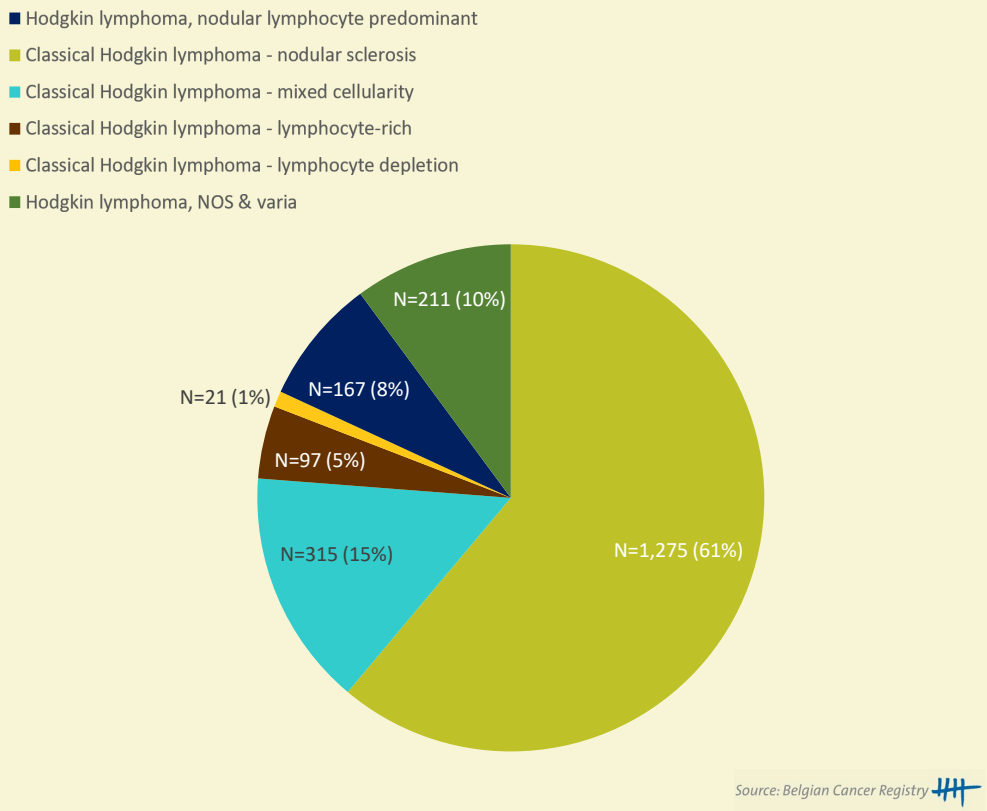
Incidence

Figure 1 Hodgkin lymphomas: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018



Source: Belgian Cancer Registry

Figure 2 Hodgkin lymphomas: Incidence by subtype, Belgium 2013-2018



Source: Belgian Cancer Registry

Figure 3 Hodgkin lymphomas: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

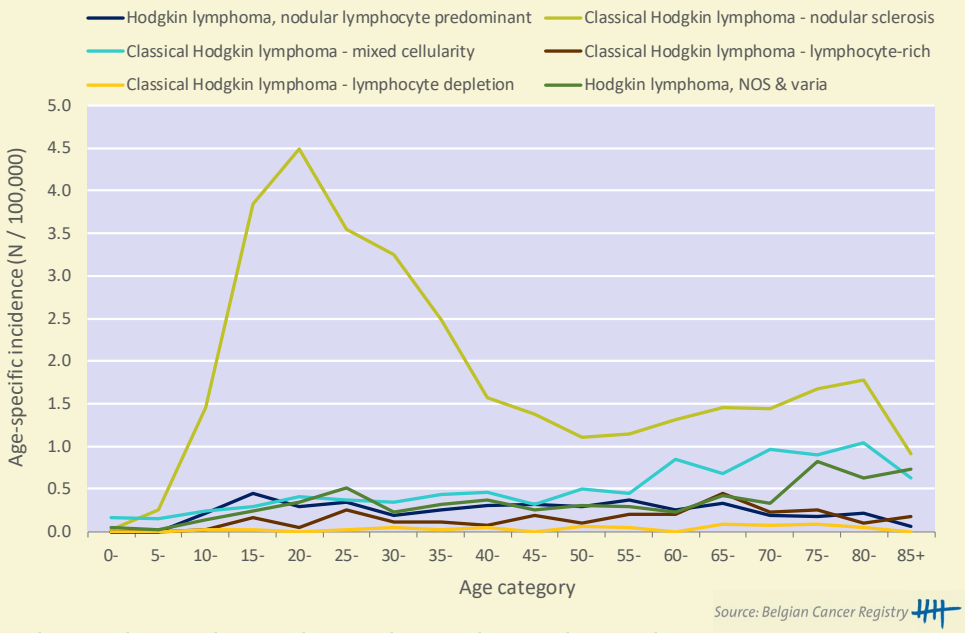
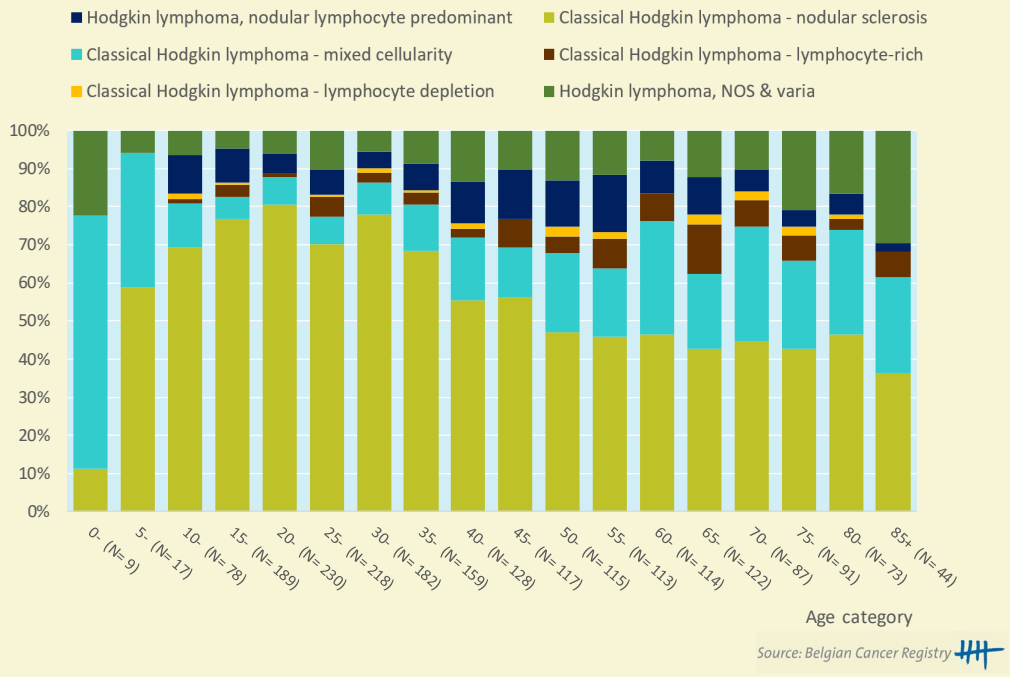
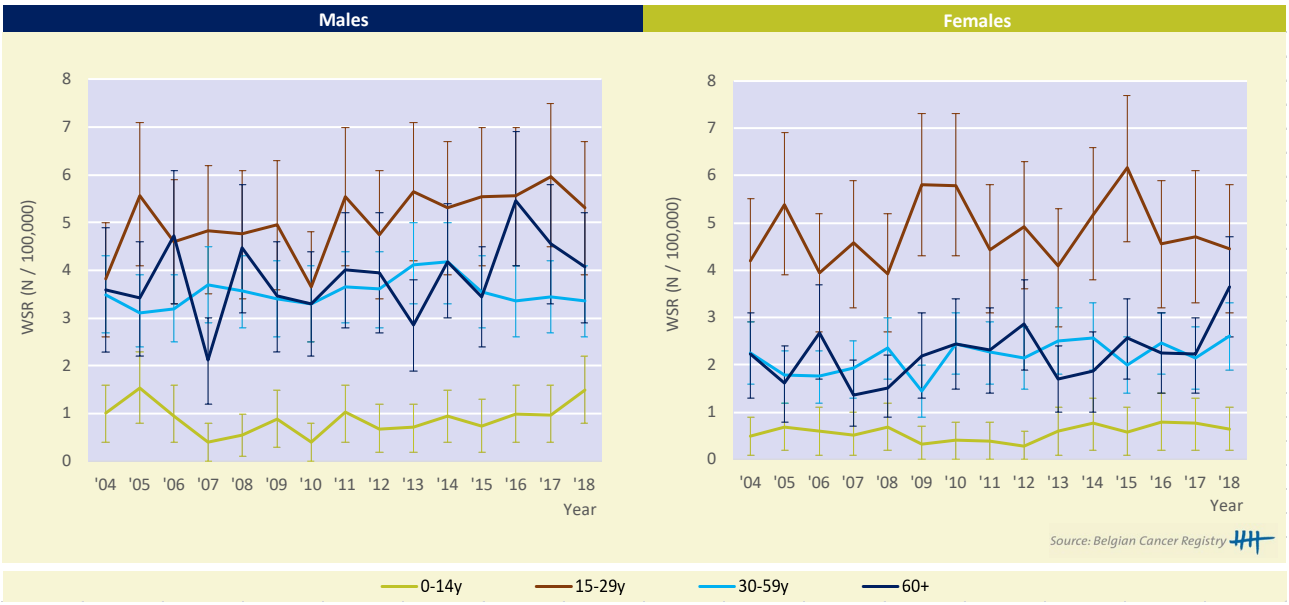


Figure 4 Hodgkin lymphomas: Incidence by subtype and age group, Belgium 2013-2018



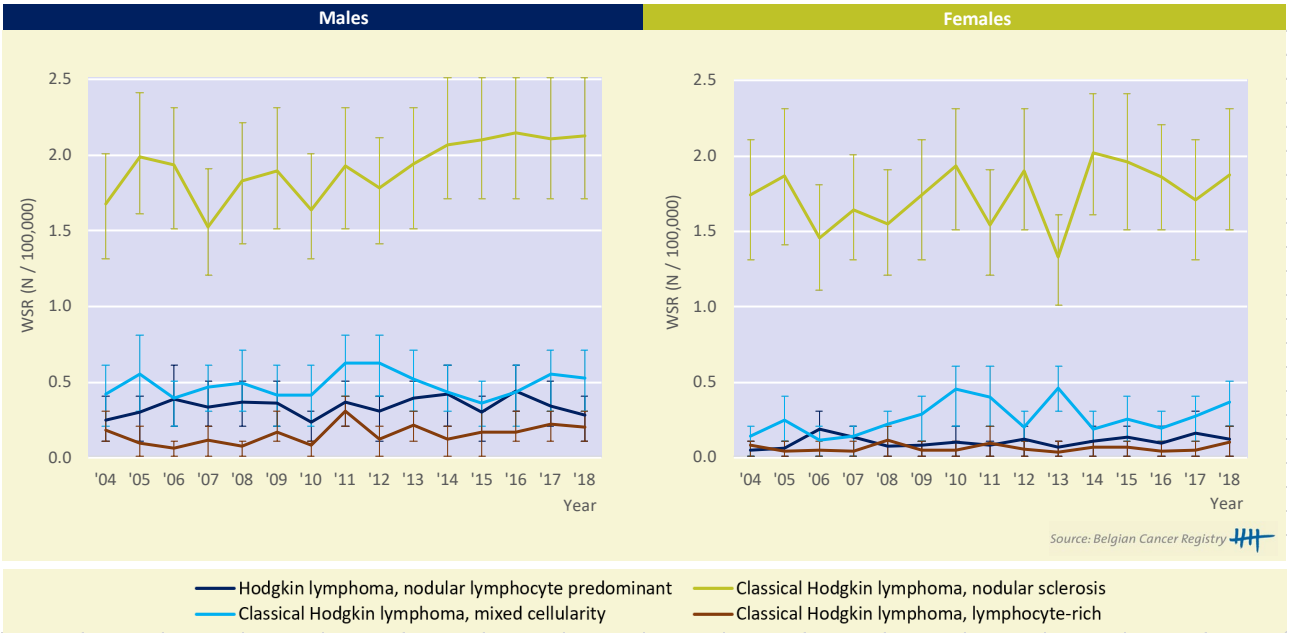
Incidence trends

Figure 5 Hodgkin lymphomas: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Hodgkin lymphomas: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Hodgkin lymphomas: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 14 yrs	-1.5	[-5.9; 3.0]	2004-2018	2.0	[-1.2; 5.4]	2004-2018
	-27.9	[-42.8; -9.0]	2004-2007	-6.6	[-13.2; 0.4]	2004-2011
	7.2	[1.6; 13.1]	2007-2018	11.5	[3.7; 19.9]	2011-2018
15 - 29 yrs	1.8	[0.3; 3.4]	2004-2018	0.5	[-1.4; 2.4]	2004-2018
30 - 59 yrs	0.1	[-0.8; 0.9]	2004-2018	1.9	[-0.0; 3.9]	2004-2018
	1.8	[0.6; 3.0]	2004-2014			
	-4.2	[-7.3; -0.9]	2014-2018			
60+ yrs	1.8	[-1.1; 4.7]	2004-2018	2.6	[-0.5; 5.9]	2004-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Hodgkin lymphoma, nodular lymphocyte predominant	1.0	[-1.5; 3.5]	2004-2018	4.0	[-1.0; 9.3]	2004-2018
Classical Hodgkin lymphoma, nodular sclerosis	1.6	[0.5; 2.6]	2004-2018	0.8	[-0.8; 2.3]	2004-2018
Classical Hodgkin lymphoma, mixed cellularity	0.5	[-1.9; 2.8]	2004-2018	4.6	[-0.5; 9.9]	2004-2018
	1.9	[-2.5; 6.5]	2004-2012	13.6	[1.6; 26.9]	2004-2011
	-1.4	[-7.3; 4.8]	2012-2018	-3.7	[-13.8; 7.6]	2011-2018
Classical Hodgkin lymphoma, lymphocyte-rich	5.8	[0.0; 11.8]	2004-2018	0.7	[-4.8; 6.6]	2004-2018

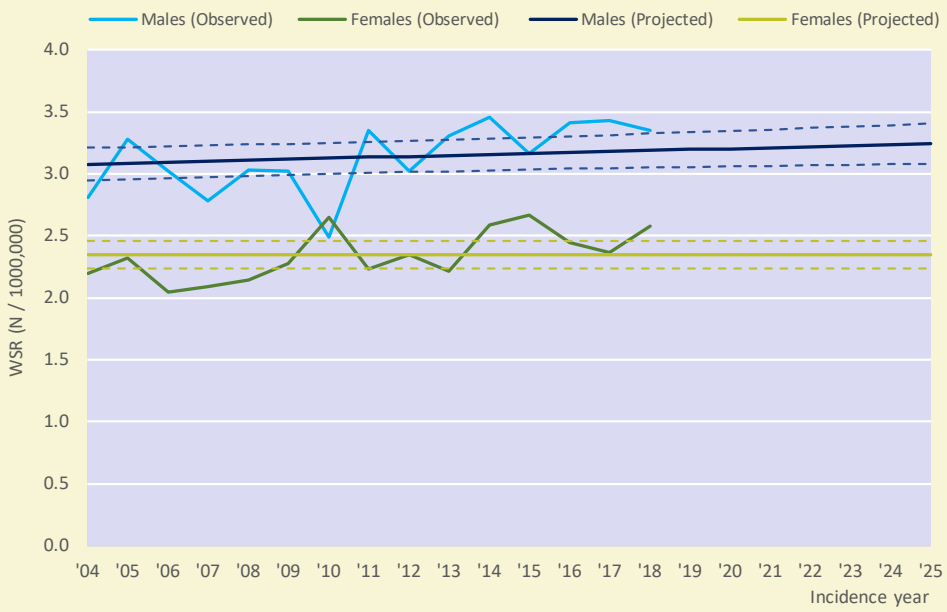
Source: Belgian Cancer Registry

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.

Incidence projections

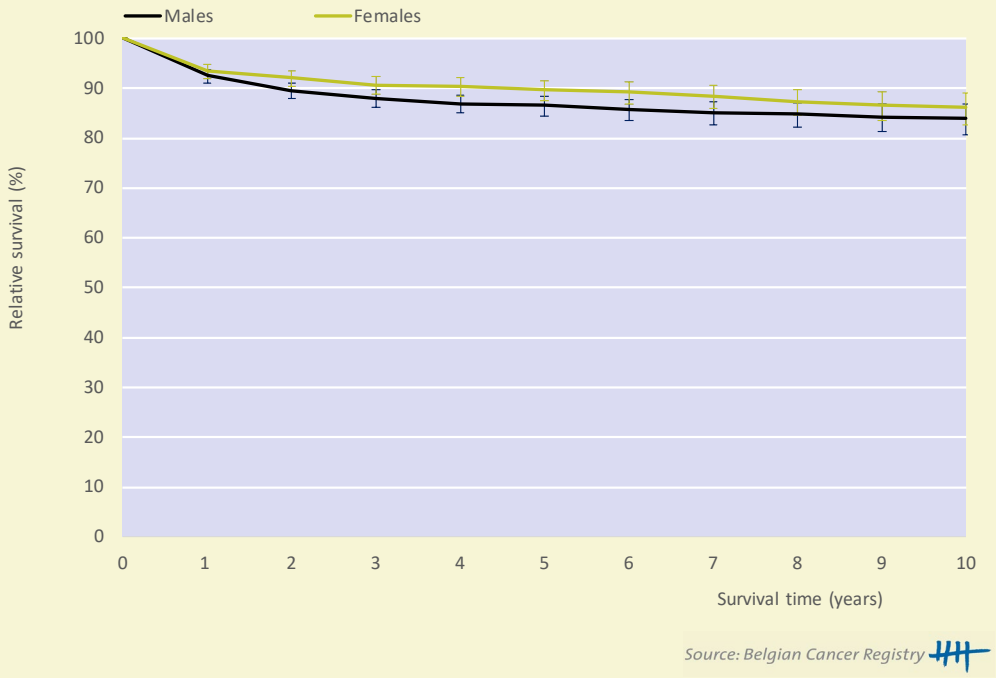
Figure 7 Hodgkin lymphomas: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Hodgkin lymphomas: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Hodgkin lymphomas: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

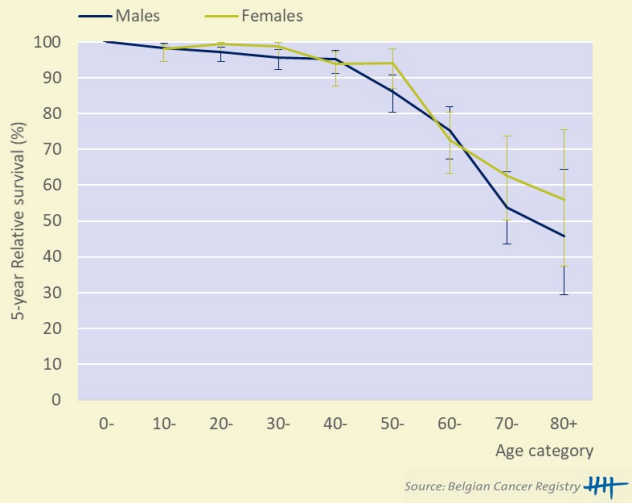
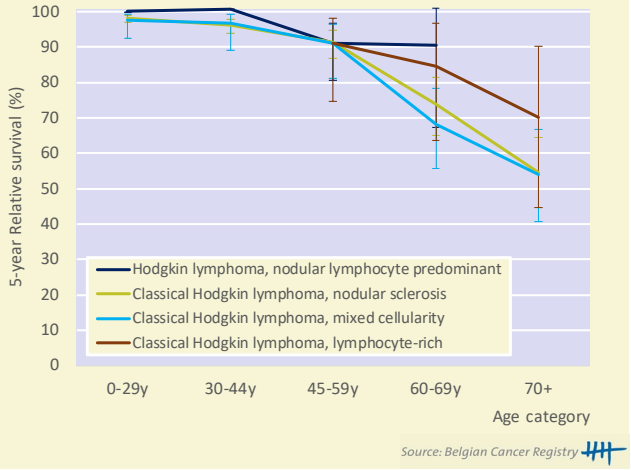


Figure 10 Hodgkin lymphomas: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



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

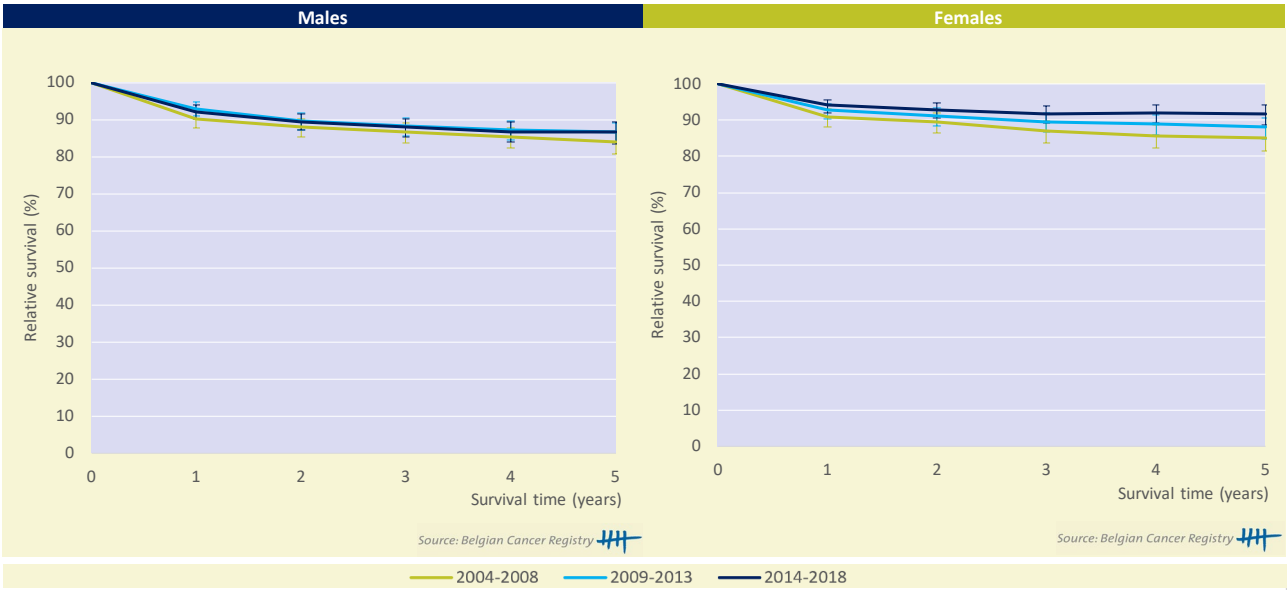
Table 3 Hodgkin lymphomas: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)		
Males		
X years since diagnosis	N at risk	%
1 year	1,661	92.7
2 year	1,475	94.9
3 year	1,256	96.4
Females		
X years since diagnosis	N at risk	%
1 year	1,245	95.4
2 year	1,117	96.0
3 year	963	96.2

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*

** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Hodgkin lymphomas: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.1.2 MATURE B-CELL NEOPLASMS

MAIN SUBTYPES:

- *Mature B-cell leukaemias and related lymphomas*
- *Immunoproliferative diseases*
- *Plasma cell neoplasms*
- *Marginal zone lymphomas*
- *Follicular lymphoma and related lymphoma*
- *Mantle cell lymphoma*
- *DLBCL and related LBCL*
- *Burkitt lymphoma / leukaemia*

KEYNOTES

Incidence (Table 1-2; Figure 1-6)

- Mature B-cell neoplasms are mainly observed in older patients. The three most frequent subtypes are mature B-cell leukaemias and related lymphomas (25%), plasma cell neoplasms (23%) and DLBCL (22%). In children, Burkitt lymphoma / leukaemia is the dominant subtype (>75% below the age 15).
- The incidence increases in Belgium between 2004 and 2018, mostly in the age group 70+.

Survival (Table 3; Figure 7-10)

- The relative survival strongly depends on the subtype and age group:
  - The lymphoma subtypes with the best 5-year relative survival in all age categories are mature B-cell leukaemias and related lymphomas, follicular lymphomas and marginal zone lymphomas.
  - Subtypes characterised by a lower 5-year relative survival in all age categories are mantle cell lymphoma, plasma cell neoplasms, DLBCL and related neoplasms.
  - Burkitt lymphoma / leukaemia has a very good prognosis in the younger population, but after age 50 this subtype has the worst prognosis.
- The 5-year relative survival is improving over time in both sexes:
  - Males: from 69% in 2004-2008 to 76% in 2014-2018
  - Females: from 68% in 2004-2008 to 76% to 2014-2018

Table 1 Mature B-cell neoplasms: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	2,201	39.3	19.7
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	8,128	144.4	72.9
Prevalence (10 years), 2009-2018	12,917	229.5	115.4
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	10,637	75.9	[74.4;77.3]
10-year Relative survival, 2009-2018	19,899	63.8	[62.1;65.4]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	1,700	29.4	13.2
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	6,326	109.0	48.6
Prevalence (10 years), 2009-2018	10,351	178.4	78.0
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	8,242	75.6	[74.0;77.0]
10-year Relative survival, 2009-2018	15,704	64.6	[62.9;66.3]
Median age at diagnosis, 2018	70		
M/F-ratio, 2018	1.5		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Mature B-cell neoplasms: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

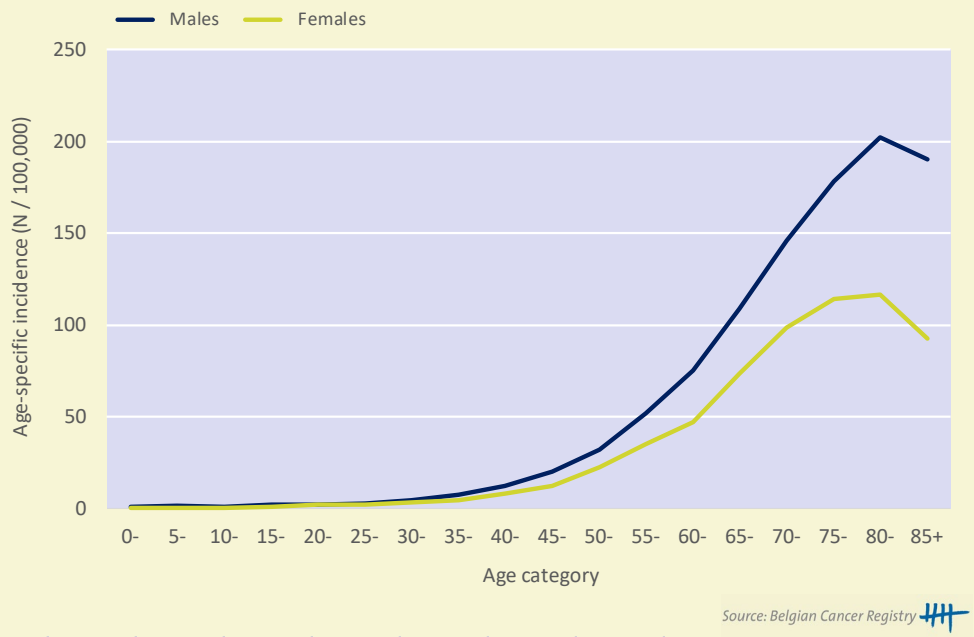


Figure 2 Mature B-cell neoplasms: Incidence by subtype, Belgium 2013-2018

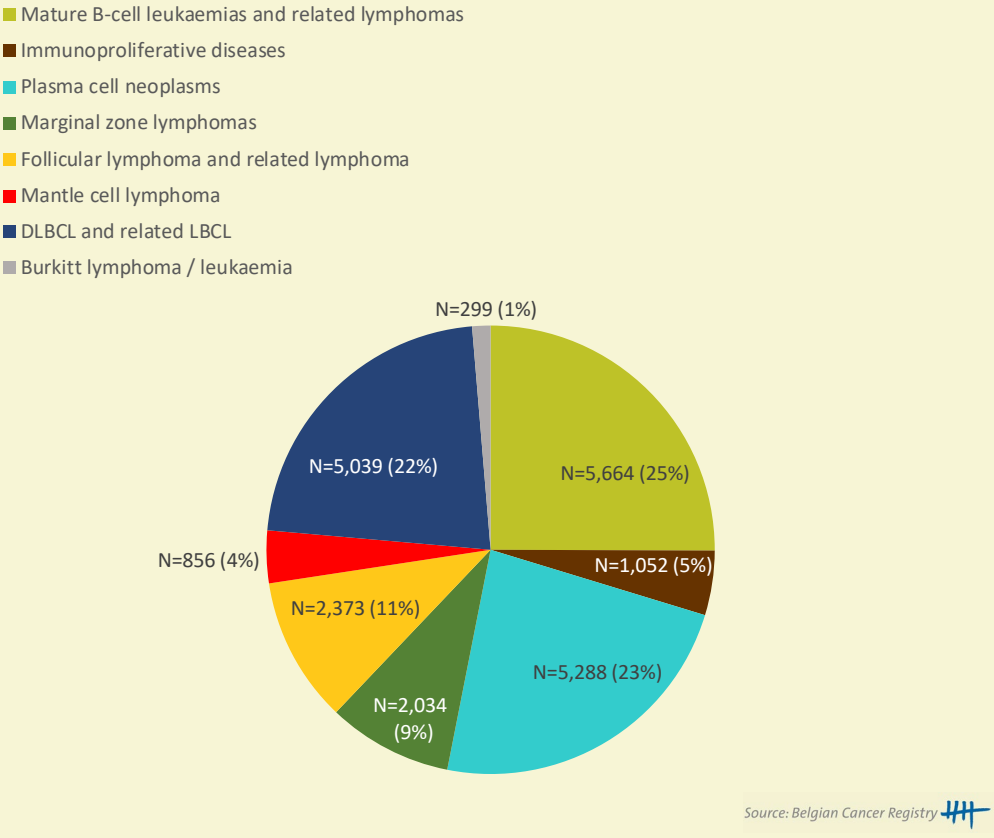


Figure 3 Mature B-cell neoplasms: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

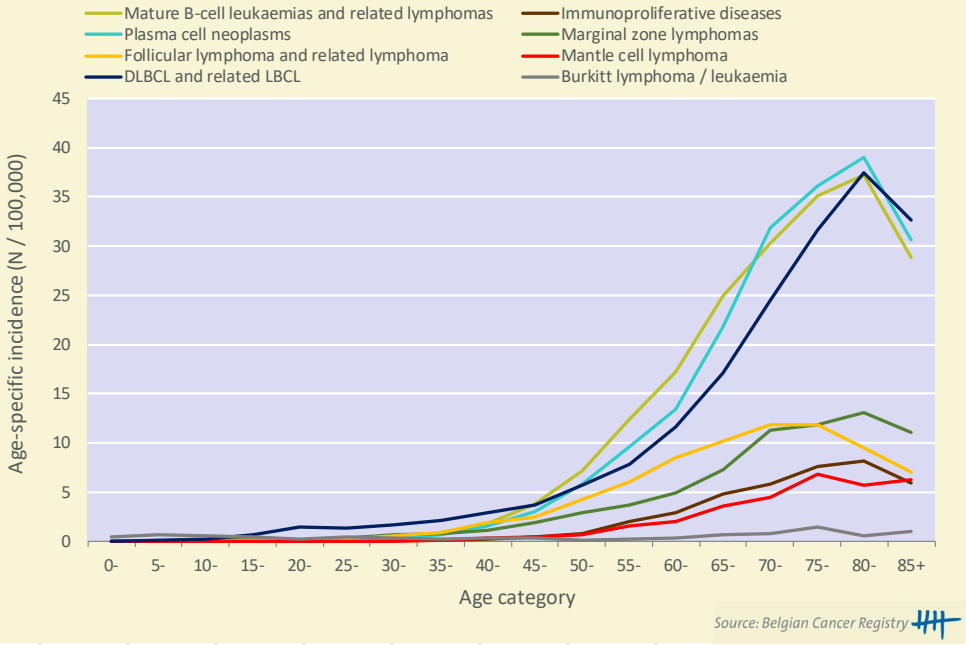
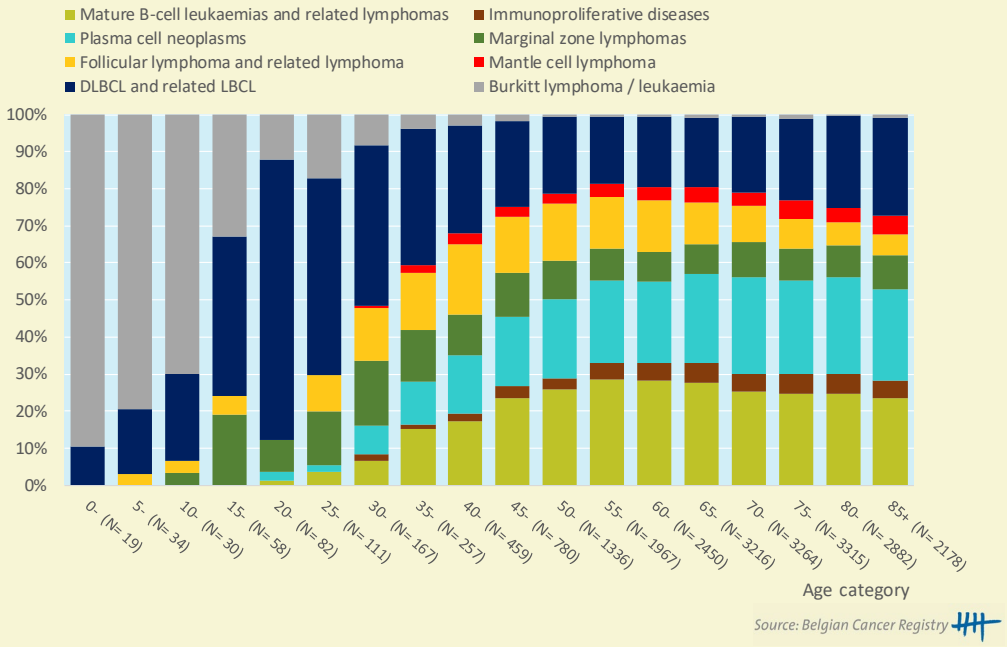
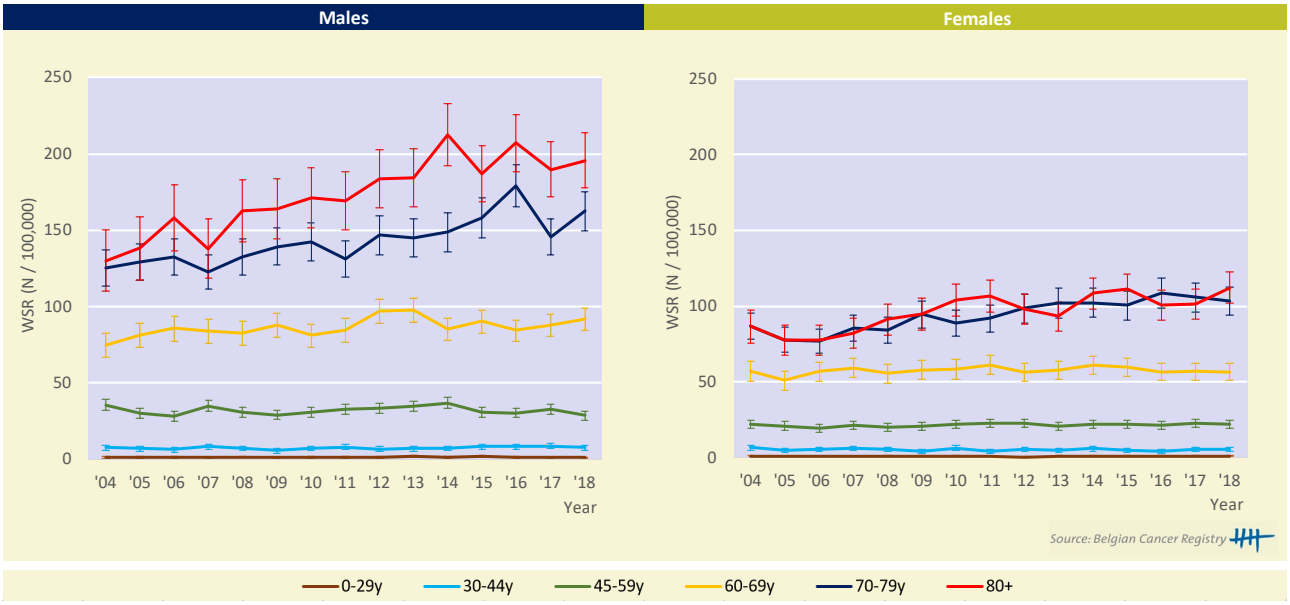


Figure 4 Mature B-cell neoplasms: Incidence by subtype and age group, Belgium 2013-2018



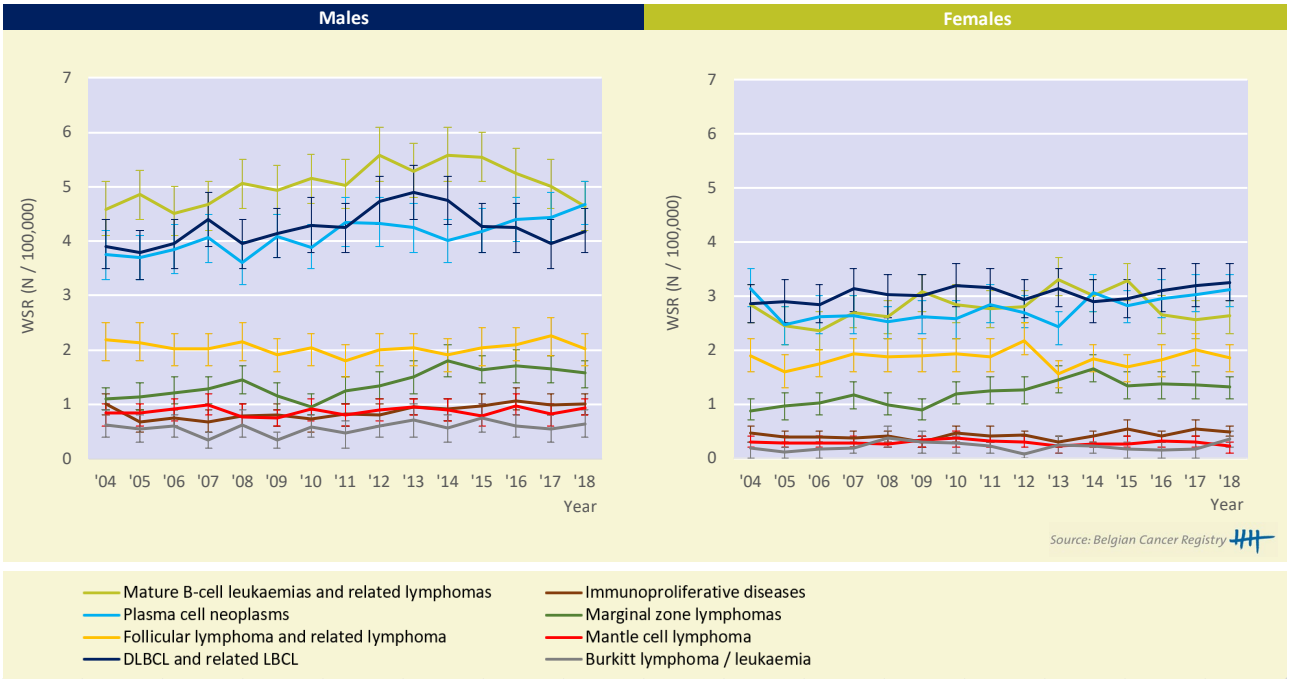
Incidence trends

Figure 5 Mature B-cell neoplasms: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Mature B-cell neoplasms: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Mature B-cell neoplasms: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0-29 yrs	-1.7	[-3.3; -0.1]	2004-2018	1.3	[-1.3; 4.0]	2004-2018
	1.6	[-0.3; 3.6]	2004-2015			
	-13.0	[-19.9; -5.5]	2015-2018			
30-44 yrs	1.1	[-0.3; 2.5]	2004-2018	-1.0	[-2.8; 0.7]	2004-2018
45-59 yrs	0.0	[-1.1; 1.1]	2004-2018	0.5	[-0.1; 1.1]	2004-2018
60-69 yrs	0.9	[0.2; 1.7]	2004-2018	0.3	[-0.2; 0.8]	2004-2018
				1.2	[-0.0; 2.4]	2004-2011
				-0.6	[-1.7; 0.6]	2011-2018
70-79 yrs	2.0	[1.3; 2.7]	2004-2018	2.3	[1.6; 2.9]	2004-2018
80+	2.7	[2.0; 3.4]	2004-2018	2.3	[1.4; 3.2]	2004-2018
	4.1	[3.0; 5.1]	2004-2014	3.8	[1.8; 5.8]	2004-2011
	-0.6	[-3.4; 2.2]	2014-2018	0.8	[-1.1; 2.8]	2011-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Mature B-cell leukaemias and related lymphomas	0.2	[-0.3; 0.6]	2004-2018	-0.2	[-1.3; 1.0]	2004-2018
	1.9	[1.4; 2.4]	2004-2015	1.9	[0.5; 3.2]	2004-2015
	-5.9	[-8.1; -3.7]	2015-2018	-7.2	[-12.4; -1.8]	2015-2018
Immunoproliferative diseases	1.3	[0.0; 2.6]	2004-2018	1.9	[-0.1; 3.9]	2004-2018
	-7.6	[-13.4; -1.5]	2004-2007	-0.9	[-4.0; 2.4]	2004-2013
	3.9	[2.3; 5.4]	2007-2018	7.0	[0.6; 13.8]	2013-2018
Plasma cell neoplasms	1.4	[0.8; 2.0]	2004-2018	1.0	[0.1; 2.0]	2004-2018
				-0.6	[-2.3; 1.2]	2004-2012
				3.2	[0.7; 5.7]	2012-2018
Marginal zone lymphomas	3.1	[1.5; 4.7]	2004-2018	2.9	[1.5; 4.3]	2004-2018
	0.7	[-3.4; 4.9]	2004-2010	5.2	[3.2; 7.2]	2004-2014
	5.0	[1.9; 8.1]	2010-2018	-2.6	[-7.6; 2.7]	2014-2018
Follicular lymphoma and related lymphoma	0.0	[-0.6; 0.5]	2004-2018	0.2	[-0.9; 1.3]	2004-2018
	-1.7	[-3.0; -0.4]	2004-2011			
	1.7	[0.3; 3.0]	2011-2018			
Mantle cell lymphoma	0.3	[-0.8; 1.5]	2004-2018	-0.7	[-2.4; 1.0]	2004-2018
DLBCL and related LBCL	0.4	[-0.2; 1.0]	2004-2018	0.5	[0.0; 1.1]	2004-2018
	2.4	[1.4; 3.4]	2004-2013			
	-3.1	[-4.9; -1.3]	2013-2018			
Burkitt lymphoma / leukaemia	1.6	[-1.3; 4.5]	2004-2018	1.2	[-4.8; 7.5]	2004-2018

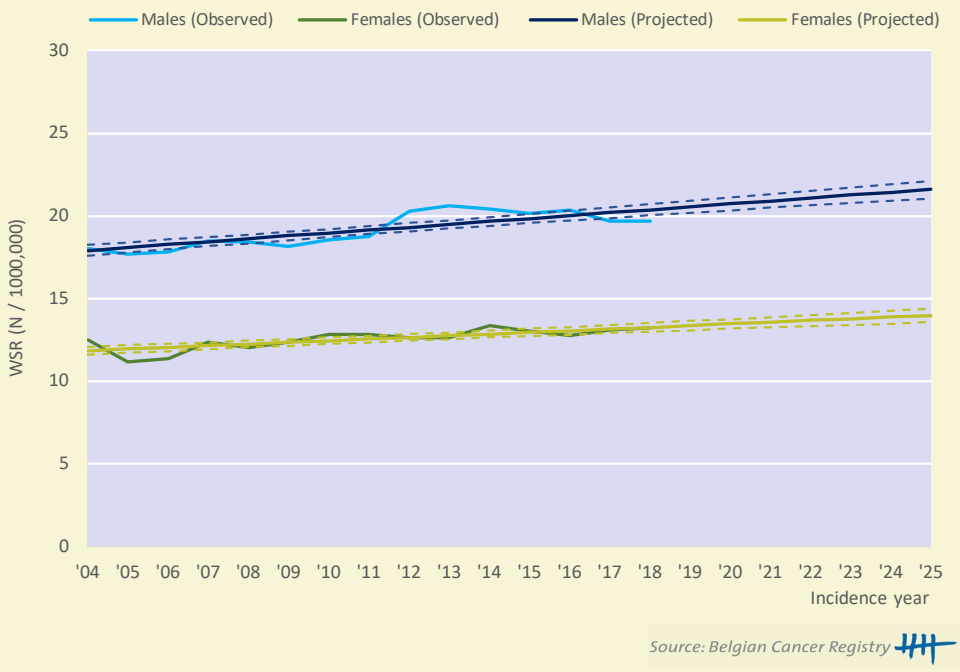
Source: Belgian Cancer Registry

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.

Incidence projections

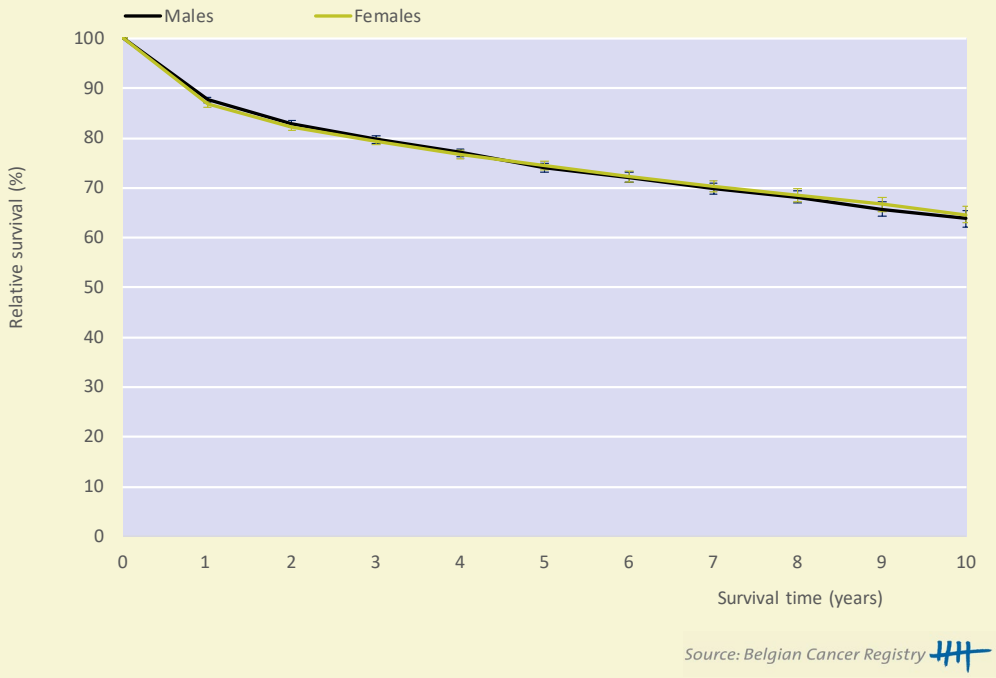
Figure 7 Mature B-cell neoplasms: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Mature B-cell neoplasms: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Mature B-cell neoplasms:
Age-specific 5-year relative survival* by sex, Belgium 2009-2018

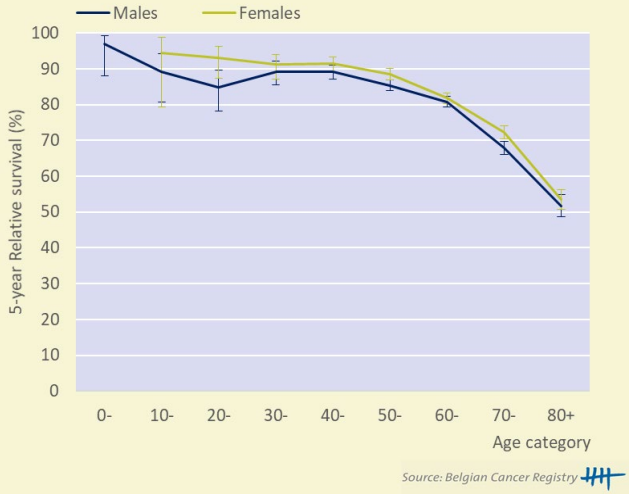
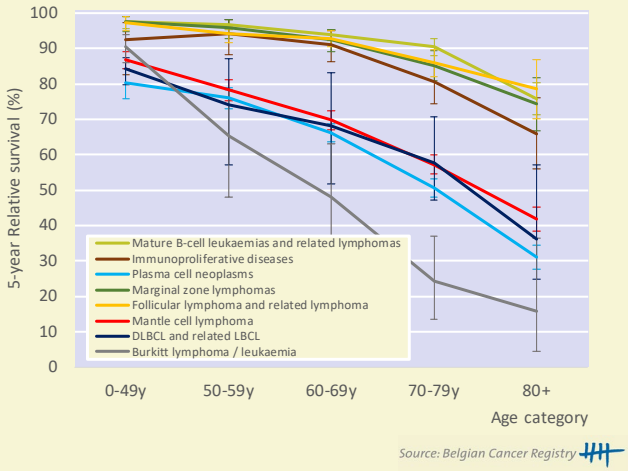


Figure 10 Mature B-cell neoplasms:
Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



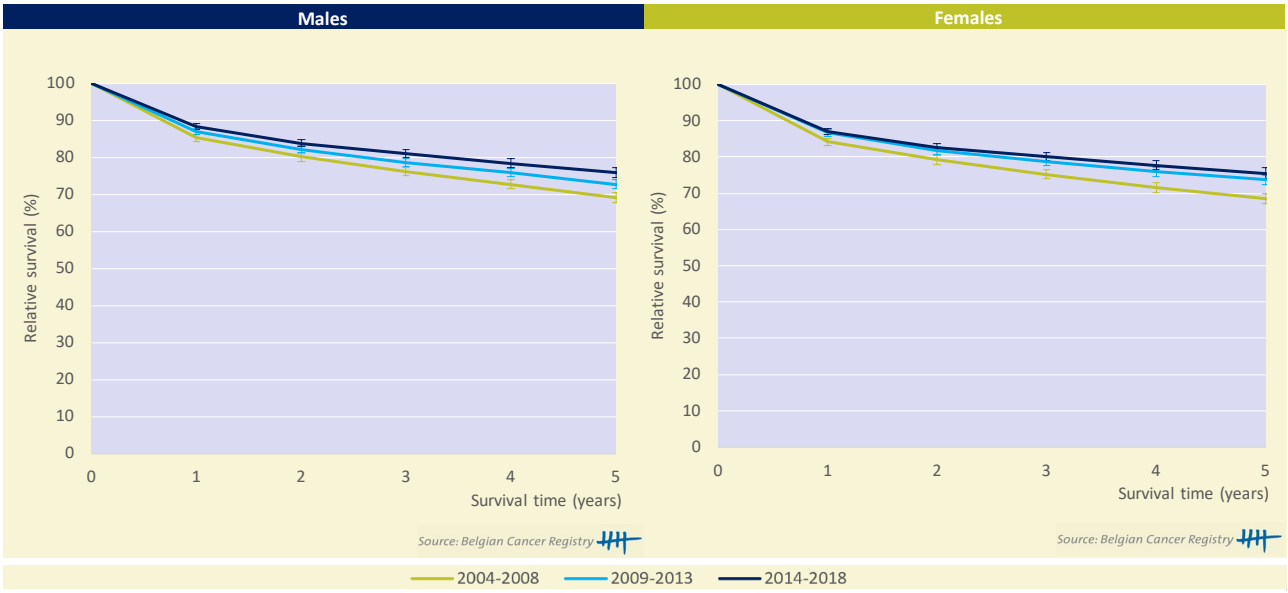
* The relative survival values are represented with 95% Confidence Intervals

Table 3 Mature B-cell neoplasms: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)		
	Males	
X years since diagnosis	N at risk	%
1 year	16,778	82.3
2 year	14,061	84.2
3 year	11,457	85.4
	Females	
X years since diagnosis	N at risk	%
1 year	13,230	83.2
2 year	11,169	85.5
3 year	9,203	86.5

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Mature B-cell neoplasms: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.1.2.1 MATURE B-CELL LEUKAEMIAS AND RELATED LYMPHOMAS

MAIN SUBTYPES:

- *B-cell chronic lymphocytic leukaemia*
- *B-cell prolymphocytic leukaemia*
- *Mature B-cell leukaemia, NOS*
- *Small lymphocytic lymphoma*
- *Hairy cell leukaemia*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- Mature B-cell leukaemias and related lymphoma are more frequent in males than in females (male/female ratio: 1.8) and mostly diagnosed in the older population (very rare below 35 years of age).
- The fluctuations observed in the incidence trends, especially in males, may be due to several factors, such as earlier diagnosis and the creation of the new entity of monoclonal B-cell lymphocytosis in the latest WHO classification.
- Based on the incidence projections, the incidence rates (WSR) are expected to increase only slightly.

Survival (Table 3; Figure 8-11)

- There are no major differences in the relative survival between males and females. Although the prognosis of small lymphocytic leukaemia seems to be worse than that of chronic lymphocytic leukaemia, this difference might be partly explained by the misclassification of monoclonal B-cell lymphocytosis as CLL.
- The 5-year relative survival improves over time in both sexes :
  - Males: From 85% in 2004-2008 to 93% in 2014-2018
  - Females: From 84% in 2004-2008 to 92% to 2014-2018

Table 1 Mature B-cell leukaemias and related lymphomas: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	521	9.3	4.6
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	2,437	43.3	20.7
Prevalence (10 years), 2009-2018	4,053	72.0	33.9
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	2,836	92.8	[90.3;95.2]
10-year Relative survival, 2009-2018	5,424	80.8	[77.4;84.1]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	351	6.1	2.6
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	1,613	27.8	11.2
Prevalence (10 years), 2009-2018	2,794	48.1	18.9
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	1,870	91.5	[88.6;94.2]
10-year Relative survival, 2009-2018	3,673	82.7	[78.8;86.5]
Median age at diagnosis, 2018	70		
M/F-ratio, 2018	1.8		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Mature B-cell leukaemias and related lymphomas: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

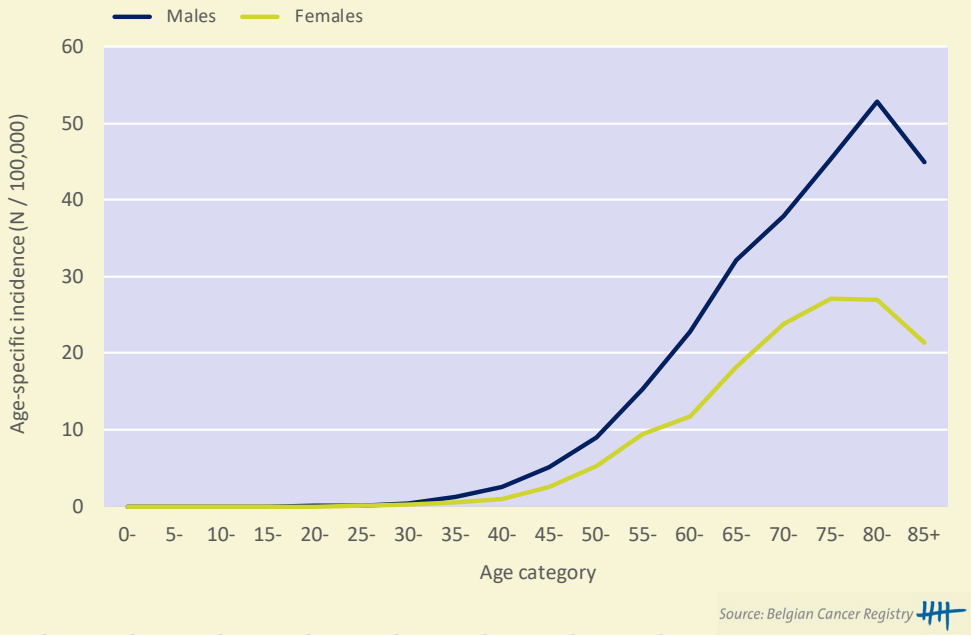


Figure 2 Mature B-cell leukaemias and related lymphomas: Incidence by subtype, Belgium 2013-2018

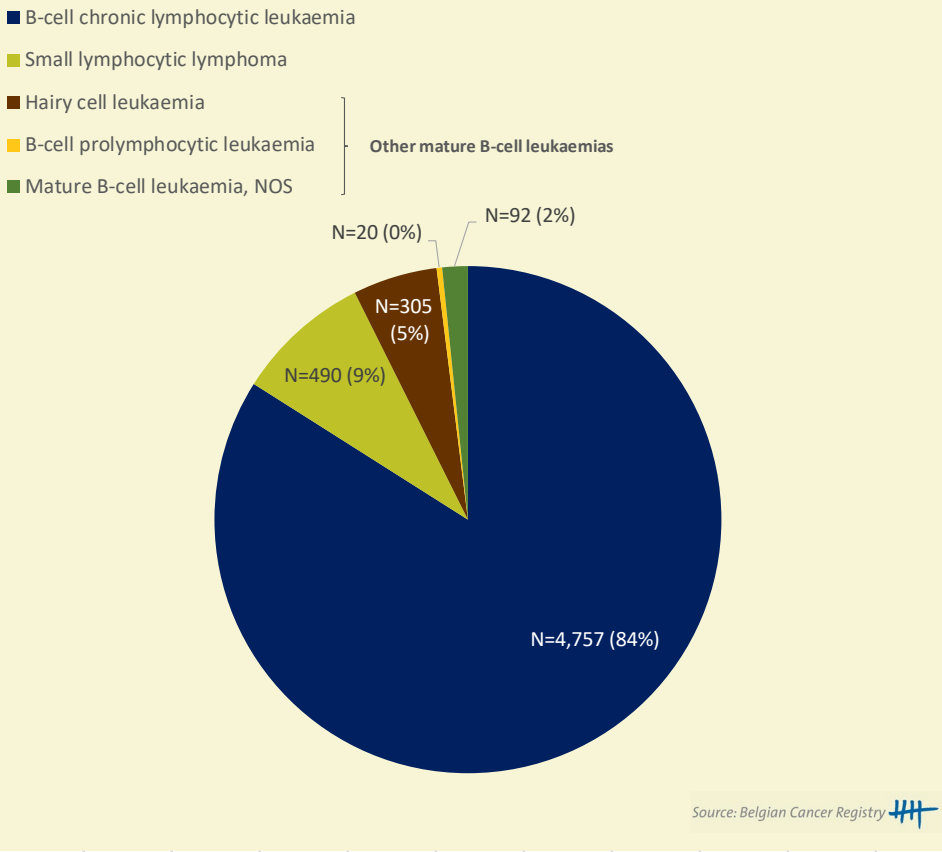


Figure 3 Mature B-cell leukaemias and related lymphomas: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

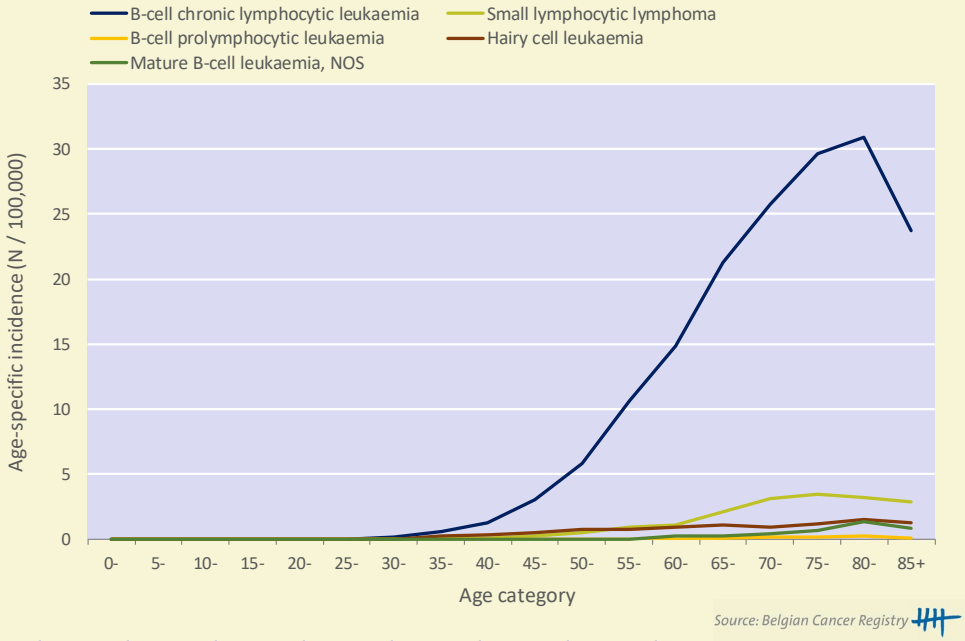
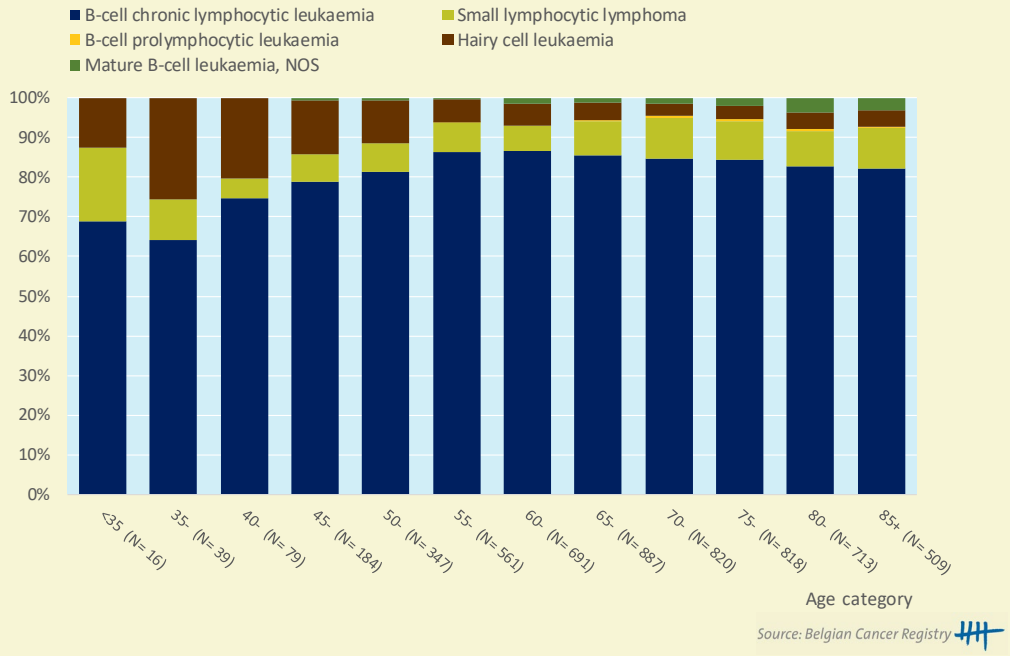
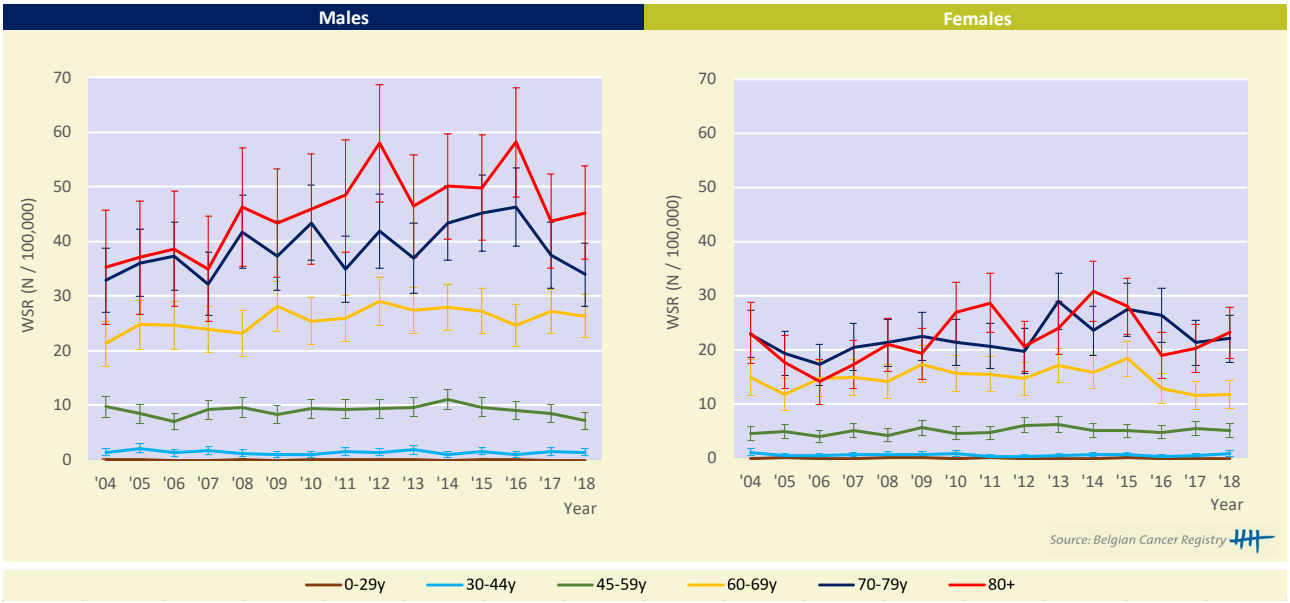


Figure 4 Mature B-cell leukaemias and related lymphomas: Incidence by subtype and age group, Belgium 2013-2018



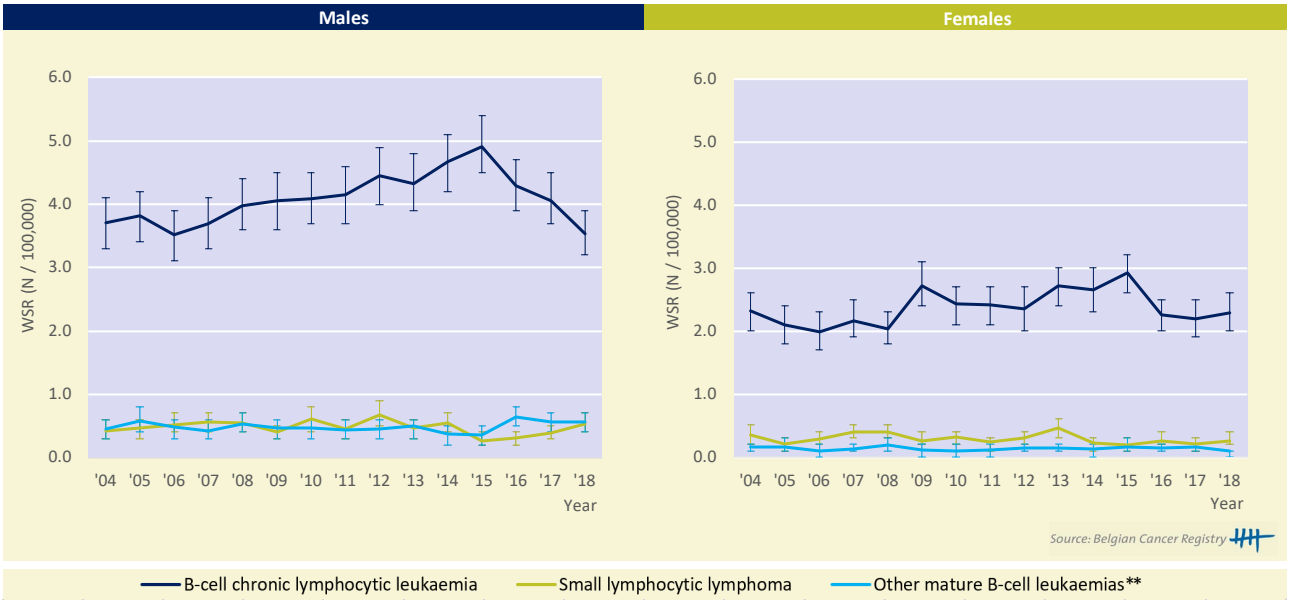
Incidence trends

Figure 5 Mature B-cell leukaemias and related lymphomas: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Mature B-cell leukaemias and related lymphomas: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

*** Other mature B-cell leukaemias include hairy cell leukaemia, B-cell prolymphocytic leukaemia and mature B-cell leukaemia, NOS.*

Table 2 Mature B-cell leukaemias and related lymphomas: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	-	-	-	-	-	-
30 - 44 yrs	-0.8	[-4.0; 2.5]	2004-2018	-2.1	[-7.2; 3.2]	2004-2018
45 - 59 yrs	-0.9	[-2.2; 0.4]	2004-2018	1.3	[-0.2; 2.8]	2004-2018
	1.7	[0.1; 3.3]	2004-2015			
	-9.9	[-15.9; -3.6]	2015-2018			
60 - 69 yrs	1.0	[0.3; 1.8]	2004-2018	-1.7	[-3.1; -0.4]	2004-2018
	2.7	[1.3; 4.1]	2004-2012	1.8	[0.1; 3.5]	2004-2015
	-1.1	[-3.0; 0.8]	2012-2018	-13.7	[-19.6; -7.3]	2015-2018
70 - 79 yrs	1.1	[-0.4; 2.5]	2004-2018	1.5	[-0.0; 3.1]	2004-2018
80+	2.2	[1.1; 3.4]	2004-2018	2.0	[-0.5; 4.6]	2004-2018
	5.5	[3.2; 7.8]	2004-2012	5.8	[0.1; 11.9]	2004-2011
	-1.9	[-4.8; 1.2]	2012-2018	-1.6	[-7.0; 4.0]	2011-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
B-cell chronic lymphocytic leukaemia	0.1	[-0.4; 0.6]	2004-2018	0.2	[-1.1; 1.5]	2004-2018
	2.7	[2.0; 3.3]	2004-2015	2.4	[0.8; 4.0]	2004-2015
	-8.8	[-11.2; -6.3]	2015-2018	-7.5	[-13.3; -1.2]	2015-2018
Small lymphocytic lymphoma	-1.8	[-4.8; 1.4]	2004-2018	-2.2	[-5.4; 1.2]	2004-2018
Other mature B-cell leukaemias*	1.7	[-0.3; 3.8]	2004-2018	-0.6	[-3.5; 2.4]	2004-2018
	-1.4	[-3.8; 1.0]	2004-2015			
	14.2	[2.8; 26.7]	2015-2018			

Source: Belgian Cancer Registry

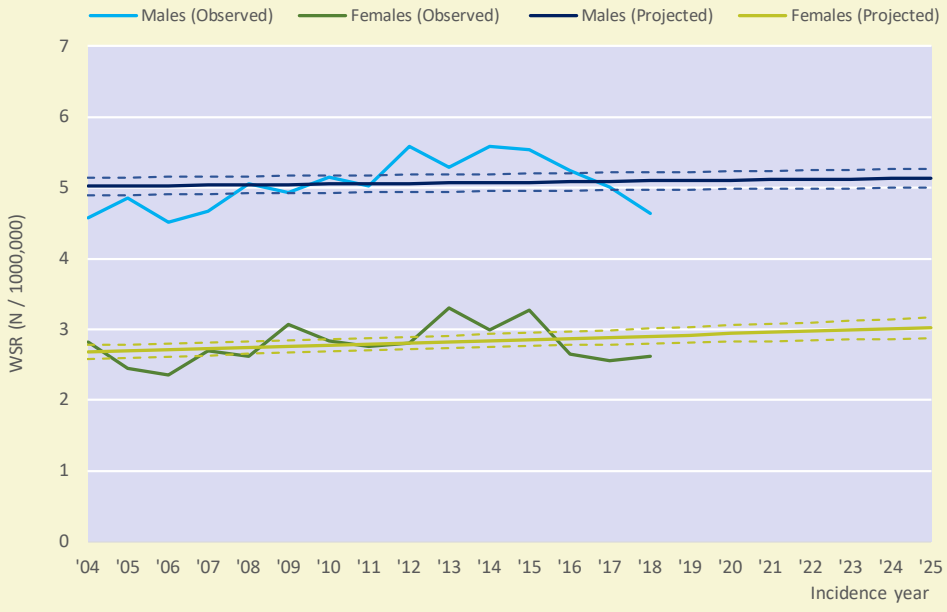
AAPC: average annual percentage change

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.

** Other mature B-cell leukaemias include B-cell prolymphocytic leukaemia, hairy cell leukaemia and mature B-cell leukaemia, NOS.*

Incidence projections

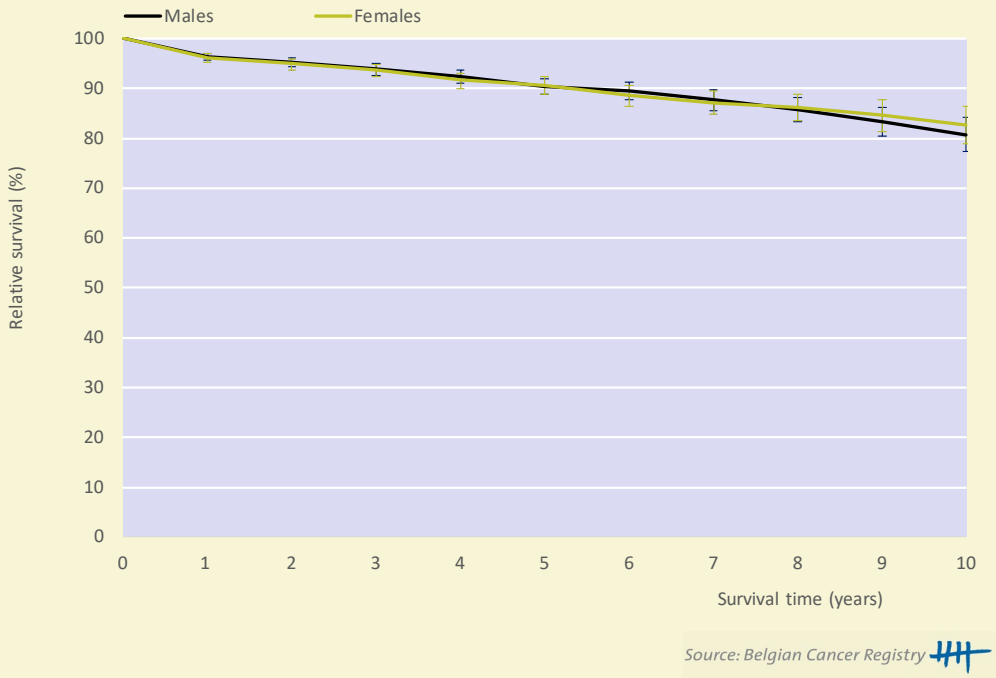
Figure 7 Mature B-cell leukaemias and related lymphomas: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Mature B-cell leukaemias and related lymphomas: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Mature B-cell leukaemias and related lymphomas: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

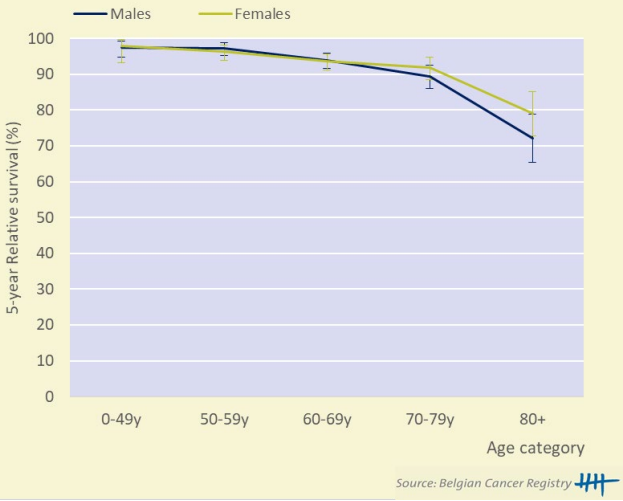
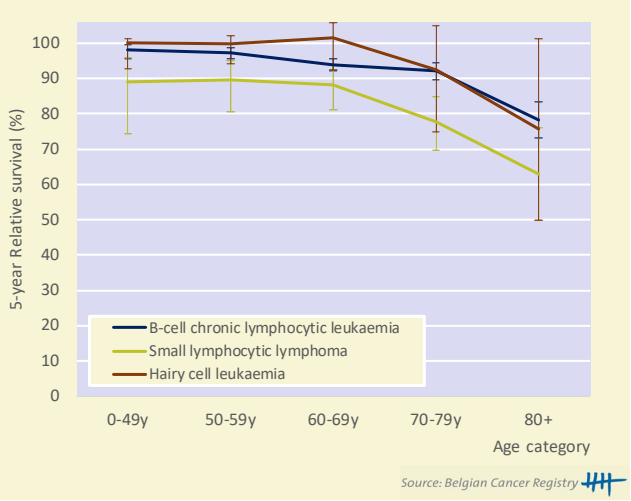


Figure 10 Mature B-cell leukaemias and related lymphomas: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



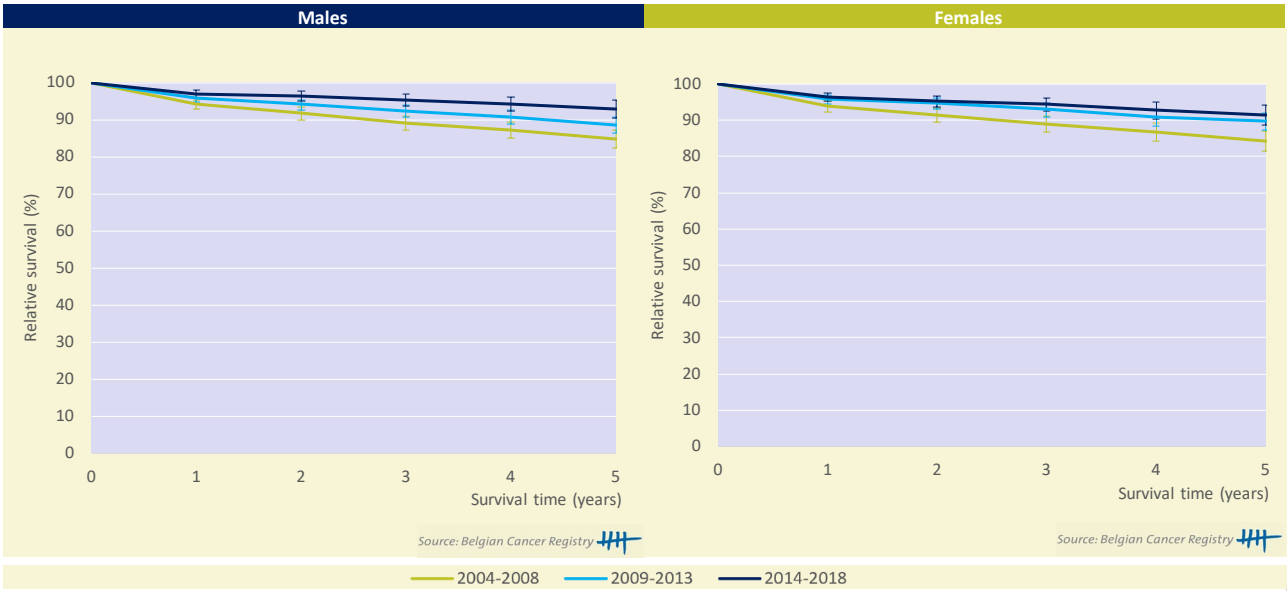
* The relative survival values are represented with 95% Confidence Intervals

Table 3 Mature B-cell leukaemias and related lymphomas: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)		
	Males	
X years since diagnosis	N at risk	%
1 year	5,015	92.9
2 year	4,433	92.0
3 year	3,706	91.4
	Females	
X years since diagnosis	N at risk	%
1 year	3,416	92.1
2 year	3,024	91.8
3 year	2,590	92.1

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Mature B-cell leukaemias and related lymphomas: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.1.2.2 IMMUNOPROLIFERATIVE DISEASES

MAIN SUBTYPES:

- *Waldenström macroglobulinemia*
- *Lymphoplasmacytic lymphoma*
- *Other Immunoproliferative diseases*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- Immunoproliferative disease is much more frequent in males than in females (male/female ratio: 2.1) and mostly diagnosed in the older population (very rare under the age 45).
- The incidence of Waldenström macroglobulinemia increases between 2004 and 2018, mainly in males (AAPC: 3.9% in males and 2.8% in females). This trend may partly be explained by better differentiating IgM-MGUS from Waldenström macroglobulinemia.

Survival (Table 3; Figure 8-11)

- The 10-year relative survival is 65% in males and 71% in females.
- The difference of the relative survival between both sexes is most pronounced in the age group 80+.
- The trends of the 5-year relative survival suggest an improvement over time:
  - Males: from 74% in 2004-2008 to 85% in 2014-2018
  - Females: from 76% in 2004-2008 to 88% to 2014-2018

Table 1 Immunoproliferative diseases: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	123	2.2	1.0
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	468	8.3	3.7
Prevalence (10 years), 2009-2018	687	12.2	5.5
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	576	84.7	[78.0;90.8]
10-year Relative survival, 2009-2018	1,000	64.7	[55.8;73.5]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	69	1.2	0.5
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	284	4.9	1.9
Prevalence (10 years), 2009-2018	423	7.3	2.8
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	336	87.8	[79.1;95.0]
10-year Relative survival, 2009-2018	565	70.7	[59.1;81.5]
Median age at diagnosis, 2018	73		
M/F-ratio, 2018	2.1		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Immunoproliferative diseases: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

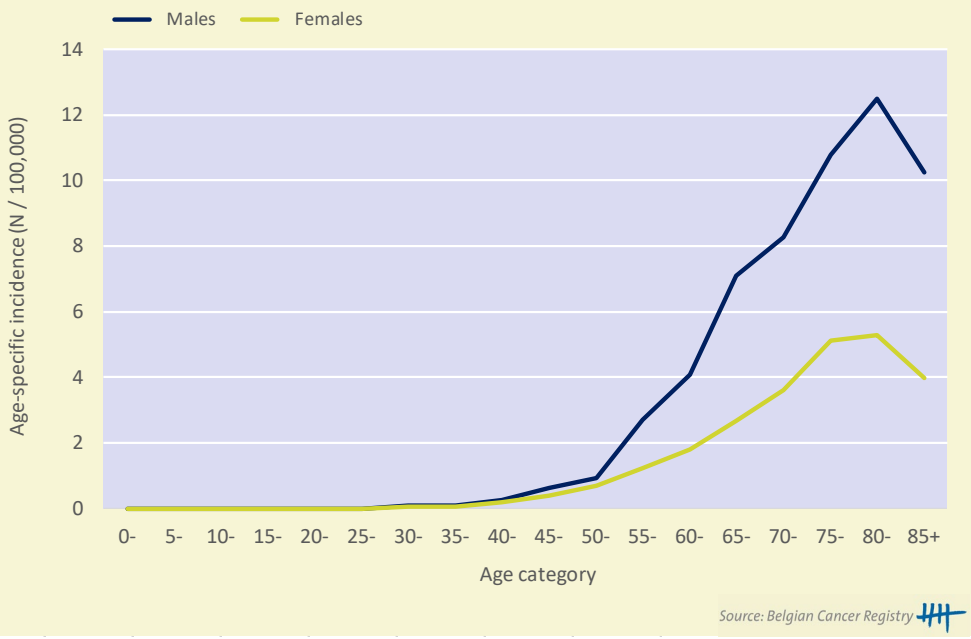


Figure 2 Immunoproliferative disease: Incidence by subtype, Belgium 2013-2018

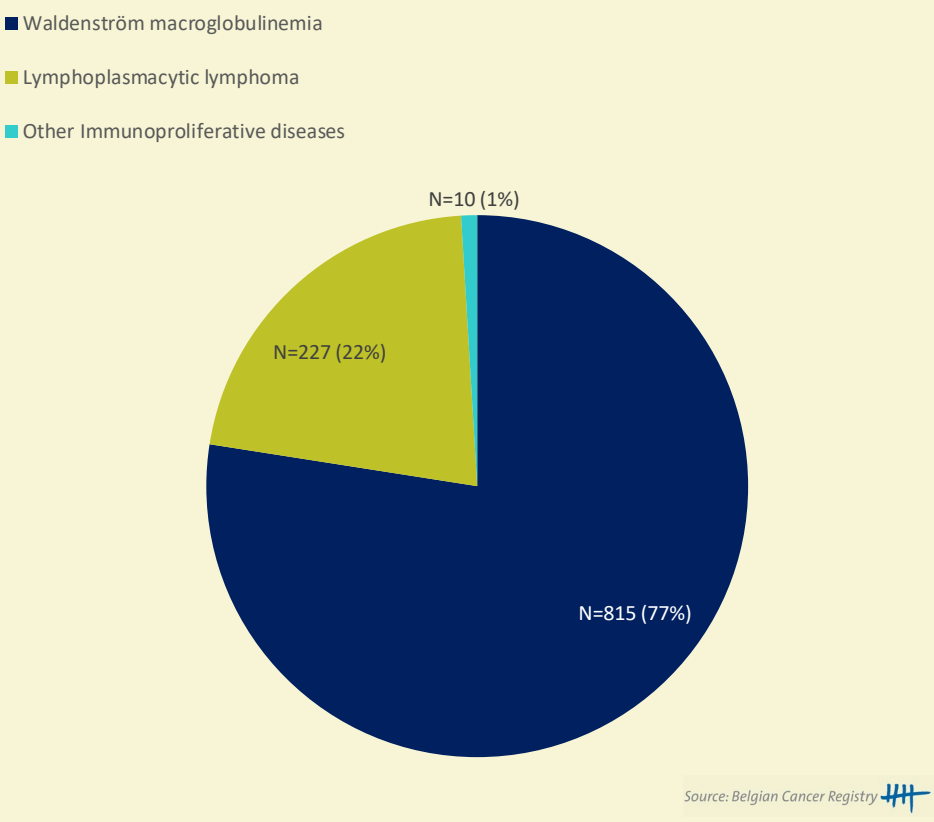


Figure 3 **Immunoproliferative diseases: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018**

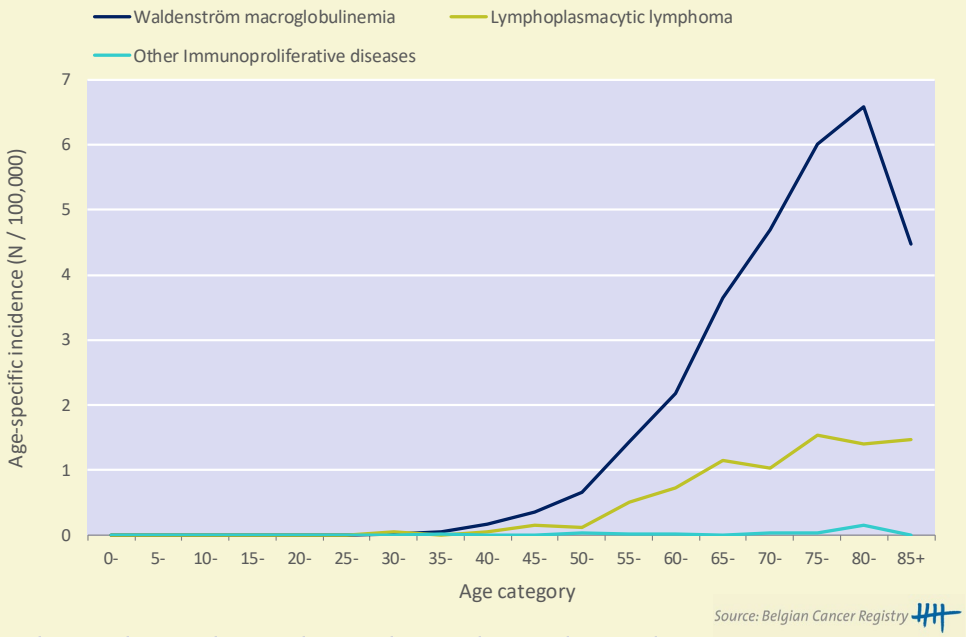
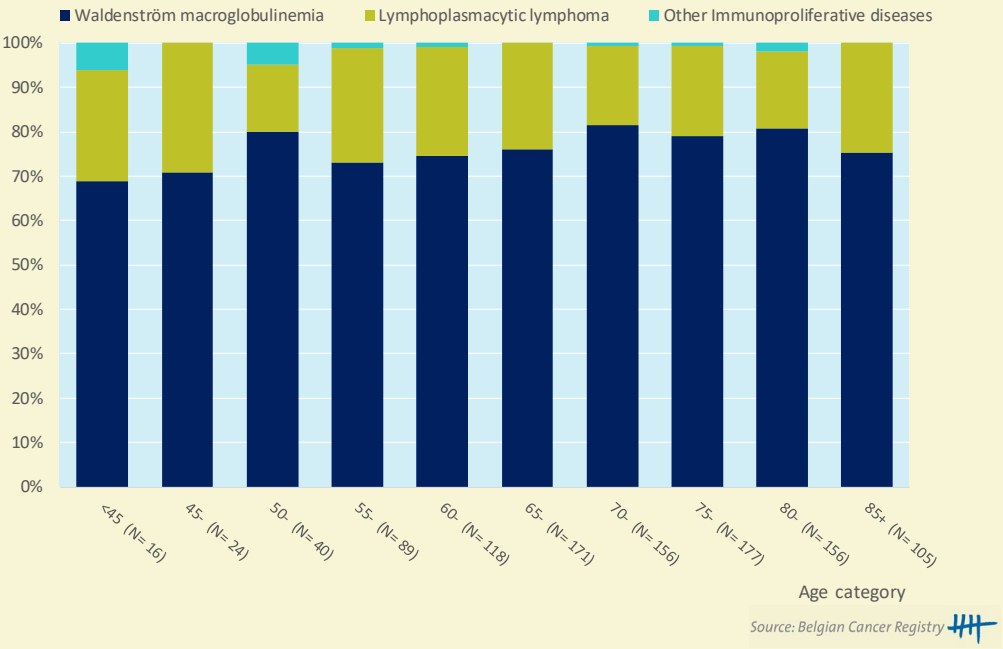
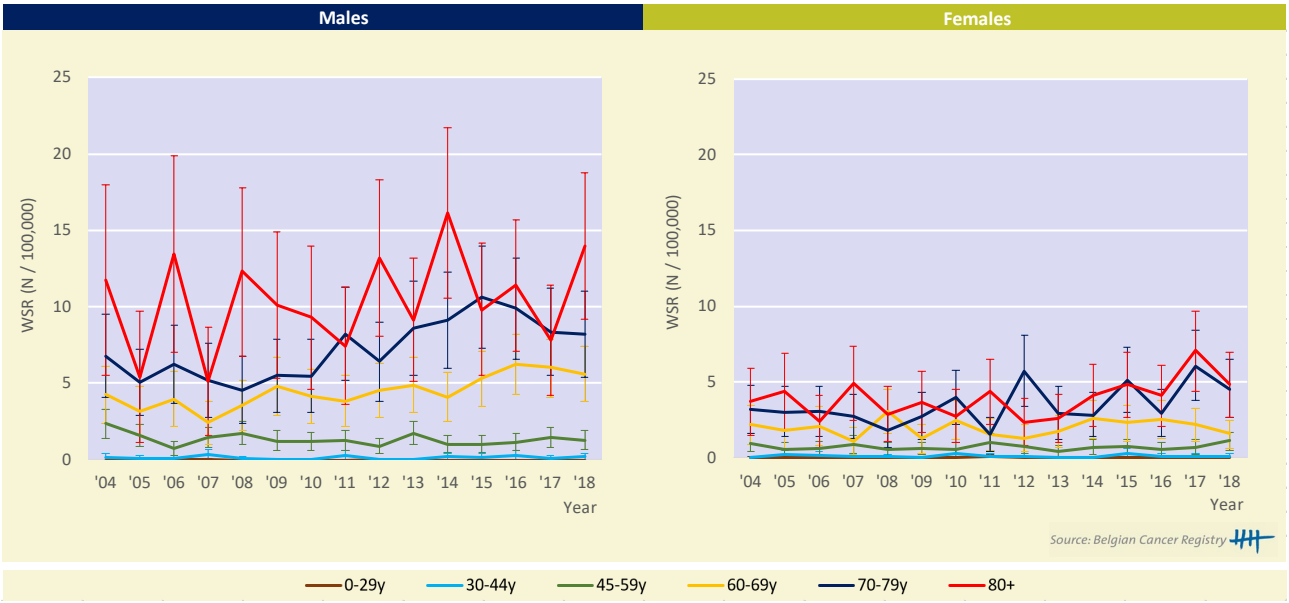


Figure 4 **Immunoproliferative diseases: Incidence by subtype and age group, Belgium 2013-2018**



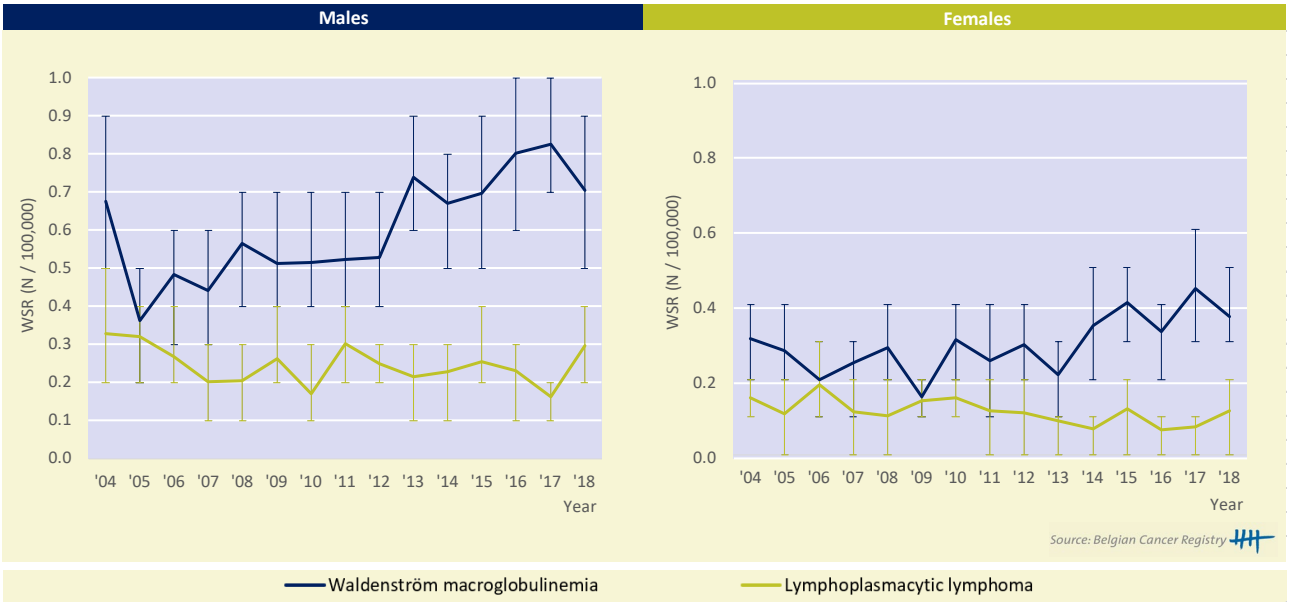
Incidence trends

Figure 5 Immunoproliferative diseases:
Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Immunoproliferative diseases: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Immunoproliferative diseases: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	-	-	-	-	-	-
30 - 44 yrs	-	-	-	-	-	-
45 - 59 yrs	-1.9	[-5.5; 1.8]	2004-2018	0.6	[-3.0; 4.2]	2004-2018
60 - 69 yrs	4.3	[2.0; 6.6]	2004-2018	0.9	[-3.0; 5.0]	2004-2018
70 - 79 yrs	1.6	[-0.3; 3.6]	2004-2018	3.9	[-0.8; 8.8]	2004-2018
	-7.1	[-12.6; -1.1]	2004-2008			
	11.9	[8.4; 15.5]	2008-2015			
	-8.5	[-16.1; -0.3]	2015-2018			
80+	2.2	[-2.1; 6.7]	2004-2018	4.1	[-0.2; 8.6]	2004-2018
				0.4	[-4.5; 5.6]	2004-2015
				18.6	[-4.4; 47.3]	2015-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Waldenström macroglobulinemia	3.9	[1.8; 6.2]	2004-2018	2.8	[0.0; 5.6]	2004-2018
				-5.6	[-13.4; 2.9]	2004-2009
				7.8	[3.1; 12.7]	2009-2018
Lymphoplasmacytic lymphoma	-1.5	[-4.2; 1.2]	2004-2018	-4.0	[-7.0; -1.0]	2004-2018

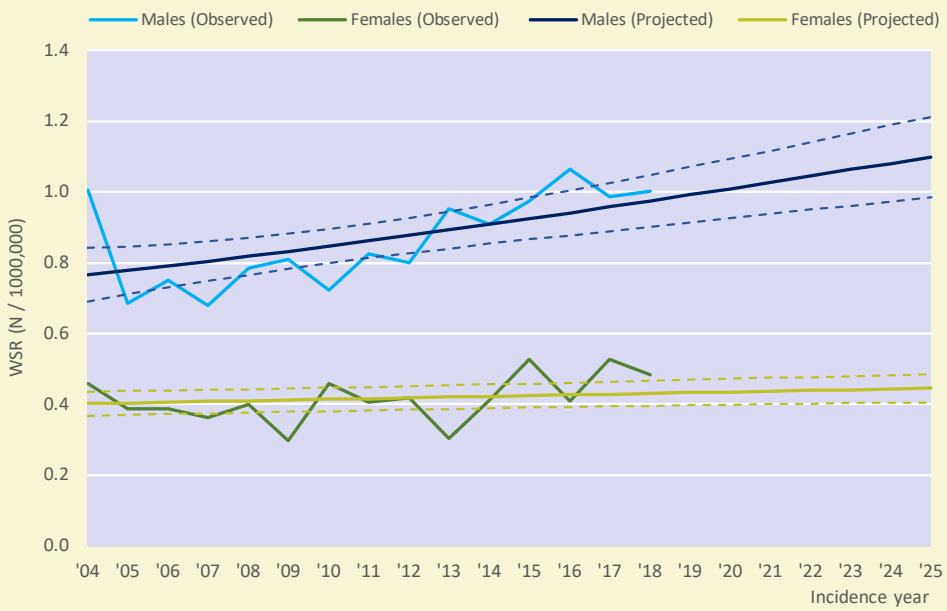
Source: Belgian Cancer Registry

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.

Incidence projections

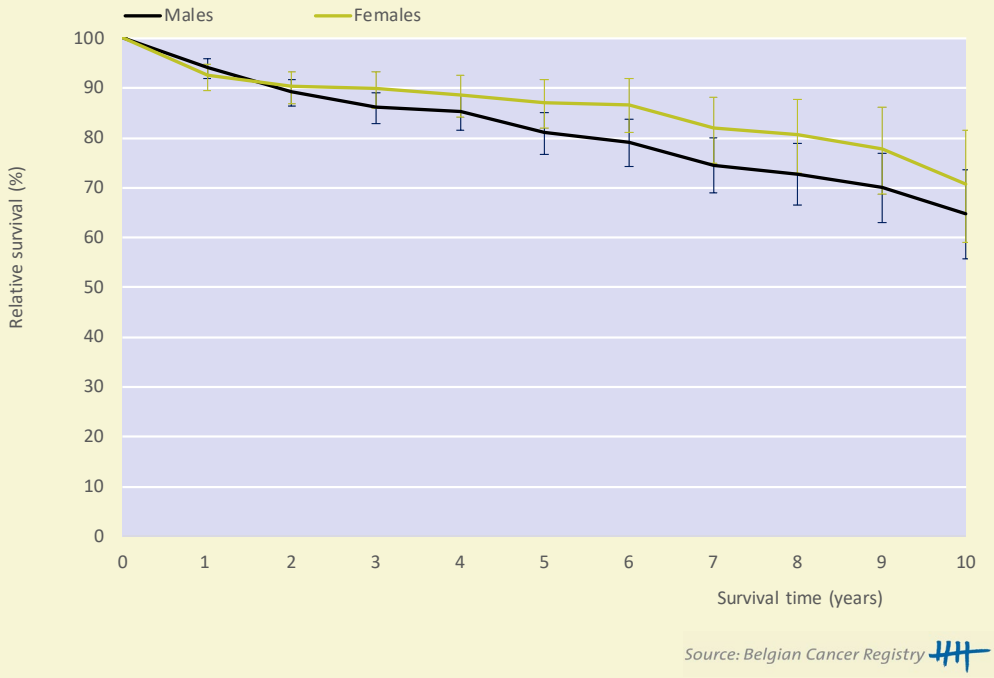
Figure 7 Immunoproliferative diseases: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Immunoproliferative diseases: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Immunoproliferative diseases: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

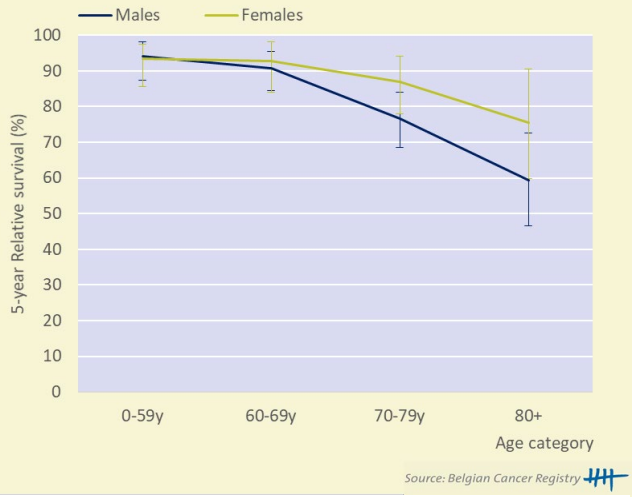
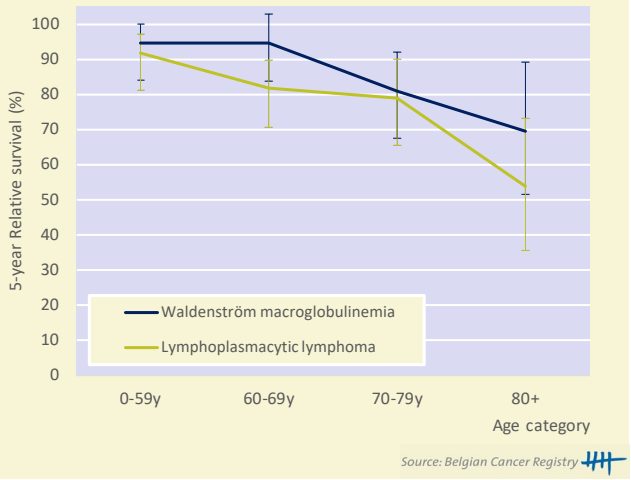


Figure 10 Immunoproliferative diseases: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



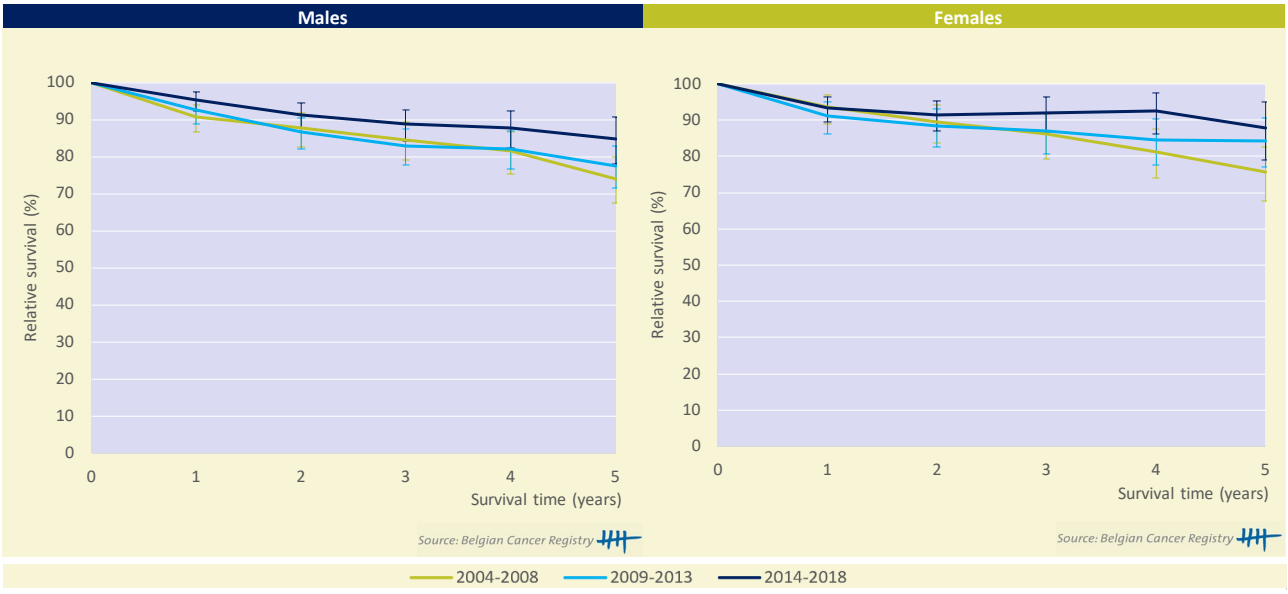
* The relative survival values are represented with 95% Confidence Intervals

Table 3 Immunoproliferative diseases: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)		
	Males	
X years since diagnosis	N at risk	%
1 year	900	84.1
2 year	745	83.5
3 year	607	84.5
	Females	
X years since diagnosis	N at risk	%
1 year	506	93.7
2 year	438	90.7
3 year	352	89.8

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Immunoproliferative diseases: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.1.2.3 PLASMA CELL NEOPLASMS

MAIN SUBTYPES:

- *Plasma cell myeloma*
- *Plasmacytoma (includes solitary plasmacytoma of bone and extraosseous (extramedullary) plasmacytoma)*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- Plasma cell neoplasms are mostly diagnosed in the older population (very rare under the age 35).
- Between 2004 and 2018 the incidence rates increase in Belgium. The increase is mostly pronounced in the older age groups (i.e. 70+ years).
- For plasma cell myeloma, the AAPC is 1.9% in males and 1.2% in females. This may be partly explained by the improved diagnostic tools.

Survival (Table 3; Figure 8-11)

- The relative survival of myeloma and plasmacytoma is generally similar except in the older age group (i.e. 80+ years : better relative survival of plasmacytoma).
- The 5-year relative survival improves over time in both sexes:
  - Males: From 53% in 2004-2008 to 60% in 2014-2018
  - Females: From 51% in 2004-2008 to 59% to 2014-2018

Table 1 Plasma cell neoplasms: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	567	10.1	4.7
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	1,710	30.4	14.3
Prevalence (10 years), 2009-2018	2,477	44.0	20.7
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	2,474	60.0	[56.8;63.3]
10-year Relative survival, 2009-2018	4,621	39.2	[35.9;42.5]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	442	7.6	3.1
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	1,410	24.3	10.2
Prevalence (10 years), 2009-2018	1,975	34.0	14.3
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	2,027	59.4	[56.0;62.7]
10-year Relative survival, 2009-2018	3,696	37.1	[33.9;40.4]
Median age at diagnosis, 2018	72		
M/F-ratio, 2018	1.5		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Plasma cell neoplasms: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

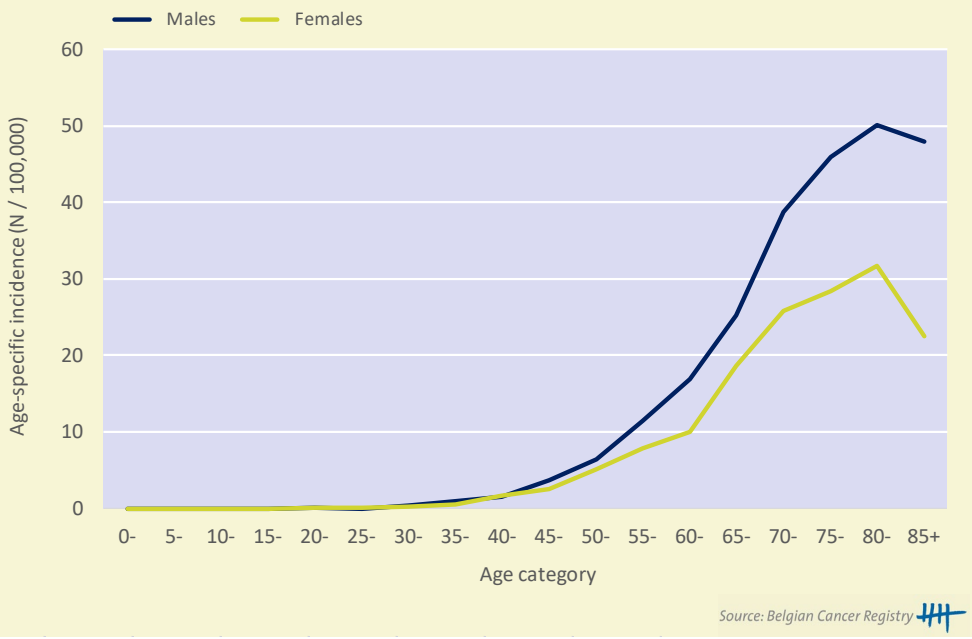


Figure 2 Plasma cell neoplasms: Incidence by subtype, Belgium 2013-2018

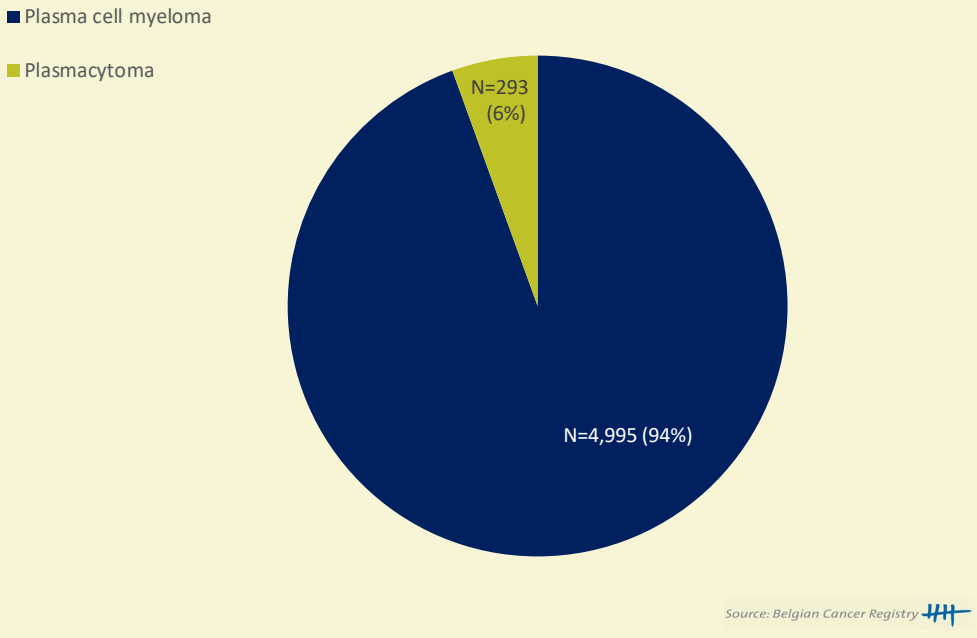


Figure 3 Plasma cell neoplasms:
Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

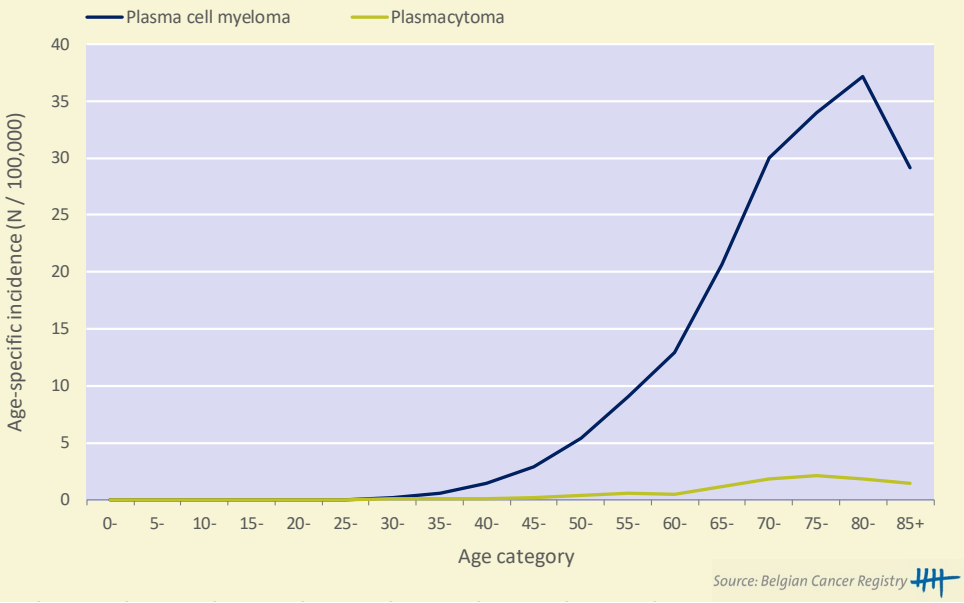
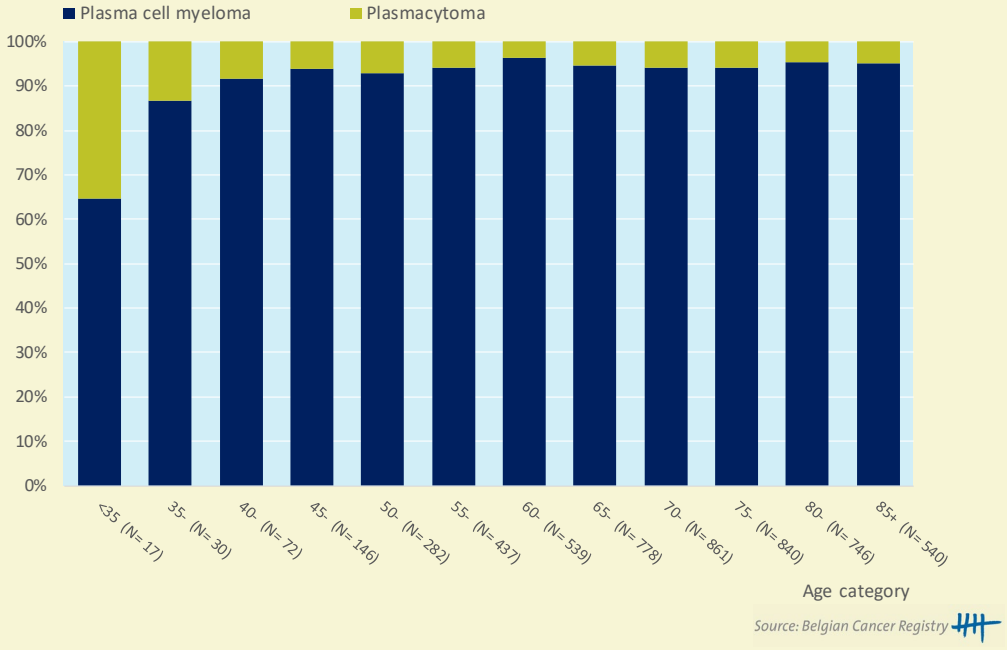
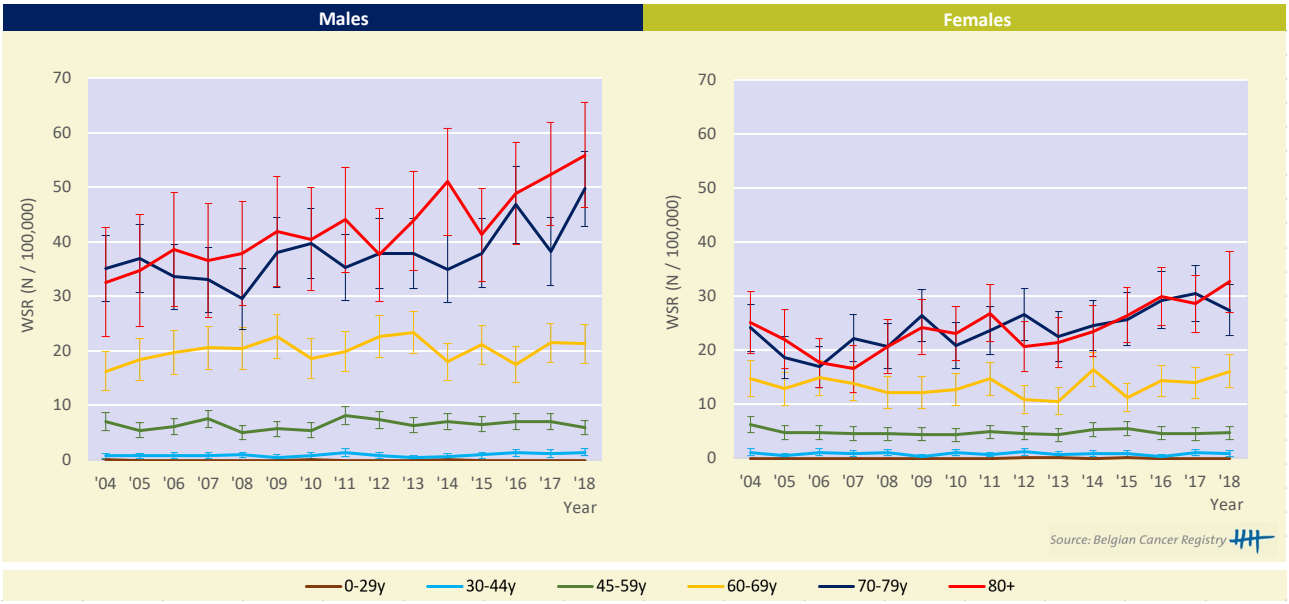


Figure 4 Plasma cell neoplasms:
Incidence by subtype and age group, Belgium 2013-2018



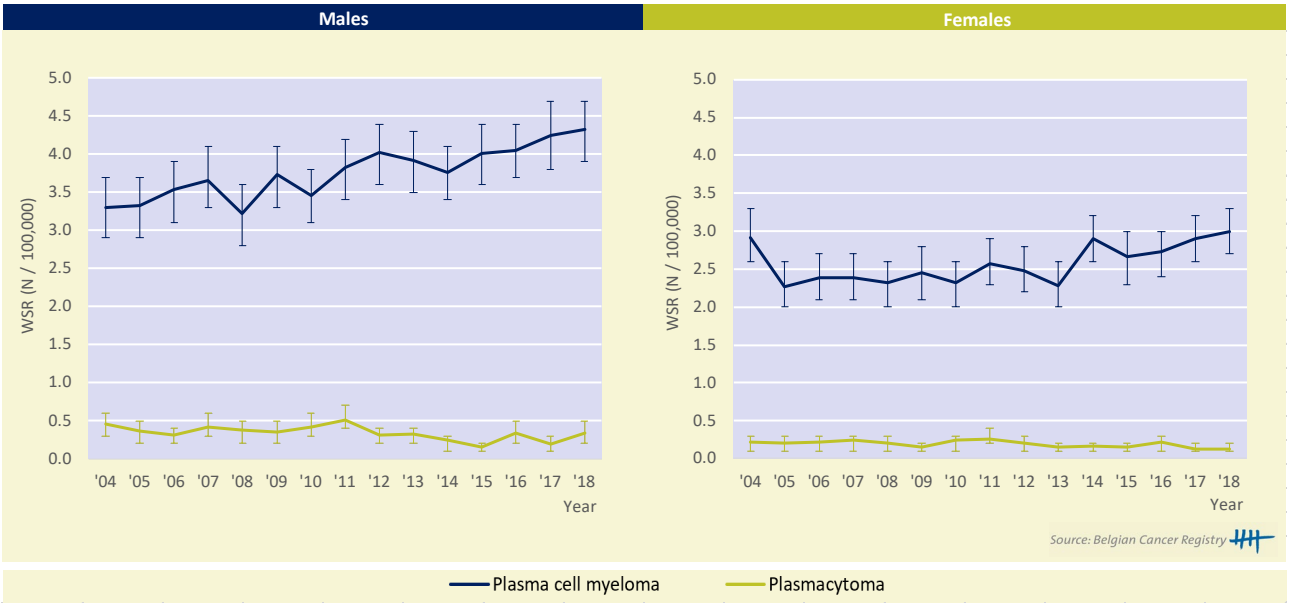
Incidence trends

Figure 5 Plasma cell neoplasms: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Plasma cell neoplasms: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Plasma cell neoplasms: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	-	-	-	-	-	-
30 - 44 yrs	2.9	[-1.2; 7.2]	2004-2018	-0.4	[-5.5; 5.0]	2004-2018
45 - 59 yrs	0.7	[-1.1; 2.6]	2004-2018	-1.2	[-2.4; -0.1]	2004-2018
				-8.4	[-13.8; -2.8]	2004-2007
				0.8	[-0.6; 2.2]	2007-2018
60 - 69 yrs	0.8	[-0.5; 2.1]	2004-2018	0.2	[-1.5; 1.9]	2004-2018
				-2.6	[-6.3; 1.2]	2004-2011
				3.1	[-0.8; 7.1]	2011-2018
70 - 79 yrs	1.9	[0.6; 3.2]	2004-2018	2.8	[1.3; 4.3]	2004-2018
80+	3.2	[2.2; 4.2]	2004-2018	3.3	[1.4; 5.1]	2004-2018
				0.8	[-2.0; 3.8]	2004-2013
				7.7	[1.9; 13.9]	2013-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Plasma cell myeloma	1.9	[1.3; 2.4]	2004-2018	1.2	[0.2; 2.2]	2004-2018
				-0.9	[-3.0; 1.2]	2004-2011
				3.4	[1.2; 5.6]	2011-2018
Plasmacytoma	-3.9	[-7.2; -0.5]	2004-2018	-3.6	[-5.9; -1.2]	2004-2018

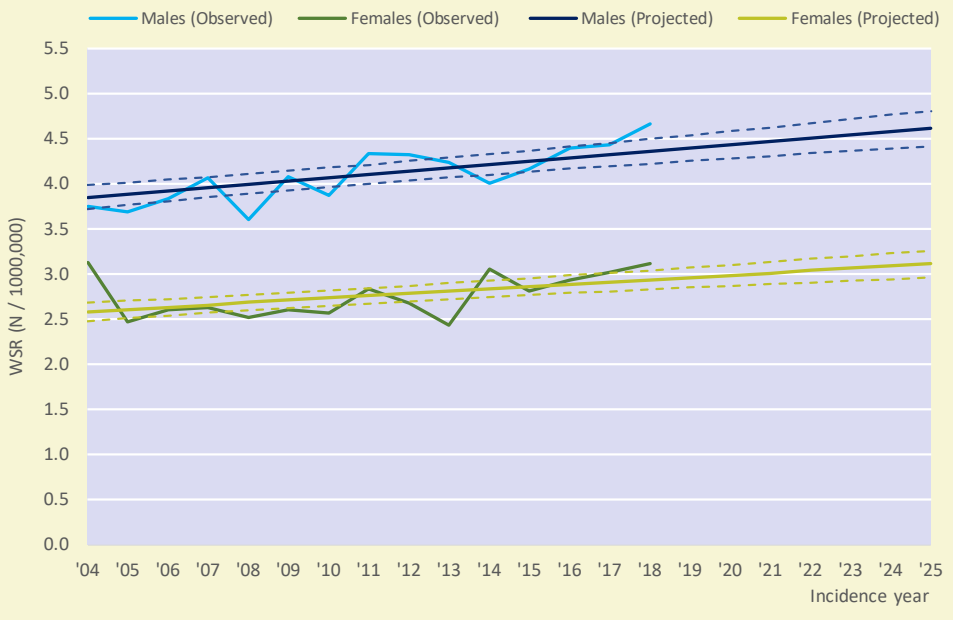
Source: Belgian Cancer Registry

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.

Incidence projections

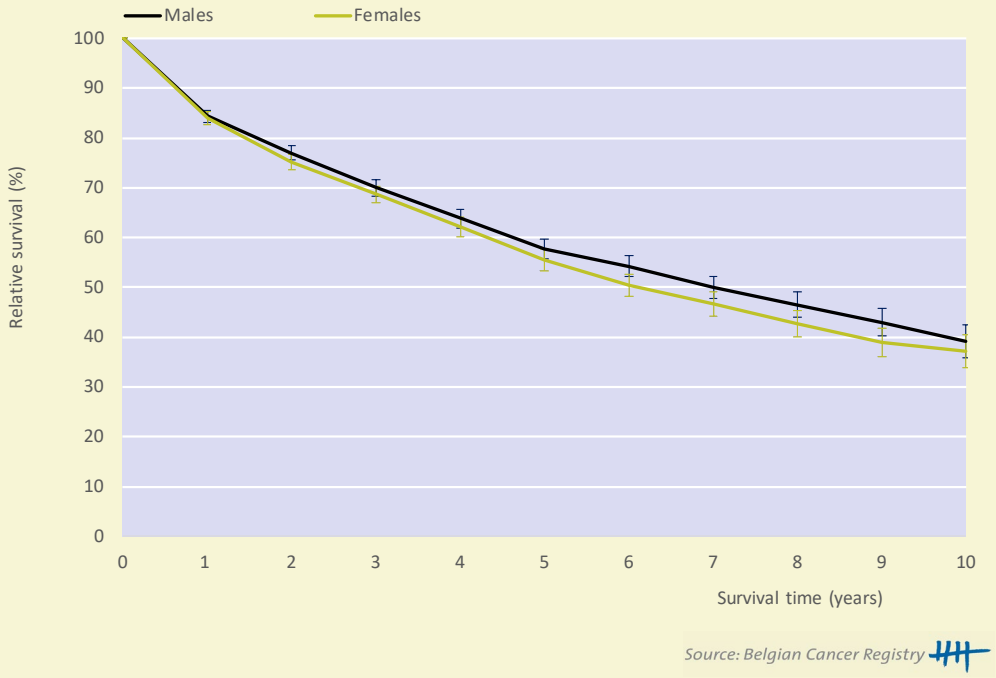
Figure 7 Plasma cell neoplasms: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Plasma cell neoplasms: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Plasma cell neoplasms:
Age-specific 5-year relative survival* by sex, Belgium 2009-2018

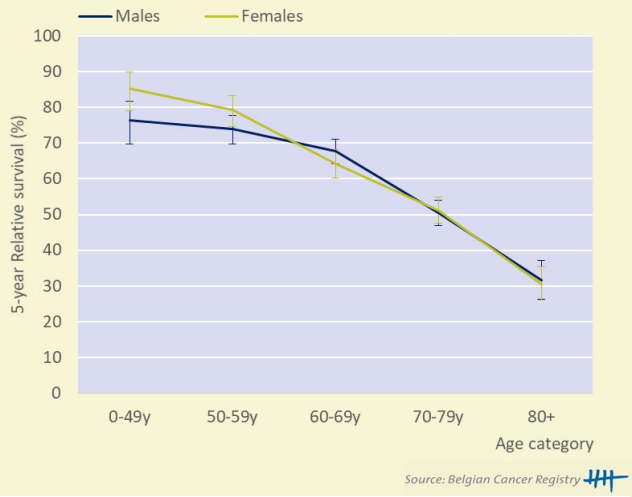
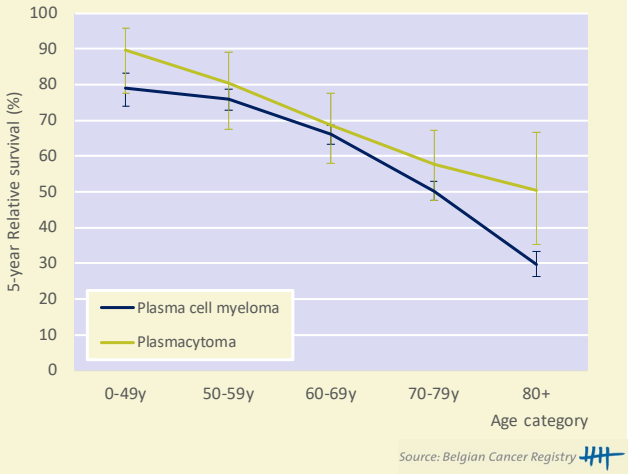


Figure 10 Plasma cell neoplasms:
Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



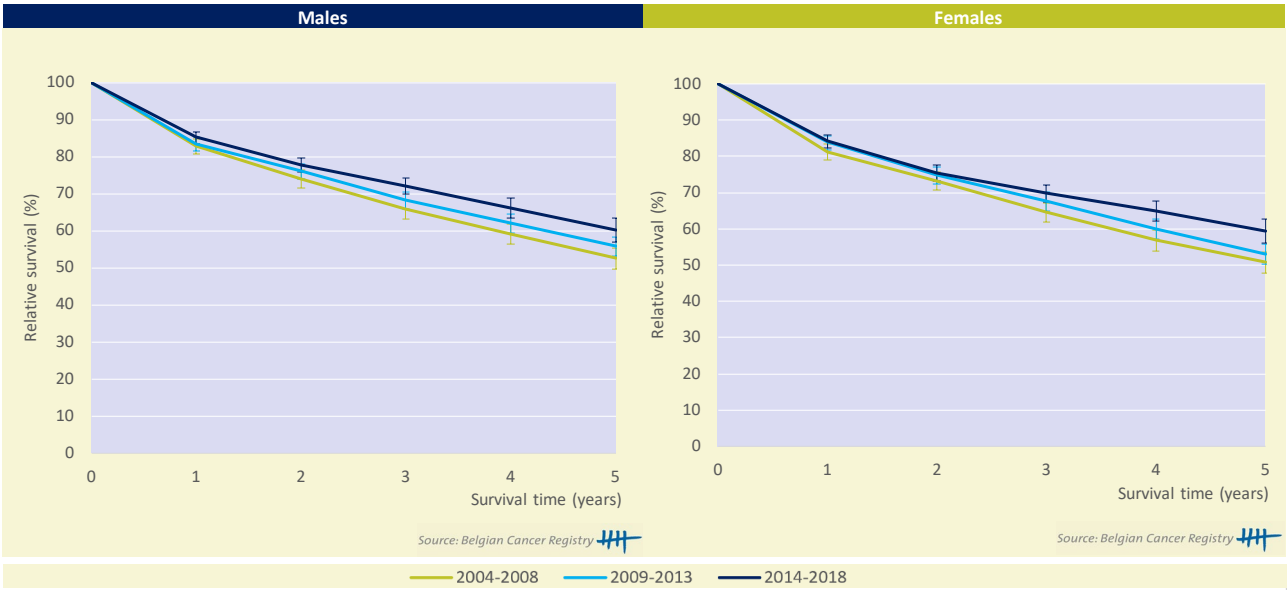
* The relative survival values are represented with 95% Confidence Intervals

Table 3 Plasma cell neoplasms: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)		
	Males	
X years since diagnosis	N at risk	%
1 year	3,752	64.3
2 year	2,984	64.9
3 year	2,296	66.3
	Females	
X years since diagnosis	N at risk	%
1 year	3,010	60.1
2 year	2,367	62.1
3 year	1,824	62.3

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Plasma cell neoplasms: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.1.2.4 MARGINAL ZONE LYMPHOMAS

MAIN SUBTYPES:

- *Splenic marginal zone lymphoma*
- *Other marginal zone lymphoma (nodal and extranodal)*

KEYNOTES

Incidence (Table 1-2; Figure 1-6)

- Marginal zone lymphoma is mostly diagnosed in the older population (very rare below the age 35).
- The incidence of marginal zone lymphoma increases between 2004 and 2018 with an AAPC of 3.1% in males and 2.9% in females. This increase is mainly observed in the age group 70+.

Survival (Table 3; Figure 7-9)

- The 10-year relative survival is similar in both sexes with 81% in males and 82% in females.
- In males, the 5-year relative survival remains stable over time. In females, the 5-year relative survival increases from 83% in 2004-2008 to 92% in 2014-2018.

Table 1 Marginal zone lymphomas: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	175	3.1	1.6
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	713	12.7	6.6
Prevalence (10 years), 2009-2018	1,080	19.2	9.8
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	871	87.0	[82.3;91.3]
10-year Relative survival, 2009-2018	1,471	80.7	[73.8;87.3]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	162	2.8	1.3
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	735	12.7	5.7
Prevalence (10 years), 2009-2018	1,178	20.3	9.0
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	849	91.9	[87.6;95.6]
10-year Relative survival, 2009-2018	1,537	81.6	[75.3;87.4]
Median age at diagnosis, 2018	70		
M/F-ratio, 2018	1.2		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Marginal zone lymphomas: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

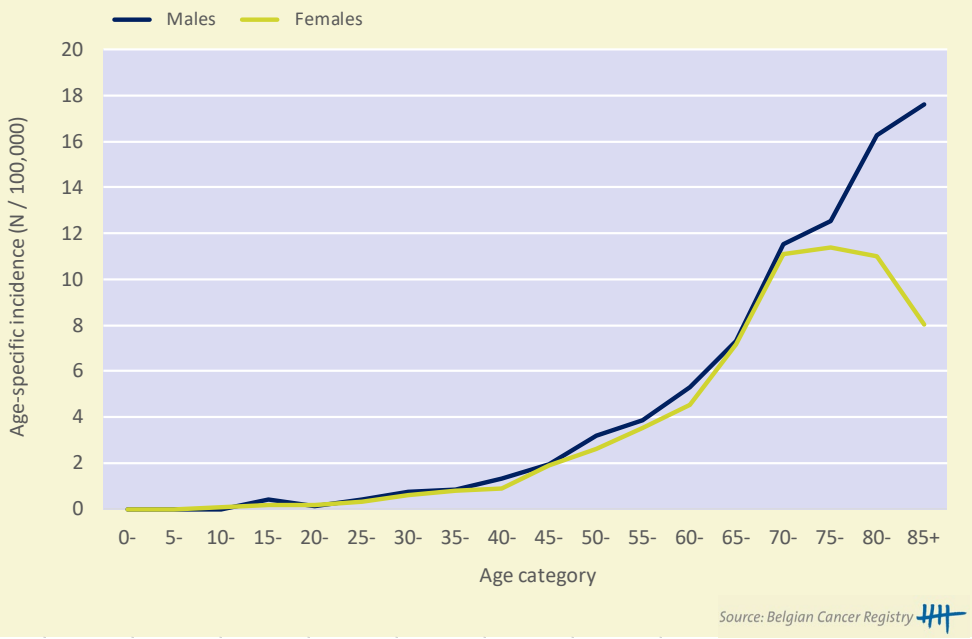


Figure 2 Marginal zone lymphomas: Incidence by subtype, Belgium 2013-2018

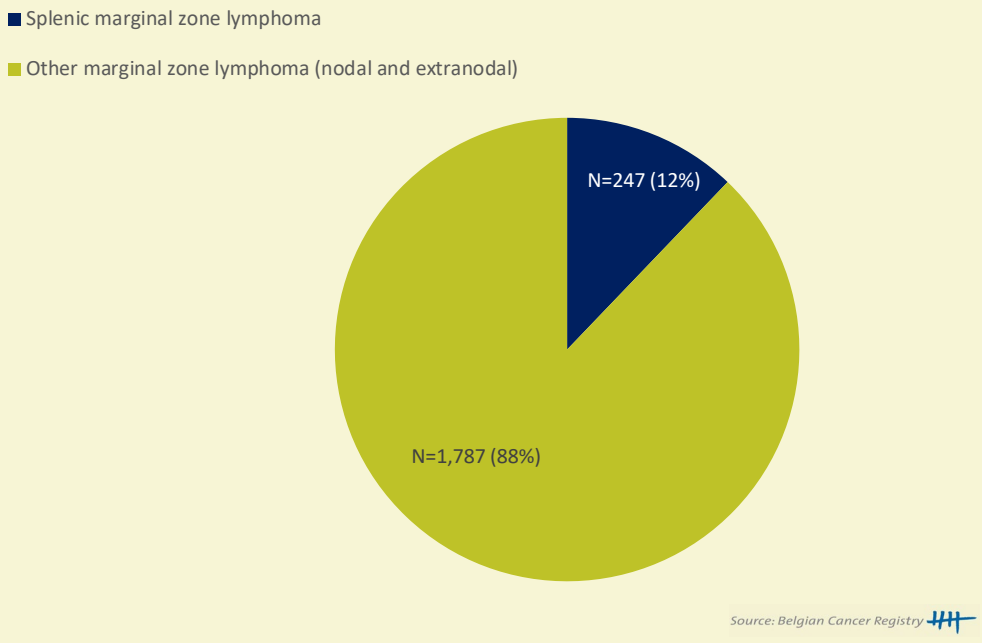


Figure 3 Marginal zone lymphomas:
Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

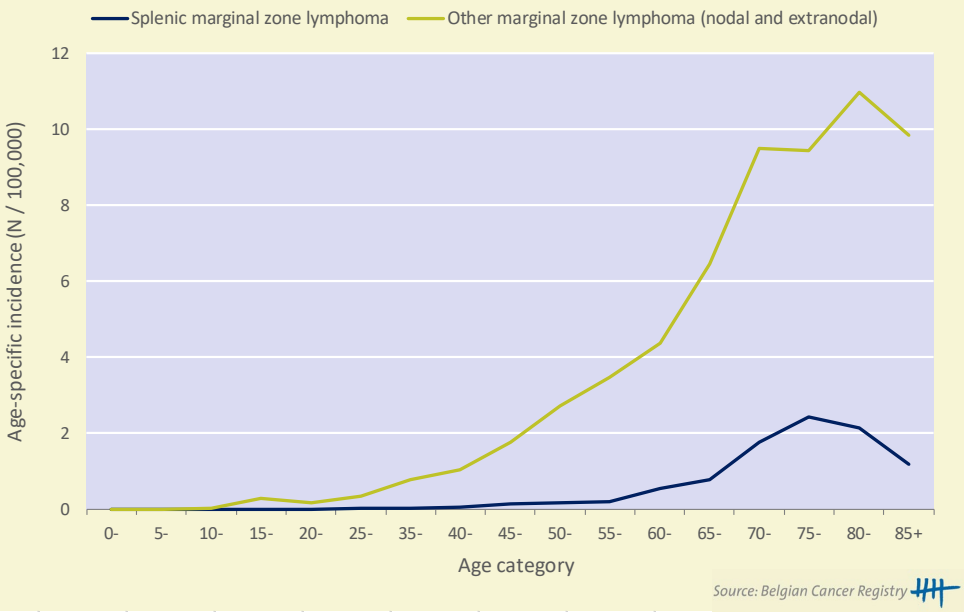
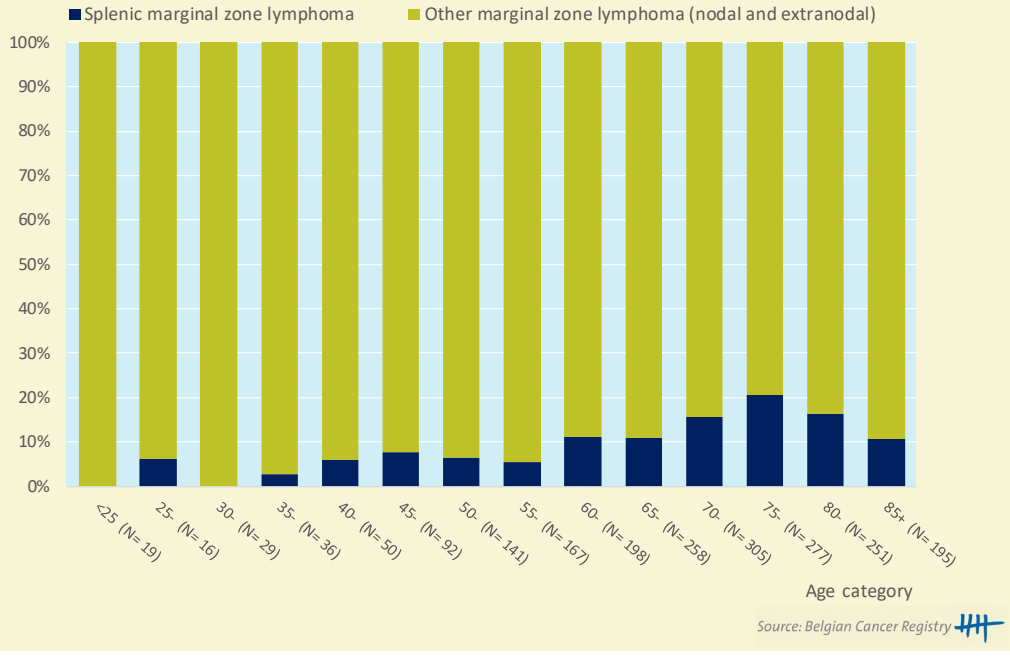
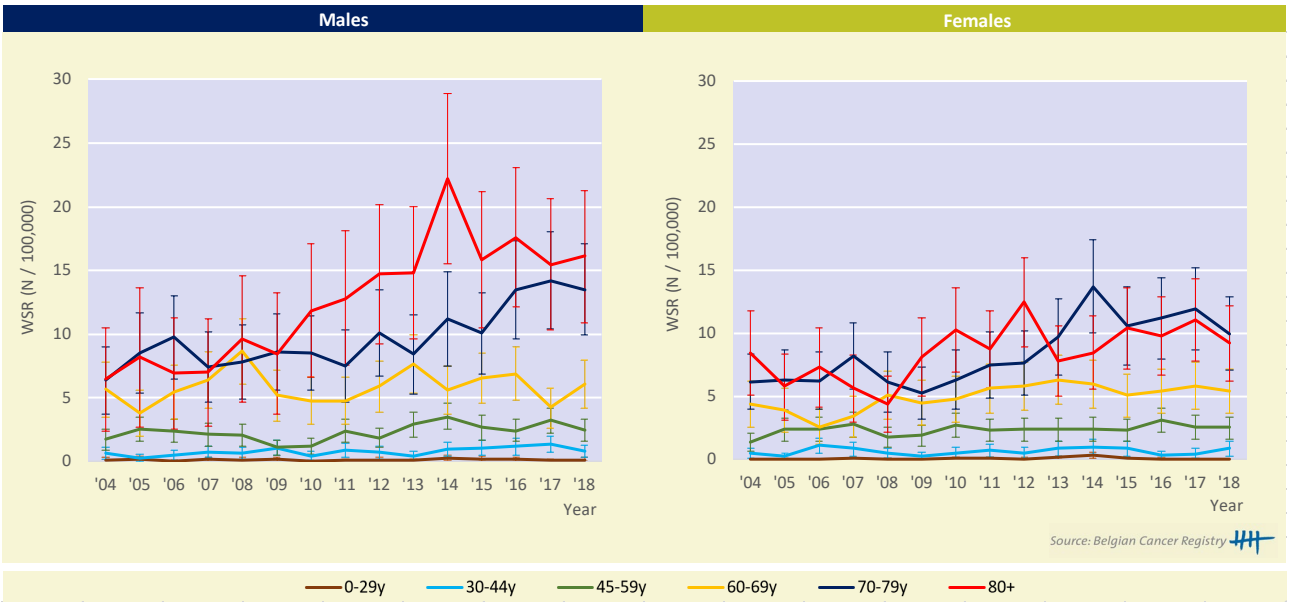


Figure 4 Marginal zone lymphomas:
Incidence by subtype and age group, Belgium 2013-2018



Incidence trends

Figure 5 Marginal zone lymphomas: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Table 2 Marginal zone lymphomas: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	-	-	-	.		.-.
30 - 44 yrs	6.1	[1.2; 11.1]	2004-2018	2.4	[-3.7; 9.0]	2004-2018
45 - 59 yrs	2.8	[-0.8; 6.7]	2004-2018	2.3	[-0.0; 4.6]	2004-2018
	-4.5	[-13.2; 5.1]	2004-2010			
	8.7	[1.4; 16.5]	2010-2018			
60 - 69 yrs	0.8	[-2.1; 3.7]	2004-2018	3.3	[1.1; 5.6]	2004-2018
				6.5	[2.7; 10.3]	2004-2013
				-2.1	[-8.6; 4.9]	2013-2018
70 - 79 yrs	4.5	[2.8; 6.2]	2004-2018	5.0	[2.7; 7.4]	2004-2018
	1.1	[-2.5; 4.7]	2004-2011	-0.1	[-6.9; 7.2]	2004-2009
	8.1	[4.3; 12.0]	2011-2018	8.0	[4.1; 12.0]	2009-2018
80+	7.1	[5.2; 9.0]	2004-2018	3.8	[0.8; 6.9]	2004-2018
	11.5	[8.8; 14.3]	2004-2014			
	-3.2	[-9.7; 3.6]	2014-2018			

Source: Belgian Cancer Registry

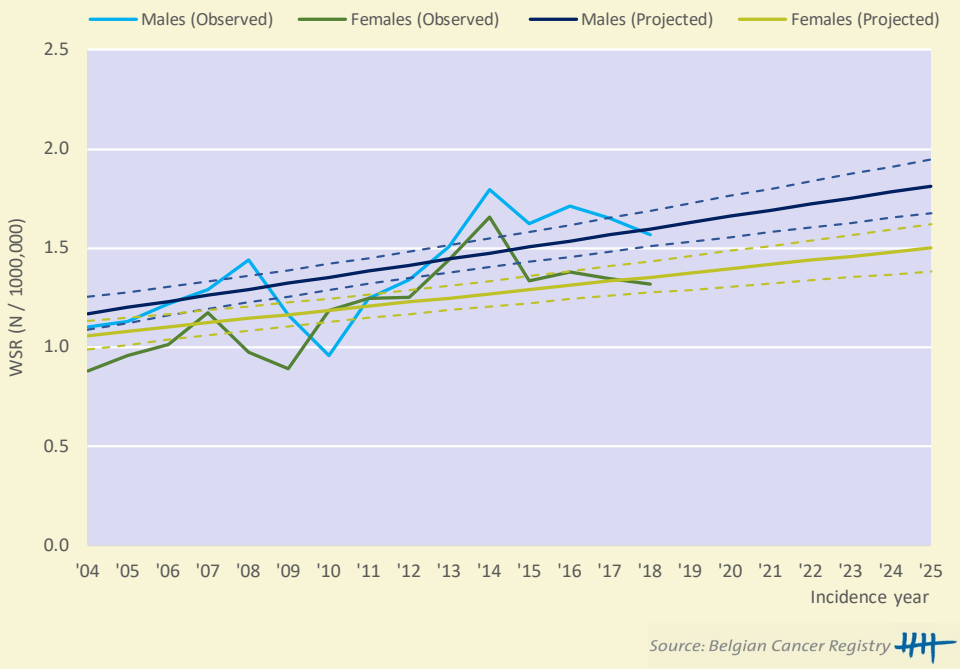
AAPC: average annual percentage change

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.

Incidence projections

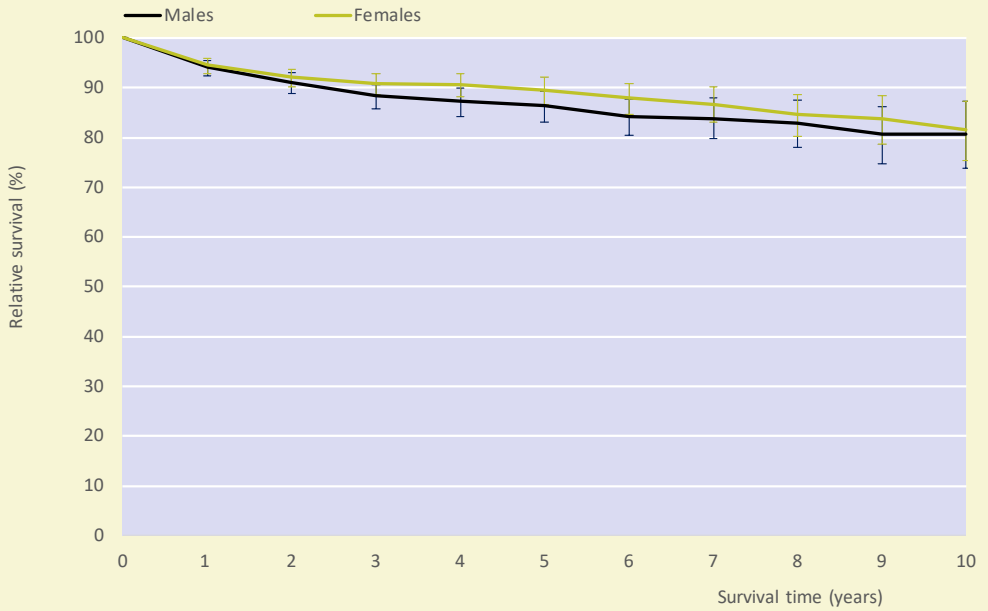
Figure 6 Marginal zone lymphomas: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

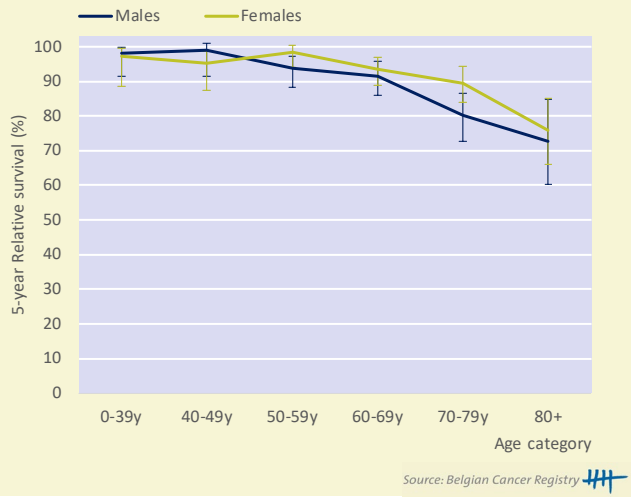
Figure 7 Marginal zone lymphomas: Relative survival* by sex, Belgium 2009-2018



Source: Belgian Cancer Registry

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

Figure 8 Marginal zone lymphomas:
Age-specific 5-year relative survival* by sex, Belgium 2009-2018



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

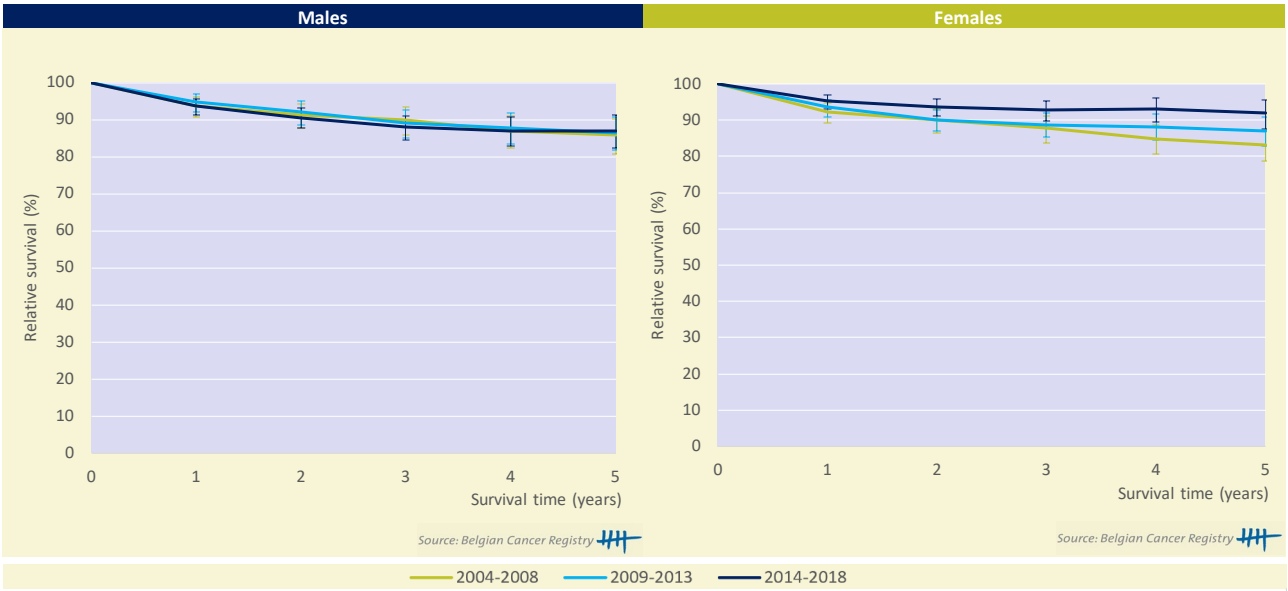
Table 3 Marginal zone lymphomas: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

	Males	
X years since diagnosis	N at risk	%
1 year	1,323	89.5
2 year	1,122	92.0
3 year	916	93.9
	Females	
X years since diagnosis	N at risk	%
1 year	1,407	93.0
2 year	1,218	94.1
3 year	1,022	93.1

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 9 Marginal zone lymphomas: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.1.2.5 FOLLICULAR LYMPHOMA AND RELATED LYMPHOMA

MAIN SUBTYPES:

- *Follicular lymphoma*
- *Primary cutaneous follicle centre lymphoma*

KEYNOTES

Incidence (Table 1-2; Figure 1-6)

- Follicular lymphoma is mostly diagnosed in the older population (very rare below the age 35). The age-specific incidence rates are very similar in males and females.
- Based on the incidence projections, the incidence rates (WSR) are expected to remain stable.

Survival (Table 3; Figure 7-9)

- Patients diagnosed with follicular lymphoma and related lymphoma have a very good prognosis. The 10-year relative survival is 86% for both sexes.
- The 5-year relative survival shows a moderate decrease in older age groups: from 93% in the age group 60-69 years to 79% in age group 80+.

Table 1 Follicular lymphoma and related lymphoma: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	202	3.6	2.0
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	878	15.6	8.6
Prevalence (10 years), 2009-2018	1,485	26.4	14.3
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	995	91.1	[86.8;94.8]
10-year Relative survival, 2009-2018	1,874	86.1	[81.6;90.4]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	211	3.7	1.8
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	884	15.2	7.6
Prevalence (10 years), 2009-2018	1,601	27.6	12.9
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	1,009	89.0	[85.2;92.3]
10-year Relative survival, 2009-2018	1,998	85.5	[81.1;89.7]
Median age at diagnosis, 2018	65		
M/F-ratio, 2018	1.1		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Follicular lymphoma and related lymphoma: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

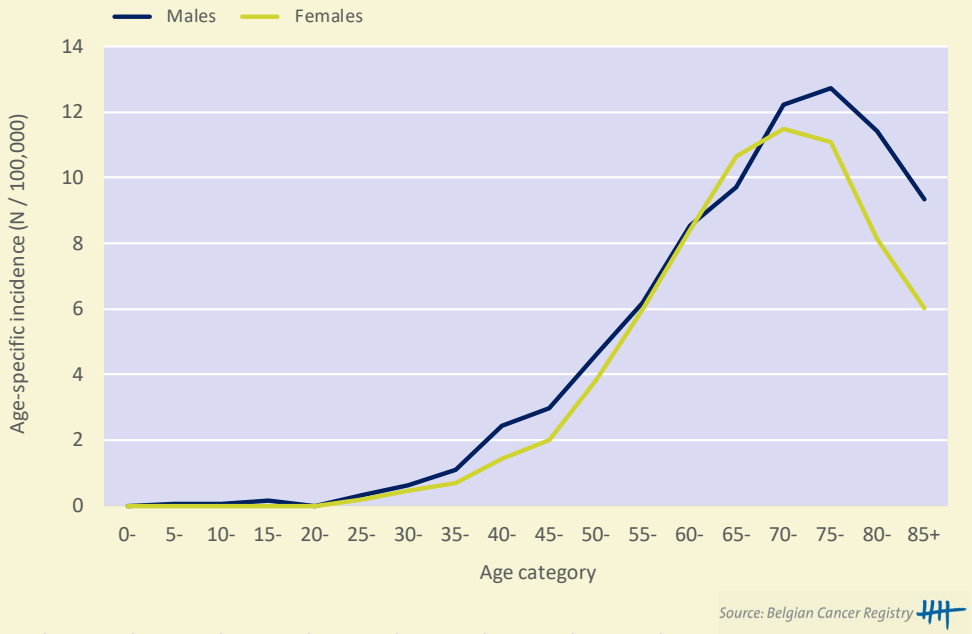


Figure 2 Follicular lymphoma and related lymphoma: Incidence by subtype, Belgium 2013-2018

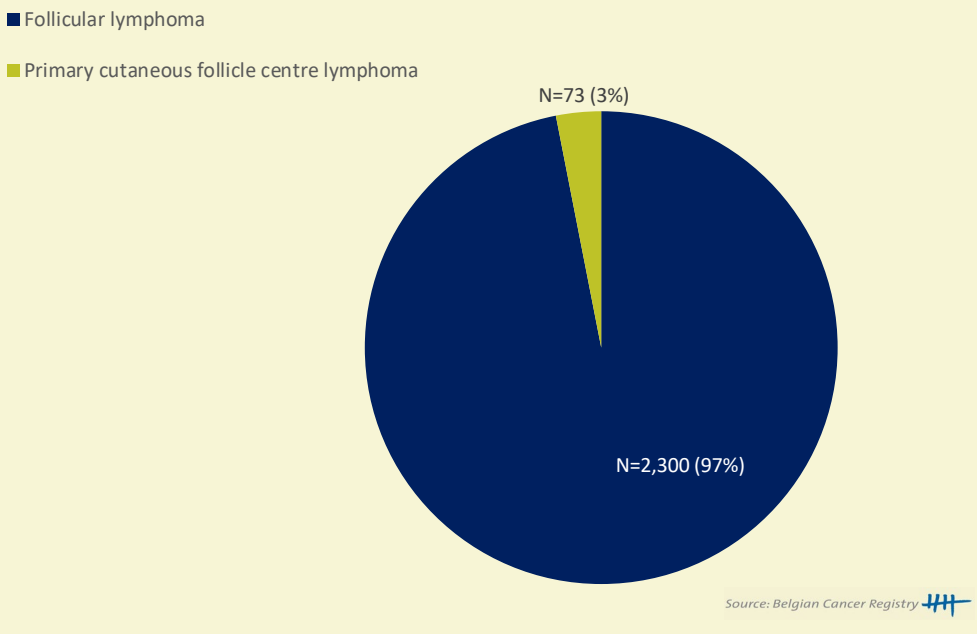


Figure 3 Follicular lymphoma and related lymphoma:
Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

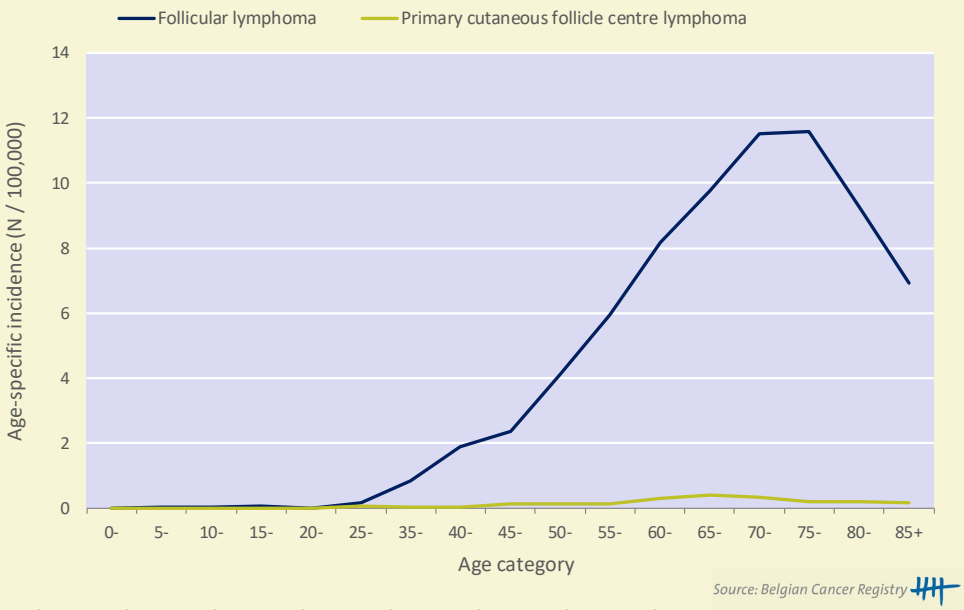
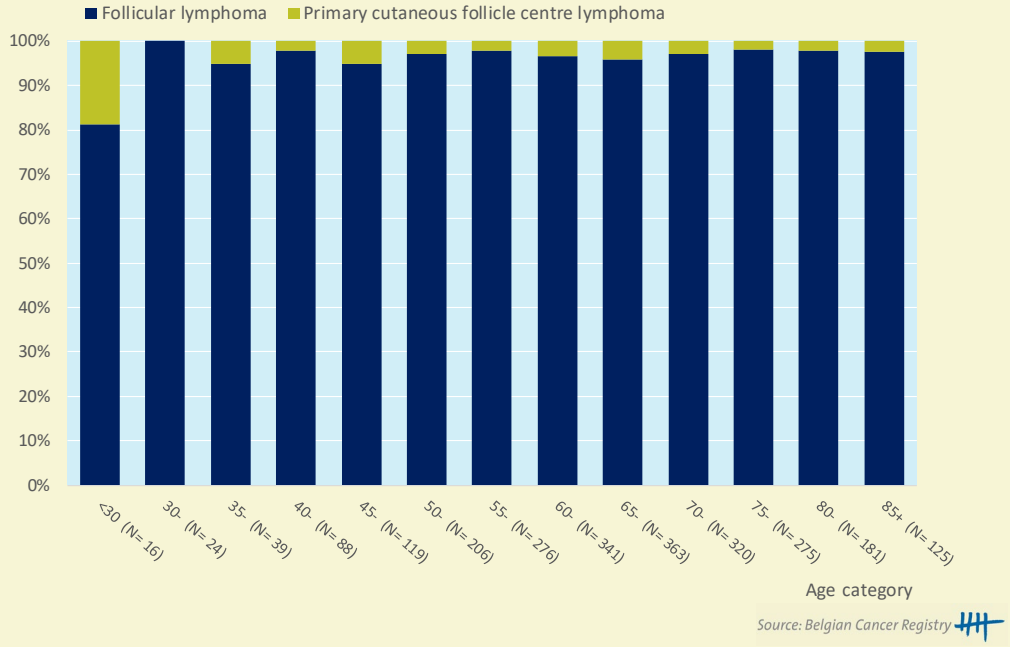
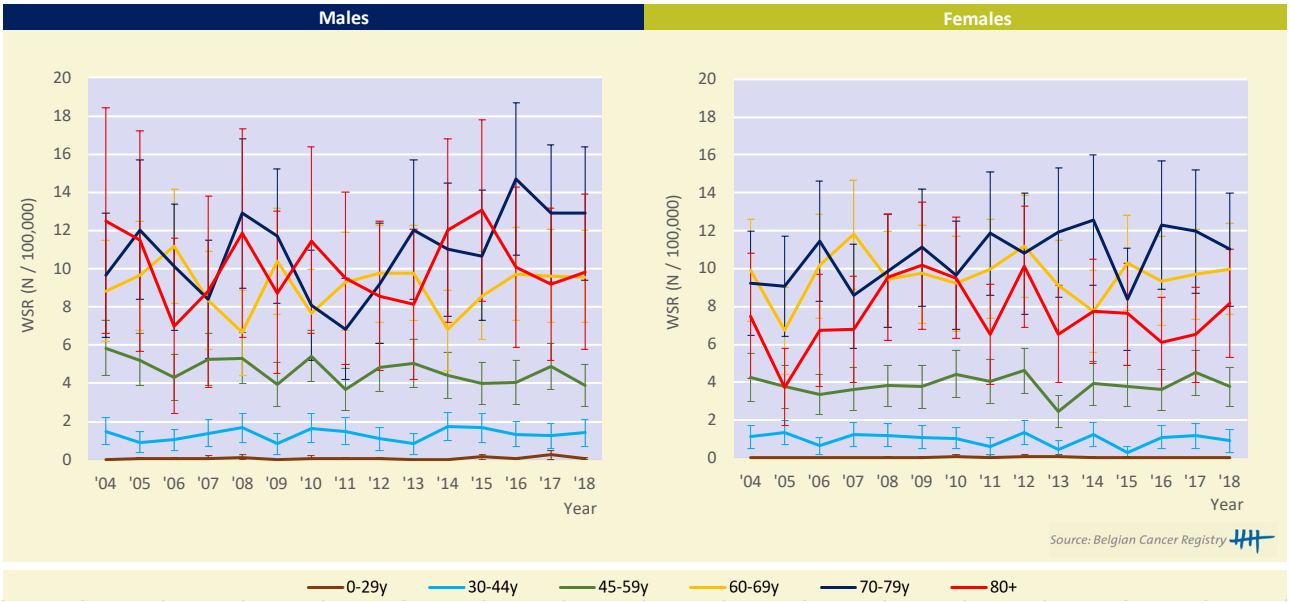


Figure 4 Follicular lymphoma and related lymphoma:
Incidence by subtype and age group, Belgium 2013-2018



Incidence trends

Figure 5 Follicular lymphoma and related lymphoma: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Table 2 Follicular lymphoma and related lymphoma: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	-	-	-	-	-	-
30 - 44 yrs	1.2	[-2.0; 4.5]	2004-2018	-2.6	[-8.2; 3.4]	2004-2018
45 - 59 yrs	-1.7	[-3.3; -0.1]	2004-2018	0.0	[-2.0; 2.0]	2004-2018
60 - 69 yrs	0.1	[-1.9; 2.0]	2004-2018	0.3	[-1.5; 2.1]	2004-2018
70 - 79 yrs	1.8	[-0.4; 4.1]	2004-2018	1.5	[-0.1; 3.1]	2004-2018
	-3.2	[-7.9; 1.7]	2004-2011			
	7.0	[1.9; 12.5]	2011-2018			
80+	0.0	[-2.4; 2.5]	2004-2018	1.7	[-1.3; 4.8]	2004-2018
				11.4	[1.3; 22.5]	2004-2009
				-3.4	[-8.0; 1.5]	2009-2018

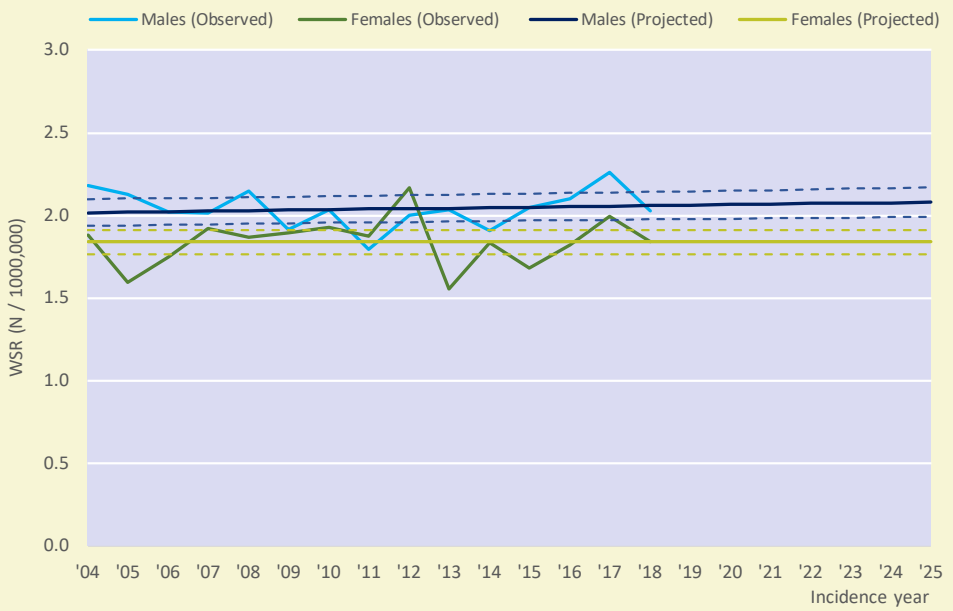
Source: Belgian Cancer Registry

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.

Incidence projections

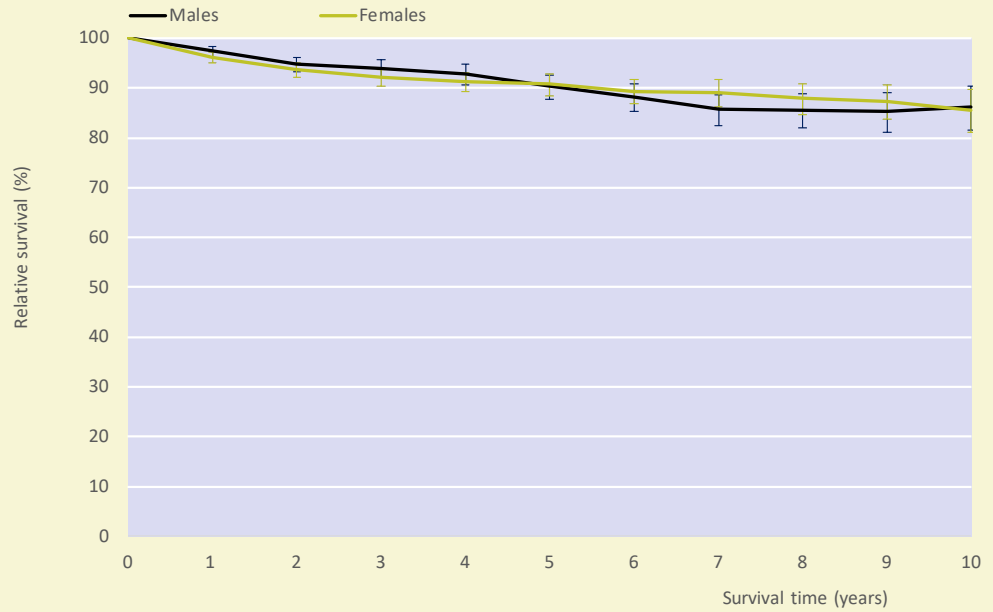
Figure 6 Follicular lymphoma and related lymphoma: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

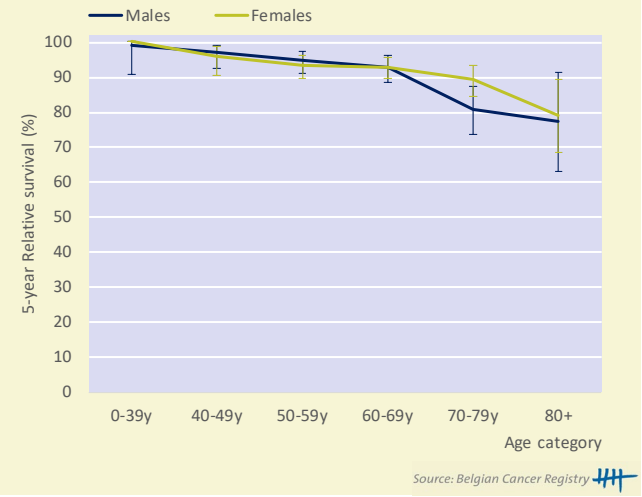
Figure 7 Follicular lymphoma and related lymphoma: Relative survival* by sex, Belgium 2009-2018



Source: Belgian Cancer Registry

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

Figure 8 Follicular lymphoma and related lymphoma: Age-specific 5-year relative survival* by sex, Belgium 2009-2018



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

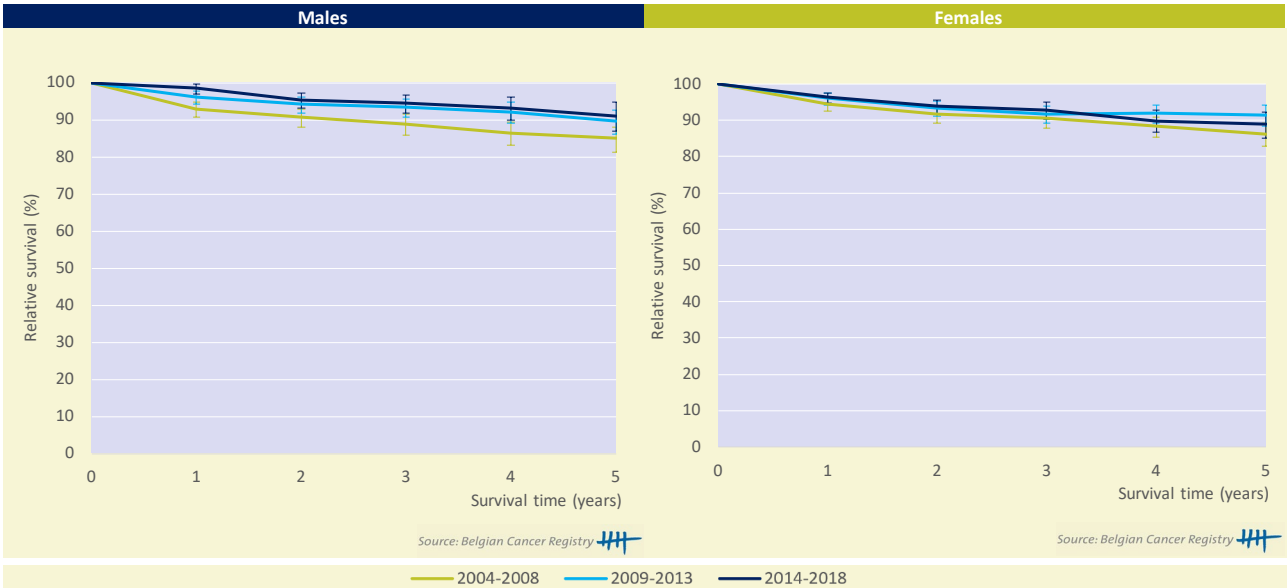
Table 3 Follicular lymphoma and related lymphoma: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

Males		
X years since diagnosis	N at risk	%
1 year	1,769	90.6
2 year	1,526	90.4
3 year	1,285	91.1
Females		
X years since diagnosis	N at risk	%
1 year	1,878	92.9
2 year	1,649	95.0
3 year	1,385	95.3

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 9 Follicular lymphoma and related lymphoma: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.1.2.6 MANTLE CELL LYMPHOMA

KEYNOTES

Incidence (Table 1-2; Figure 1-3)

- Mantle cell lymphoma is considerably more frequent in males than in females (male/female ratio: 4.2) and is mostly diagnosed in the older population (very rare below 45 years of age).
- There is no pertinent increasing incidence trend between 2004 and 2018 considering all age groups and both sexes together with the exception of males in the age group 80+ with an AAPC of 7.9%.

Survival (Table 3; Figure 4-6)

- Starting from the fourth year after diagnosis the relative survival is slightly better in females than in males.
- The 10-year relative survival is 44% in males and 49% in females.
- The 5-year relative survival varies strongly with age (from 81% in the age group 0-59 years to 42% in the age group 80+).
- No significant improvement of the 5-year relative survival is observed in the period 2004-2018.

Table 1 Mantle cell lymphoma: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	111	2.0	0.9
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	350	6.2	2.9
Prevalence (10 years), 2009-2018	522	9.3	4.3
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	515	57.6	[50.4;64.6]
10-year Relative survival, 2009-2018	951	44.1	[37.5;51.0]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	36	0.6	0.2
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	139	2.4	0.9
Prevalence (10 years), 2009-2018	227	3.9	1.5
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	203	63.4	[52.9;73.1]
10-year Relative survival, 2009-2018	401	49.0	[39.2;59.1]
Median age at diagnosis, 2018	71		
M/F-ratio, 2018	4.2		

Source: Belgian Cancer Registry

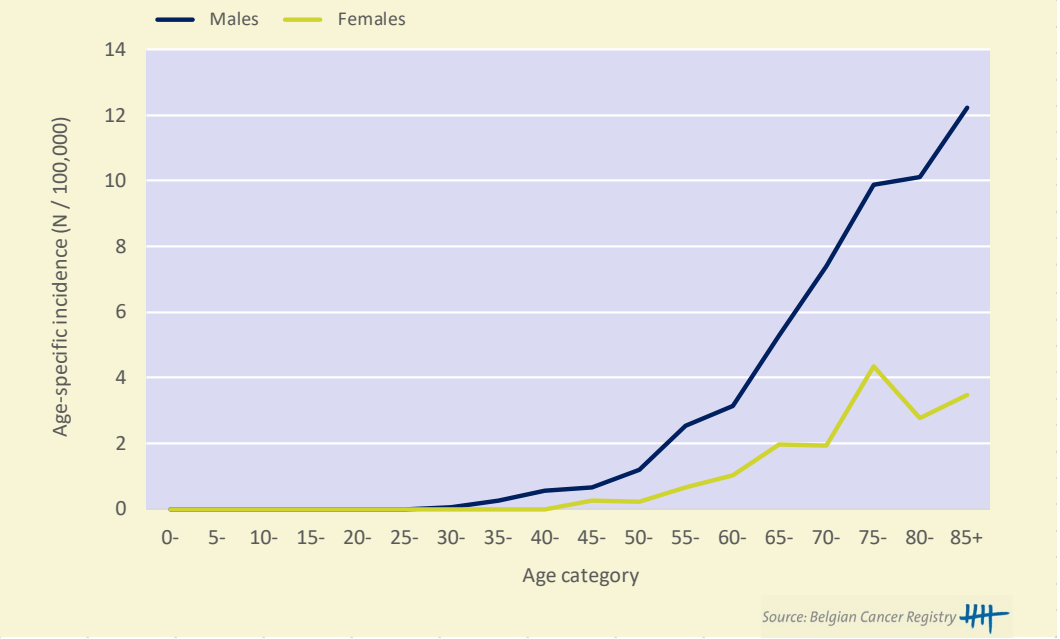
CR: crude (all ages) rate (N/100,000 person years)

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

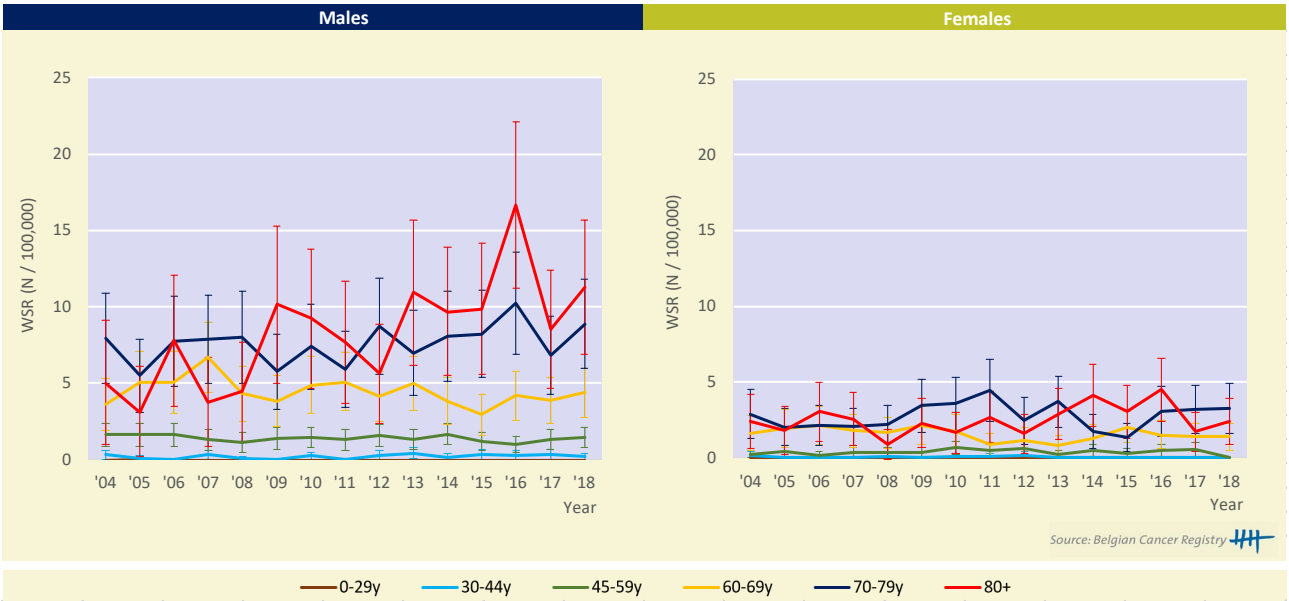
Incidence

Figure 1 Mantle cell lymphoma: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018



Incidence trends

Figure 2 Mantle cell lymphoma: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Table 2 Mantle cell lymphoma: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	-	-	-	-	-	-
30 - 44 yrs	-	-	-	-	-	-
45 - 59 yrs	-1.3	[-3.2; 0.5]	2004-2018	-	-	-
60 - 69 yrs	-1.5	[-3.8; 0.9]	2004-2018	-1.8	[-5.1; 1.7]	2004-2018
				-6.8	[-11.9; -1.3]	2004-2013
				7.8	[-3.3; 20.3]	2013-2018
70 - 79 yrs	1.5	[-0.6; 3.7]	2004-2018	1.1	[-3.2; 5.7]	2004-2018
				5.9	[-5.6; 18.9]	2004-2010
				-2.3	[-10.1; 6.2]	2010-2018
80+	7.9	[3.5; 12.5]	2004-2018	2.8	[-2.4; 8.3]	2004-2018

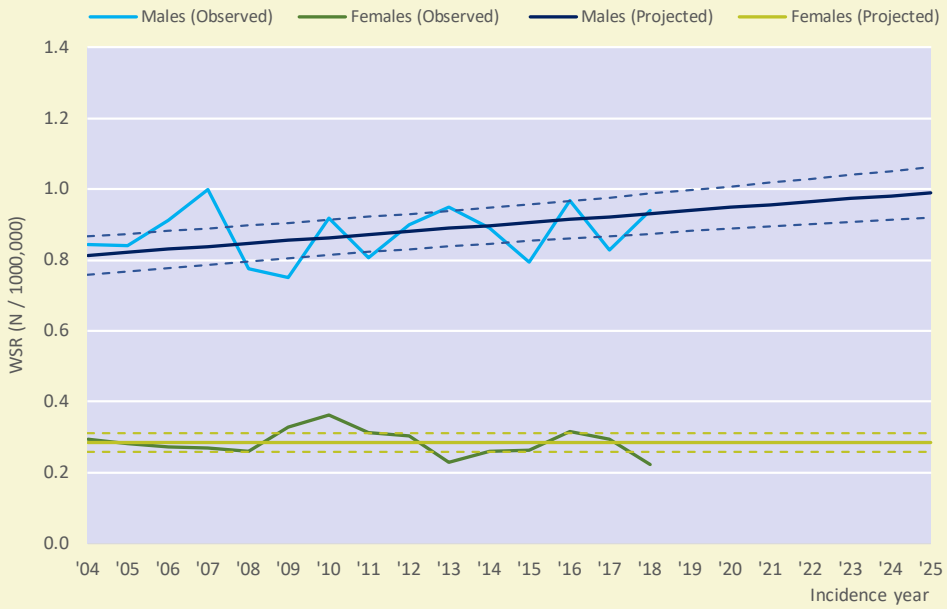
Source: Belgian Cancer Registry

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.

Incidence projections

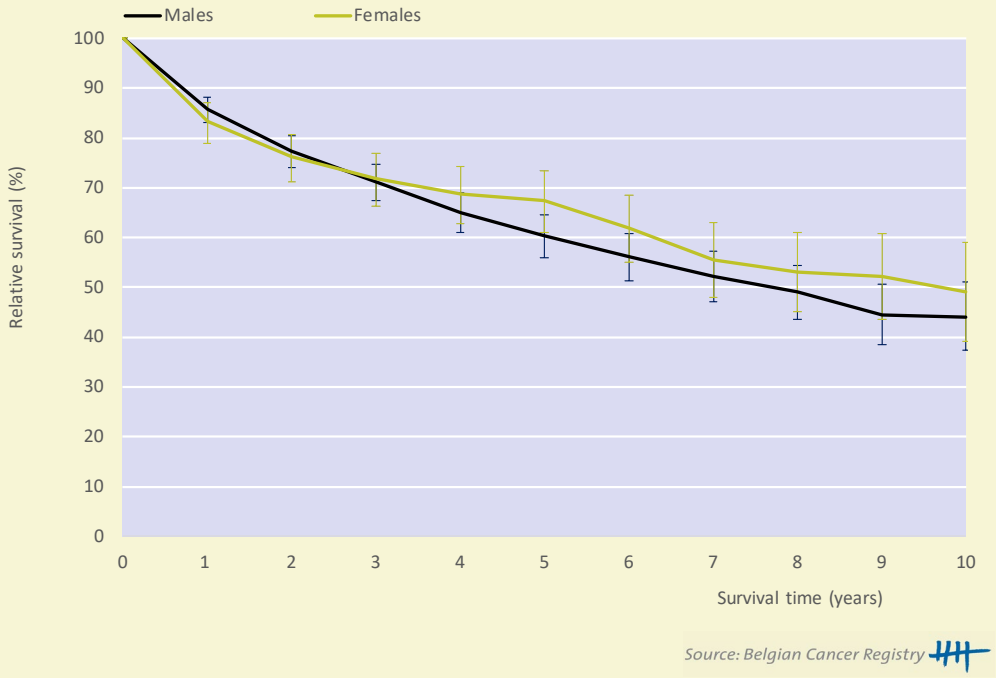
Figure 3 Mantle cell lymphoma: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

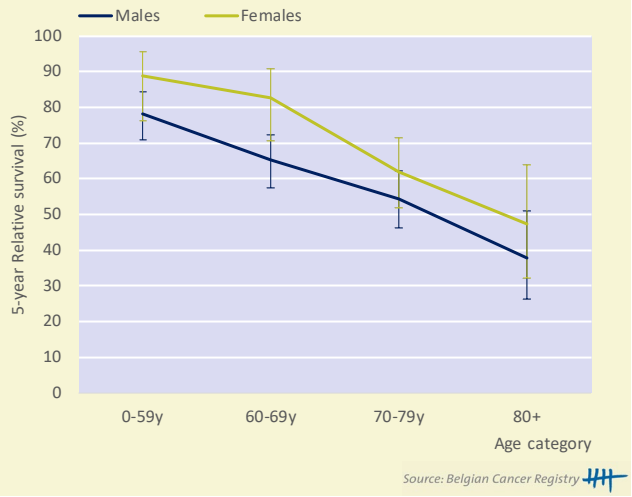
Survival

Figure 4 Mantle cell lymphoma: Relative survival* by sex, Belgium 2009-2018



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

Figure 5 Mantle cell lymphoma:
Age-specific 5-year relative survival* by sex, Belgium 2009-2018



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

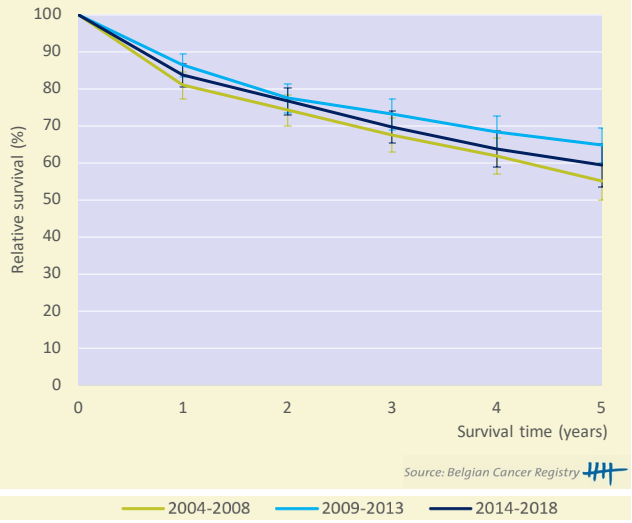
Table 3 Mantle cell lymphoma: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

	Males	
X years since diagnosis	N at risk	%
1 year	781	65.4
2 year	625	67.5
3 year	482	68.8
	Females	
X years since diagnosis	N at risk	%
1 year	323	74.5
2 year	268	72.8
3 year	219	73.8

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 6 Mantle cell lymphoma: Relative survival* by cohort, Belgium 2004-2018



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

3.1.2.7 DIFFUSE LARGE B-CELL LYMPHOMA AND RELATED LARGE B-CELL LYMPHOMAS

MAIN SUBTYPES:

- *Diffuse large B-cell lymphoma (DLBCL)*
- *Other related large B-cell lymphomas (LBCL; includes T-cell/histiocyte rich large B-cell lymphoma, mediastinal large B-cell lymphoma, plasmablastic lymphoma and miscellaneous LBCL)*

KEYNOTES

Incidence (Table 1-2; Figure 1-9)

- While DLBCL, T-cell/histiocyte rich large B-cell lymphoma and plasmablastic lymphoma occur most often at older ages (peak after 60 years of age), mediastinal large B-cell lymphoma is more commonly diagnosed between ages 15 and 50.
- Considering all ages together, there is no clear increasing incidence trend between 2004 and 2018 in both sexes. Although, a slight increase is noticed in older age groups (70+).

Survival (Table 3; Figure 10-13)

- The 10-year relative survival is similar in both sexes (56% in males and 55% in females).
- Given that a patient survives the first two years, the relative survival probability 5 years later is 90% in males and 89% in females.
- The 5-year relative survival varies with age from 68% in the age group 60-69 years to 36% in the age group 70+.
- The trends of the 5-year relative survival suggest an improvement between 2004-2008 and 2009-2013 (5-year relative survival: from 56% to 61%), followed by a stagnation during the period 2014-2018.

Table 1 Diffuse large B-cell lymphoma and related large B-cell lymphomas: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	466	8.3	4.2
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	1,448	25.7	13.7
Prevalence (10 years), 2009-2018	2,416	42.9	22.8
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	2,242	61.9	[59.0;64.7]
10-year Relative survival, 2009-2018	4,350	56.2	[53.1;59.2]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	409	7.1	3.3
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	1,226	21.1	10.3
Prevalence (10 years), 2009-2018	2,079	35.8	17.1
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	1,892	61.2	[58.1;64.2]
10-year Relative survival, 2009-2018	3,732	54.7	[51.5;57.8]
Median age at diagnosis, 2018	71		
M/F-ratio, 2018	1.3		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Diffuse large B-cell lymphoma and related large B-cell lymphomas: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

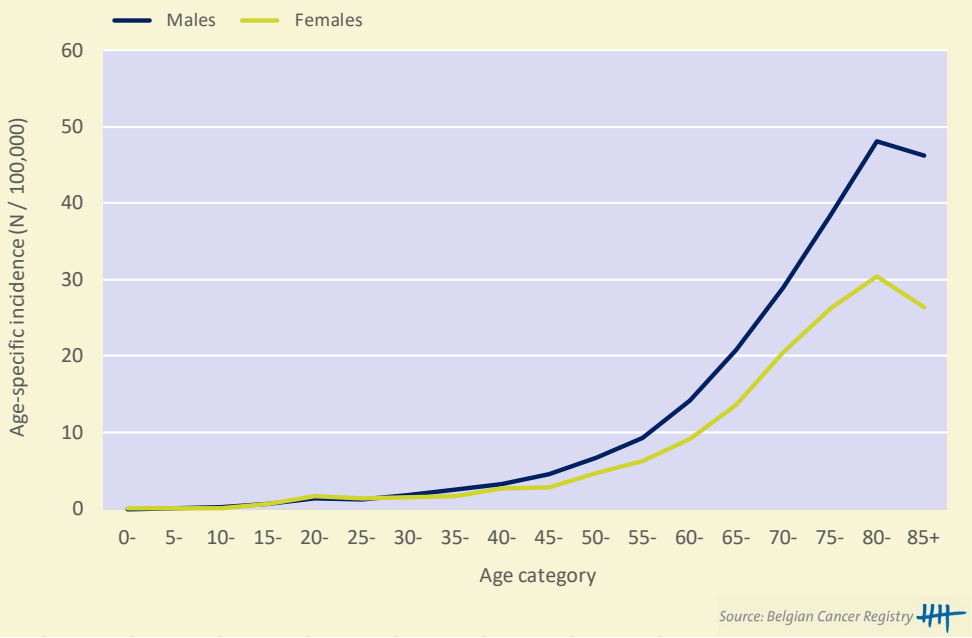


Figure 2 DLBCL and other related LBCL: Incidence by subtype , Belgium 2013-2018

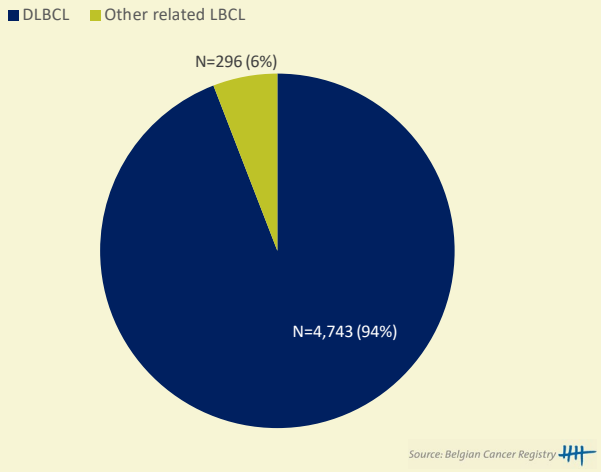


Figure 3 Other related LBCL: Incidence by subtype , Belgium 2013-2018

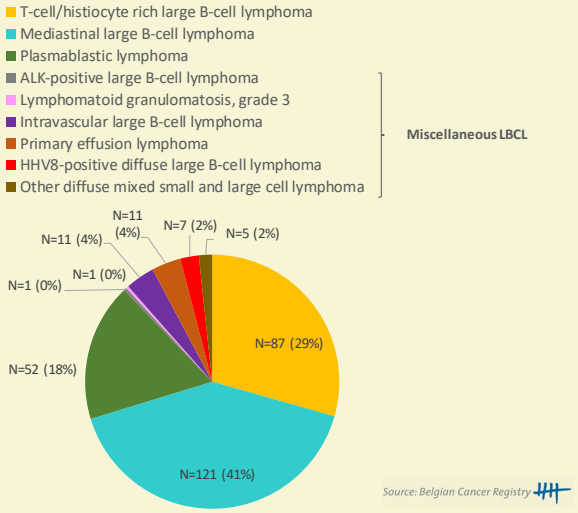


Figure 4 DLBCL and other related LBCL: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

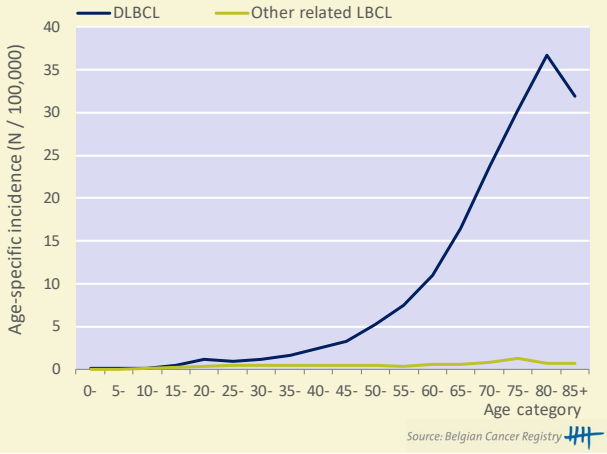


Figure 5 Other related LBCL: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

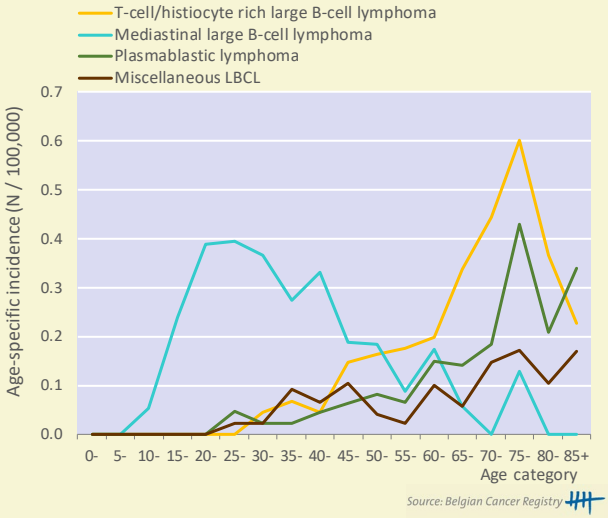
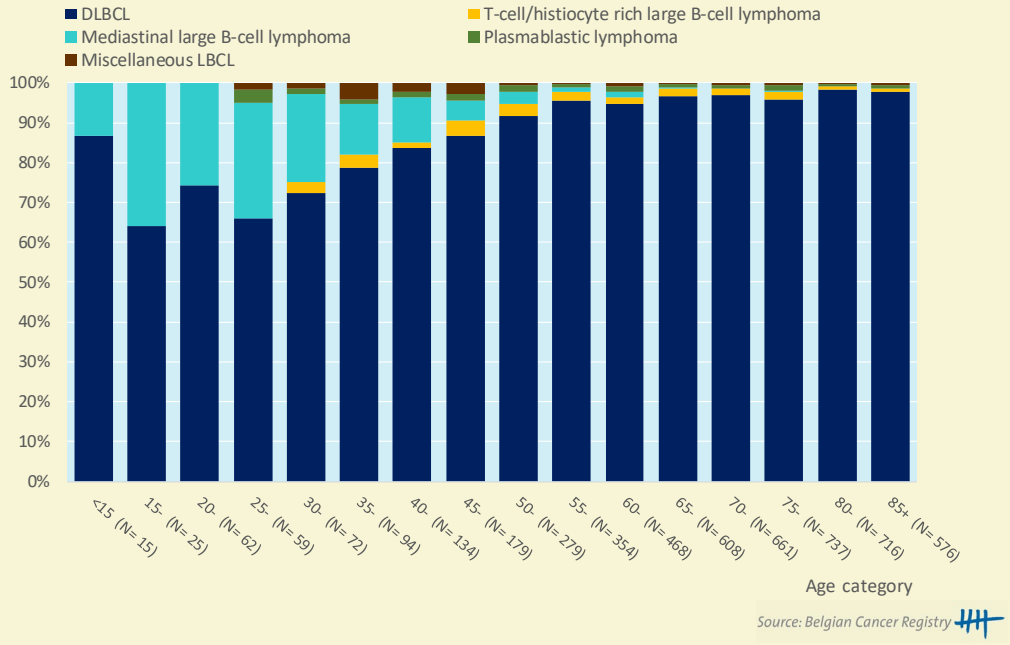
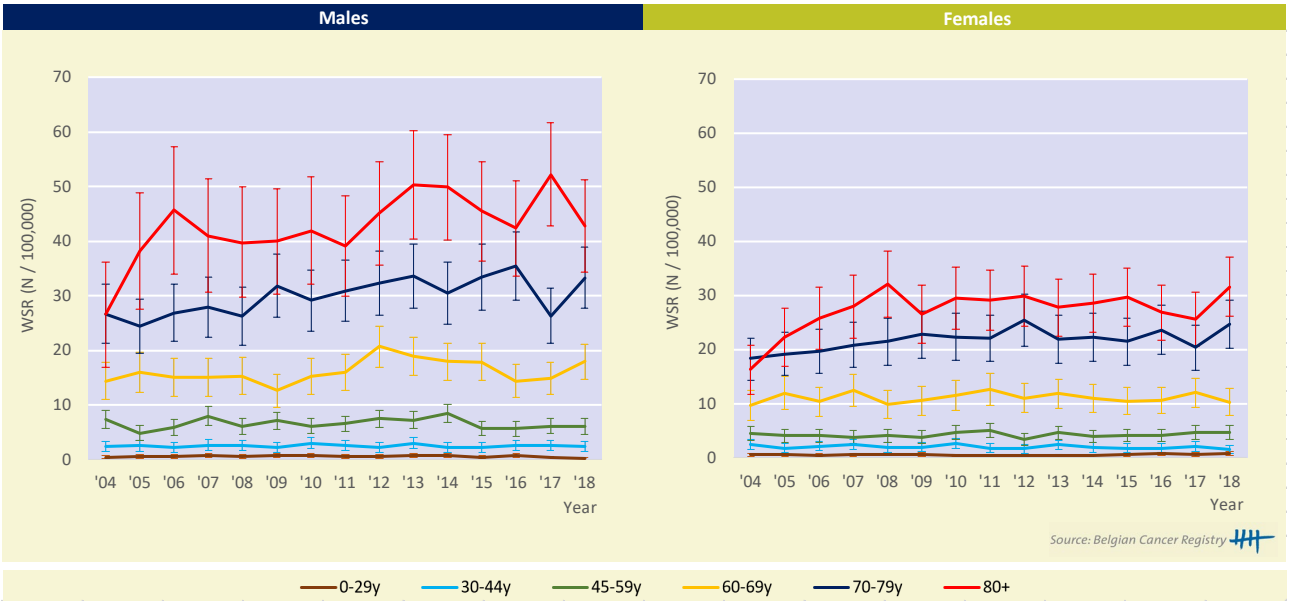


Figure 6 Diffuse large B-cell lymphoma and related large B-cell lymphomas: Incidence by subtype and age group, Belgium 2013-2018



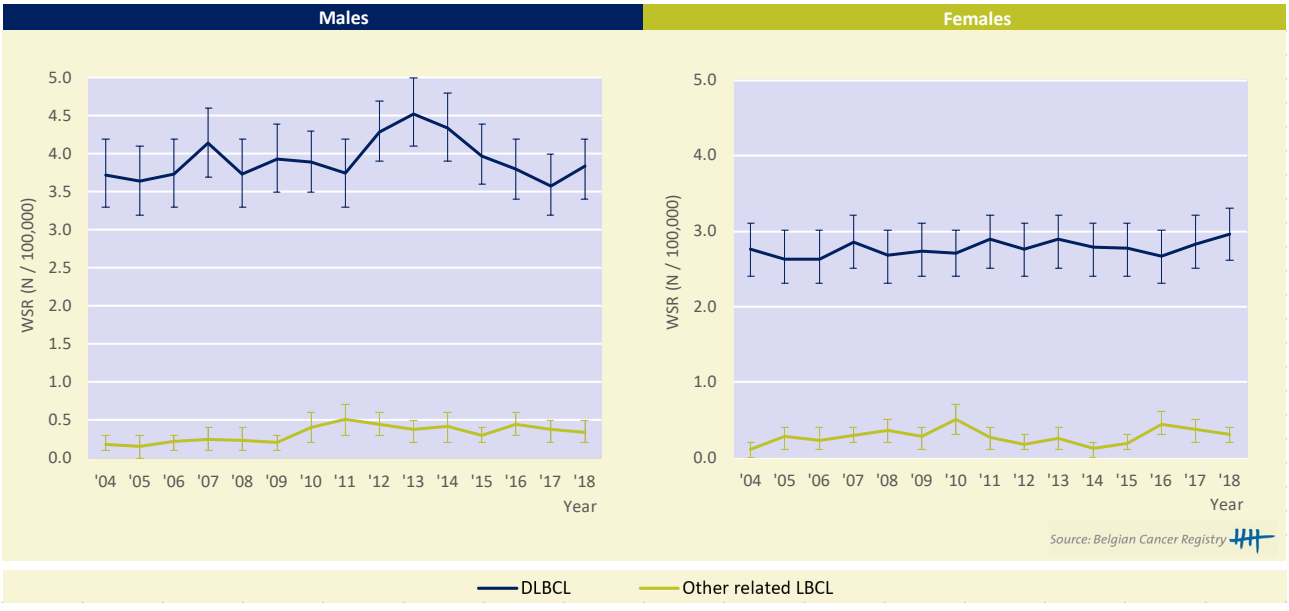
Incidence trends

Figure 7 Diffuse large B-cell lymphoma and related large B-cell lymphomas: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 8 DLBCL and related LBCL: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Diffuse large B-cell lymphoma and related large B-cell lymphomas: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	-2.8	[-5.9; 0.3]	2004-2018	2.7	[0.4; 5.1]	2004-2018
	5.6	[-1.6; 13.4]	2004-2011	-3.6	[-6.6; -0.4]	2004-2014
	-10.6	[-16.7; -4.0]	2011-2018	20.1	[9.8; 31.4]	2014-2018
30 - 44 yrs	0.0	[-1.3; 1.2]	2004-2018	-1.5	[-3.2; 0.3]	2004-2018
45 - 59 yrs	-0.1	[-2.1; 1.9]	2004-2018	0.5	[-0.8; 1.9]	2004-2018
60 - 69 yrs	1.1	[-0.8; 3.0]	2004-2018	0.2	[-1.0; 1.3]	2004-2018
	0.6	[-8.5; 10.7]	2004-2007			
	1.2	[-1.0; 3.5]	2007-2018			
70 - 79 yrs	1.5	[0.4; 2.6]	2004-2018	1.3	[0.5; 2.1]	2004-2018
	3.0	[1.2; 4.8]	2004-2013	3.1	[1.4; 4.9]	2004-2011
	-1.2	[-4.4; 2.2]	2013-2018	-0.5	[-2.2; 1.2]	2011-2018
80+	2.3	[0.7; 4.0]	2004-2018	3.5	[2.4; 4.6]	2004-2018
				19.4	[13.2; 26.0]	2004-2007
				-0.4	[-1.7; 0.8]	2007-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
DLBCL	0.0	[-0.6; 0.7]	2004-2018	0.4	[-0.0; 0.8]	2004-2018
	1.8	[0.6; 2.9]	2004-2013			
	-3.0	[-5.1; -0.9]	2013-2018			
Other related LBCL	6.4	[3.8; 9.0]	2004-2018	3.7	[-2.2; 9.9]	2004-2018
	15.4	[9.4; 21.9]	2004-2011	18.8	[-5.5; 49.4]	2004-2008
	-2.0	[-7.1; 3.5]	2011-2018	-1.8	[-9.5; 6.5]	2008-2018

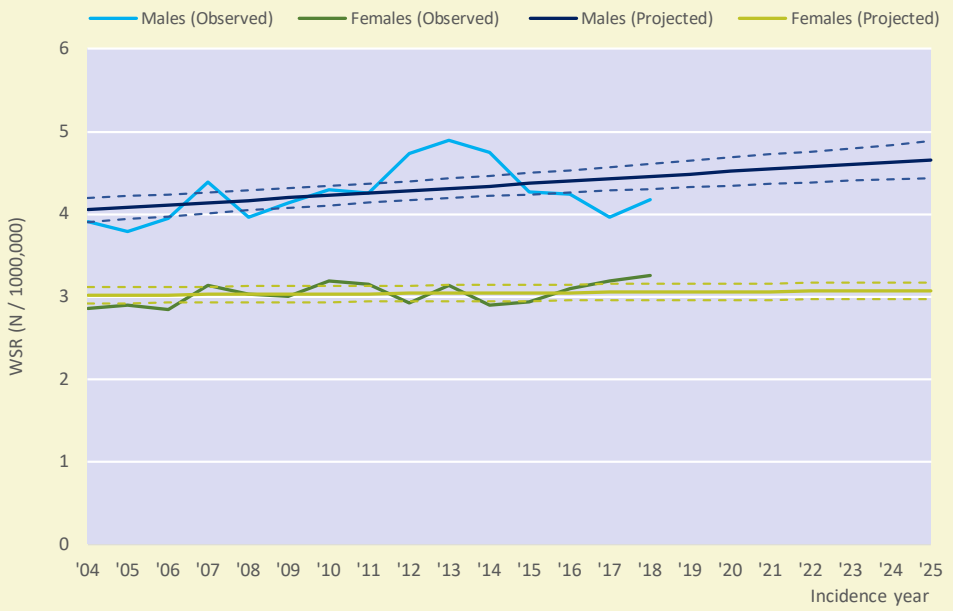
Source: Belgian Cancer Registry

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.

Incidence projections

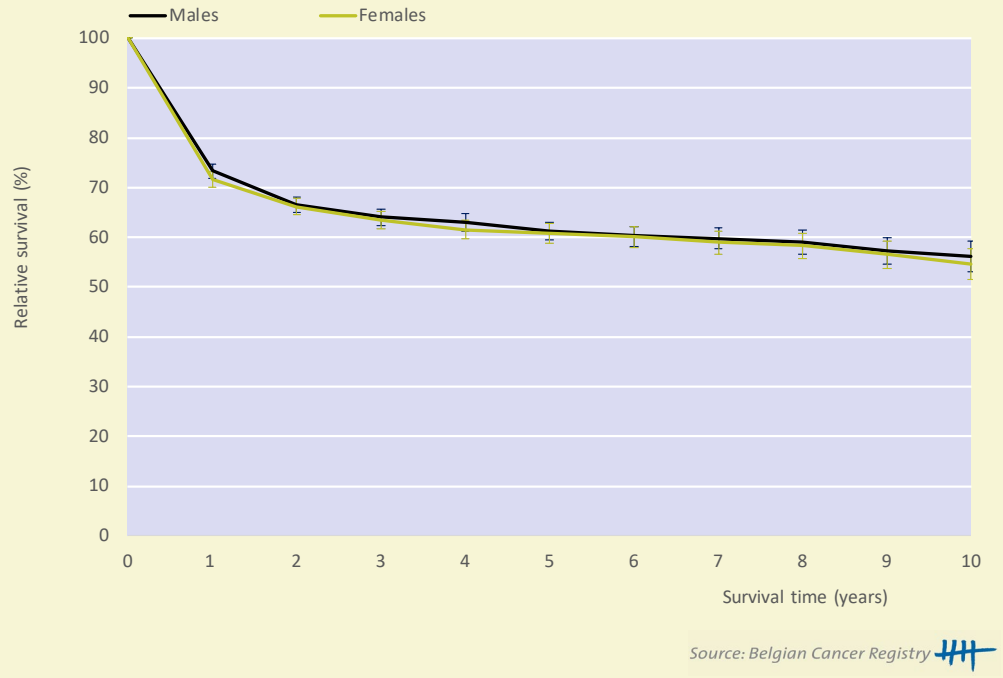
Figure 9 DLBCL and other related LBCL: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 10 Diffuse large B-cell lymphoma and related large B-cell lymphomas: Relative survival* by sex, Belgium 2009-2018



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

Figure 11 DLBCL and related LBCL: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

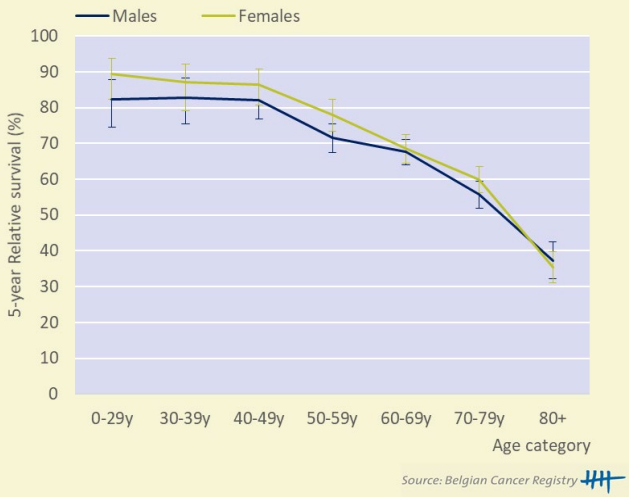
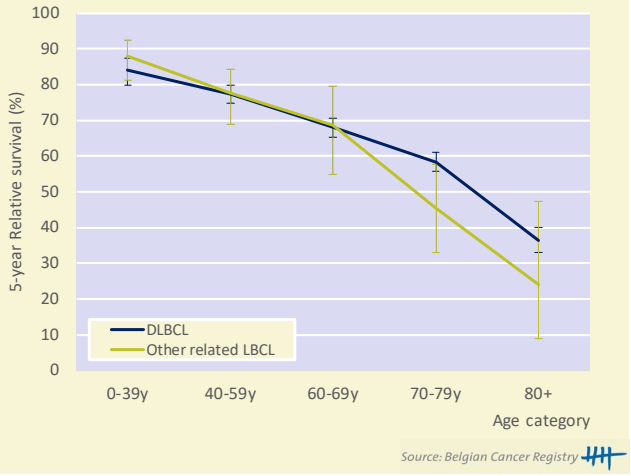


Figure 12 DLBCL and related LBCL: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



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

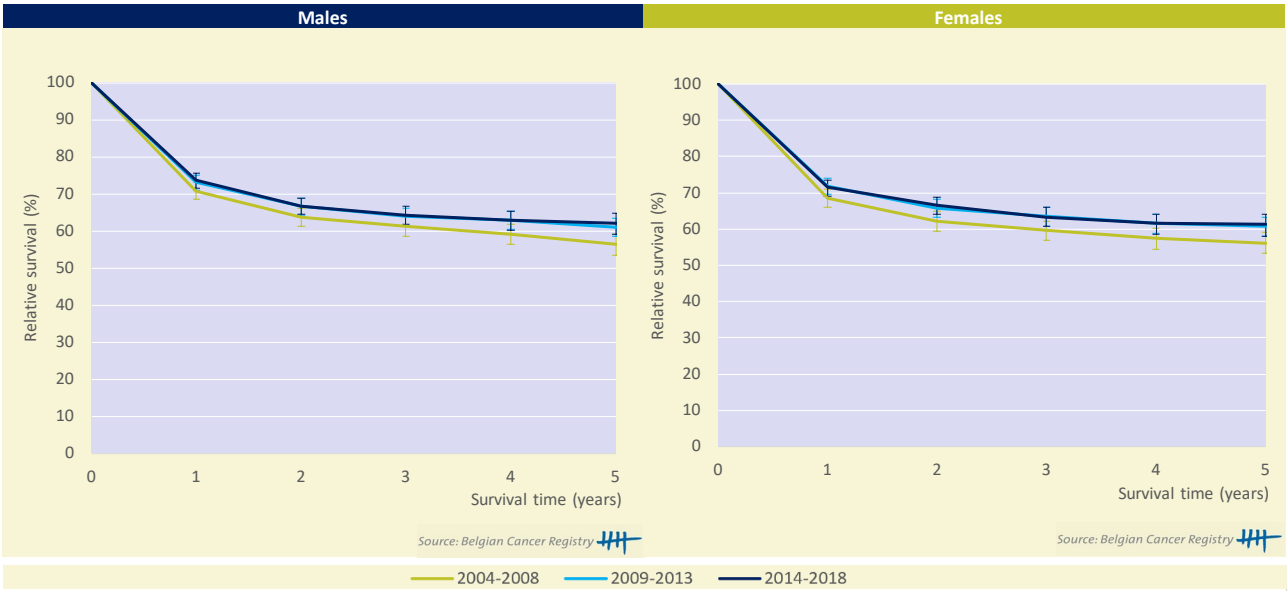
Table 3 Diffuse large B-cell lymphoma and related large B-cell lymphomas: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

Males		
X years since diagnosis	N at risk	%
1 year	3,104	82.1
2 year	2,513	89.7
3 year	2,072	92.2
Females		
X years since diagnosis	N at risk	%
1 year	2,626	83.8
2 year	2,157	89.1
3 year	1,768	91.9

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 13 Diffuse large B-cell lymphoma and related large B-cell lymphomas: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.1.2.8 BURKITT LYMPHOMA / LEUKAEMIA

MAIN SUBTYPES:

- *Burkitt lymphoma*
- *Burkitt leukaemia*

KEYNOTES

Incidence (Table 1-2; Figure 1-5)

- The age-specific incidence rate of Burkitt lymphoma / leukaemia shows two incidence peaks:
  - First peak in children and young adults (below 30 years of age)
  - Second peak in adults older than 65 years of age
- No consistent change of the incidence rates is observed between 2004 and 2018, with the exception of a putative increase in older males in recent years which should be confirmed over a longer observational period.

Survival (Table 3; Figure 6-9)

- The relative survival of males and females is similar and strongly depends on age. The 5-year relative survival ranges from more than 95% in the age group 0-19 years to below 25% in the age group 70+.
- Given that a patient survives for two years, the relative survival probability 5 years later is more than 95%.
- The relative survival trends suggest an improvement over time that is mainly observed between 2004-2008 and 2009-2013 in younger patients, especially in the age group 20-39 years (5-year relative survival: from about 60% in 2004-2008 to more than 80% in 2014-2018, *data not shown*).

Table 1 Burkitt lymphoma / leukaemia: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	36	0.6	0.6
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	130	2.3	2.4
Prevalence (10 years), 2009-2018	215	3.8	4.2
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	138	59.0	[47.8;69.1]
10-year Relative survival, 2009-2018	231	57.3	[48.4;65.6]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	20	0.3	0.4
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	43	0.7	0.8
Prevalence (10 years), 2009-2018	88	1.5	1.5
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	64	54.0	[39.8;66.7]
10-year Relative survival, 2009-2018	119	59.4	[49.0;68.8]
Median age at diagnosis, 2018	48		
M/F-ratio, 2018	1.8		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Relative survival is calculated for the age group 15+ (see methodology).

Incidence

Figure 1 Burkitt lymphoma / leukaemia: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

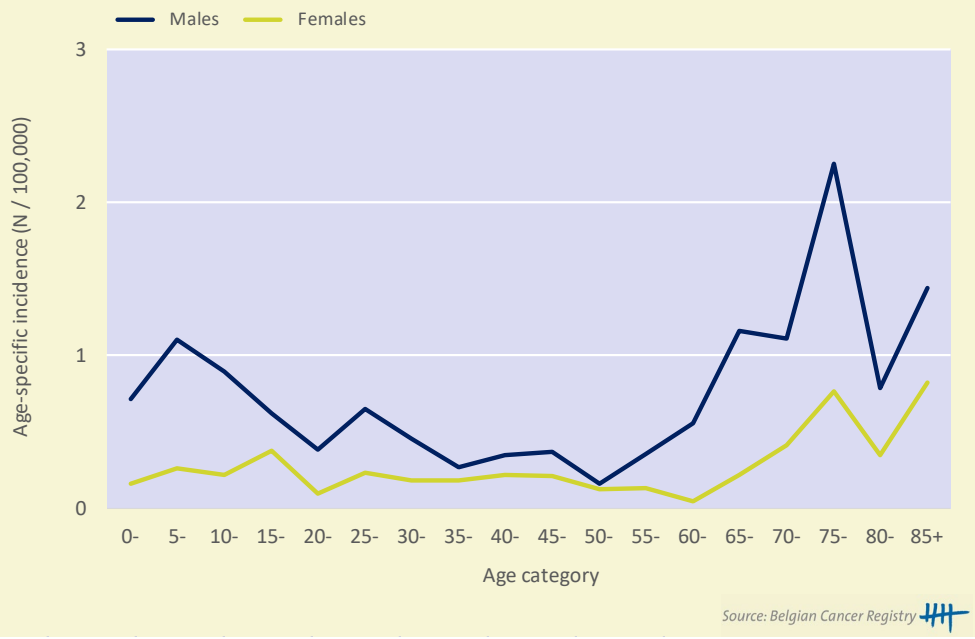


Figure 2 Burkitt lymphoma / leukaemia: Incidence by subtype and age group, Belgium 2013-2018

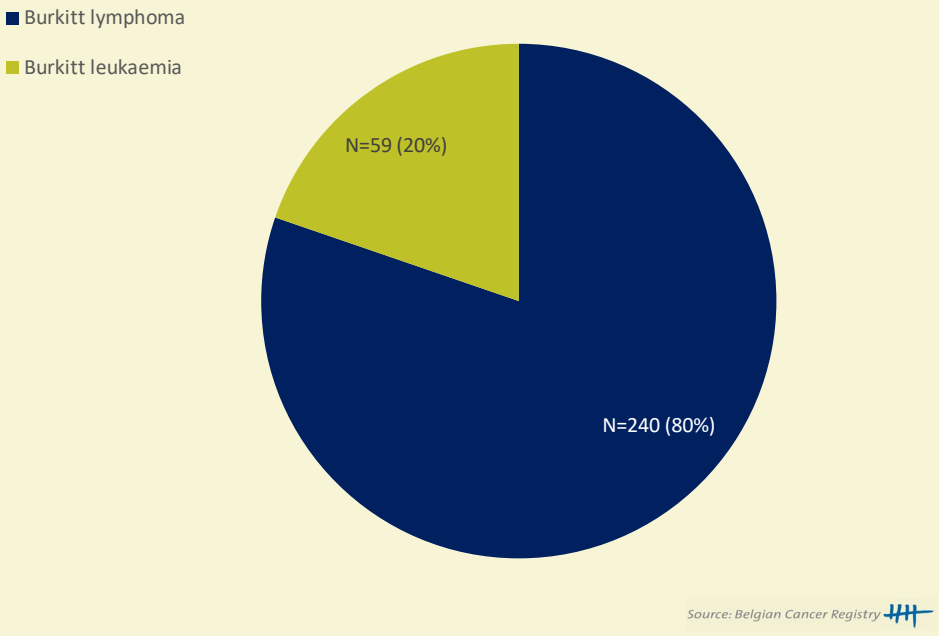


Figure 3 **Burkitt lymphoma / leukaemia: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018**

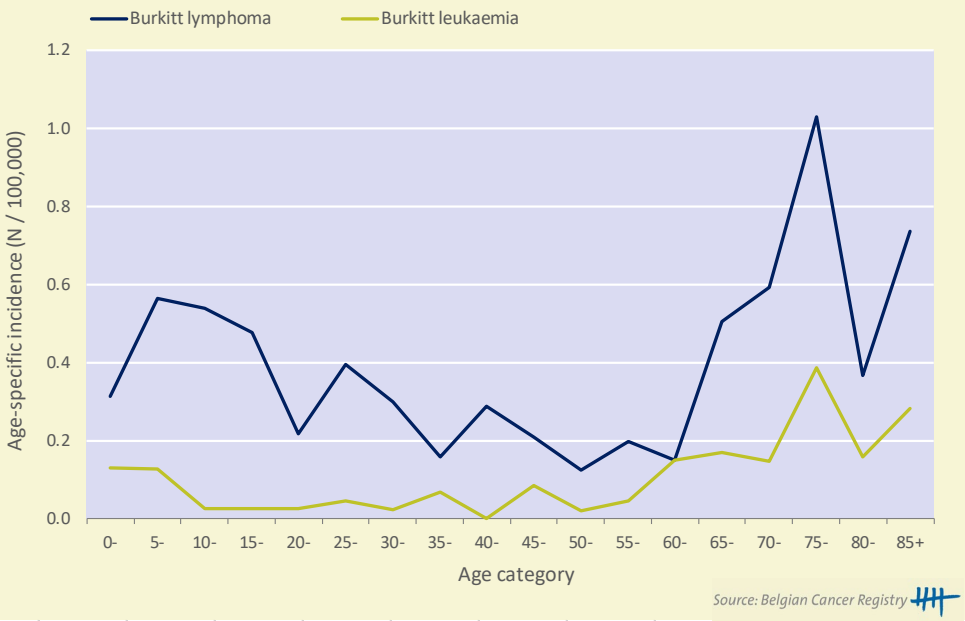
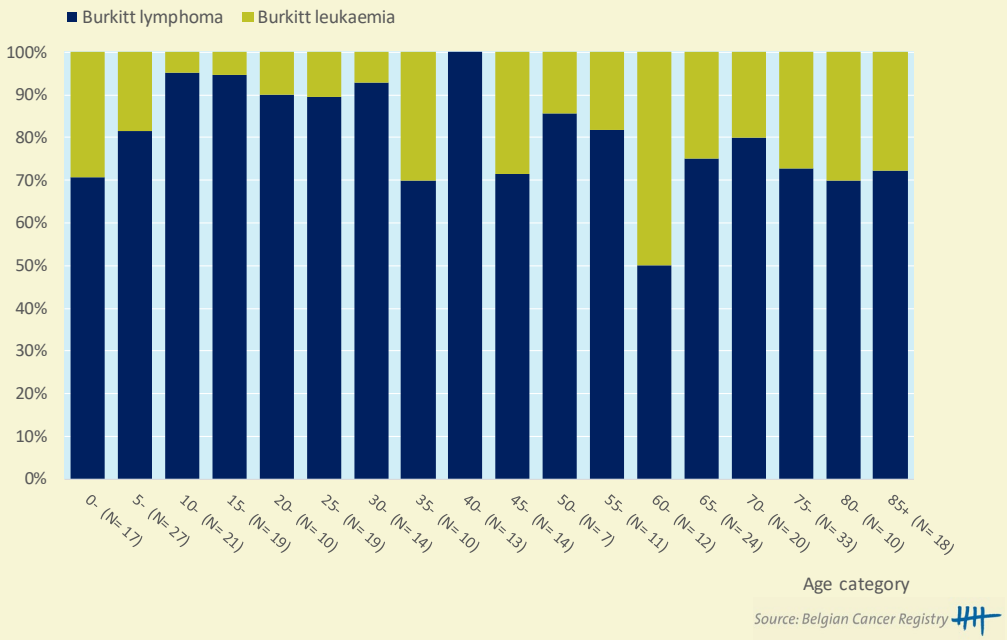
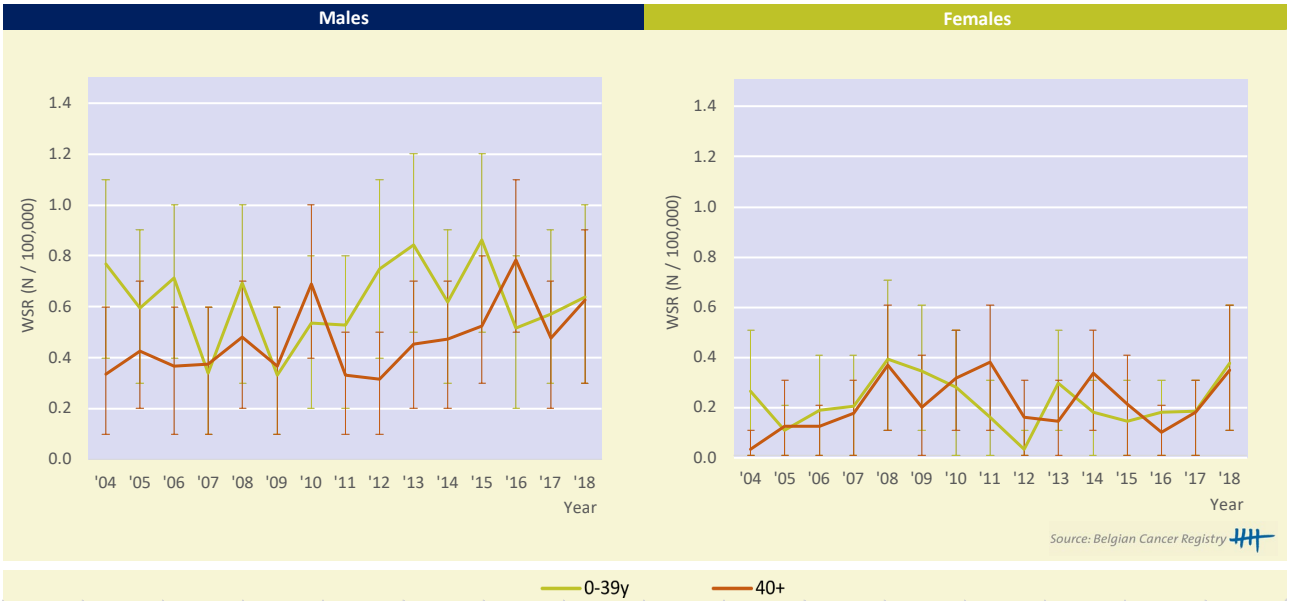


Figure 4 **Burkitt lymphoma / leukaemia: Incidence by subtype and age group, Belgium 2013-2018**



Incidence trends

Figure 5 Burkitt lymphoma / leukaemia: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Table 2 Burkitt lymphoma / leukaemia: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 39 yrs	0.0	[-3.8; 4.0]	2004-2018	-0.4	[-8.9; 9.0]	2004-2018
	-8.4	[-21.4; 6.9]	2004-2008			
	3.6	[-2.0; 9.4]	2008-2018			
40+	3.6	[0.5; 6.8]	2004-2018	5.7	[-4.5; 16.9]	2004-2018
				9.7	[-2.7; 23.7]	2004-2015
				-7.9	[-45.2; 54.7]	2015-2018

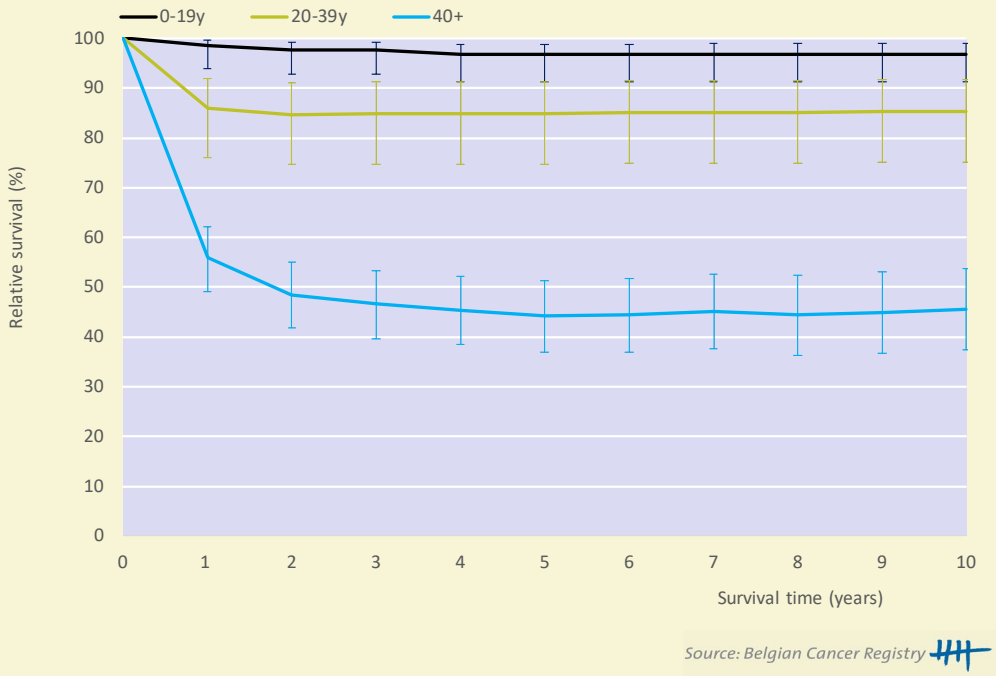
Source: Belgian Cancer Registry

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.

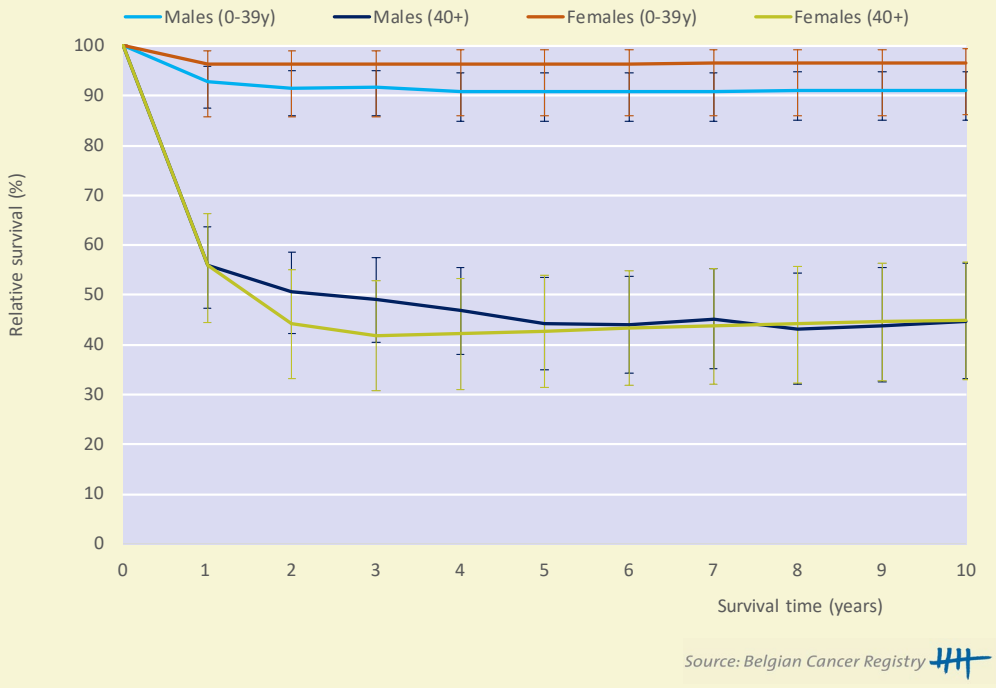
Survival

Figure 6 Burkitt lymphoma / leukaemia: Relative survival* by age group, Belgium 2009-2018



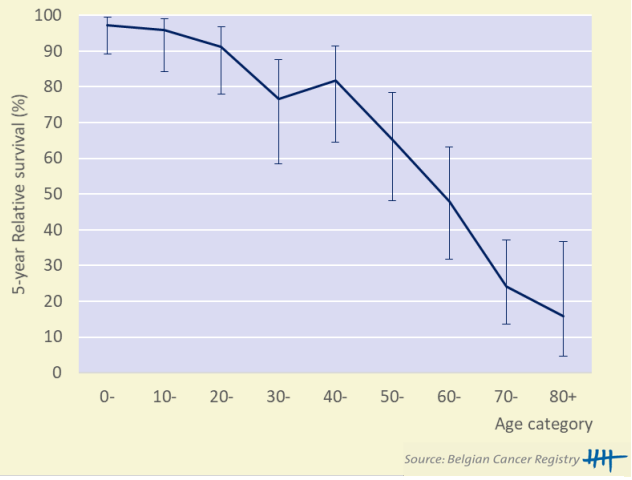
** The relative survival values are represented with 95% Confidence Intervals*

Figure 7 Burkitt lymphoma / leukaemia: Relative survival* by sex and age group, Belgium 2009-2018



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

Figure 8 Burkitt lymphoma / leukaemia:
Age-specific 5-year relative survival*, Belgium 2009-2018



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

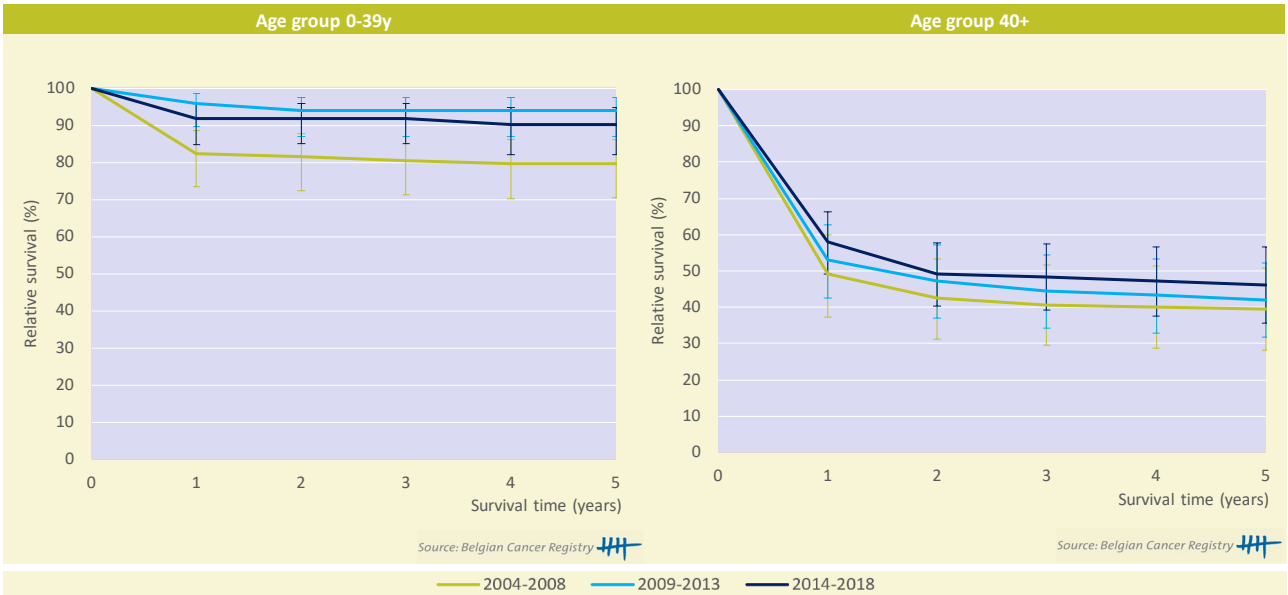
Table 3 Burkitt lymphoma / leukaemia:
Conditional 5-year relative survival* (Belgium, 2009-2018)

X years since diagnosis	N at risk	%
1 year	233	86.5
2 year	189	95.6
3 year	160	96.9

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*
** Relative survival is calculated for the age group 15+ (see methodology).*

Survival trends

Figure 9 Burkitt lymphoma / leukaemia: Relative survival* by cohort and age group, Belgium 2004-2018



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

3.1.3 MATURE T-CELL AND NK-CELL NEOPLASMS

MAIN SUBTYPES:

- *Primary cutaneous T-cell lymphoma*
- *Peripheral NK/T-cell lymphoma*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- Between 2004 and 2018 the incidence rate of mature T-cell and NK-cell neoplasms increases in Belgium, mostly in the age group 60+.
- This increase is most pronounced for peripheral NK/T-cell lymphoma (AAPC: 2.3% in males and 3.9% in females).

Survival (Table 3; Figure 8-11)

- The 10-year relative survival is higher in females (64%) than in males (56%)
- The relative survival also strongly depends on the age and subtype. The 5-year relative survival is considerably higher for primary cutaneous T-cell lymphoma than for peripheral NK/T-cell lymphoma. This difference between both subtypes increases with age.
- No consistent improvement of the 5-year relative survival is observed in the period 2004-2018.

Table 1 Mature T-cell and NK-cell neoplasms: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	174	3.1	1.8
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	607	10.8	6.5
Prevalence (10 years), 2009-2018	962	17.1	10.2
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	862	65.8	[60.9;70.3]
10-year Relative survival, 2009-2018	1,614	55.6	[50.7;60.5]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	128	2.2	1.2
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	424	7.3	4.1
Prevalence (10 years), 2009-2018	706	12.2	6.8
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	584	67.7	[61.7;73.2]
10-year Relative survival, 2009-2018	1,097	64.3	[58.9;69.6]
Median age at diagnosis, 2018	67		
M/F-ratio, 2018	1.5		

Source: Belgian Cancer Registry

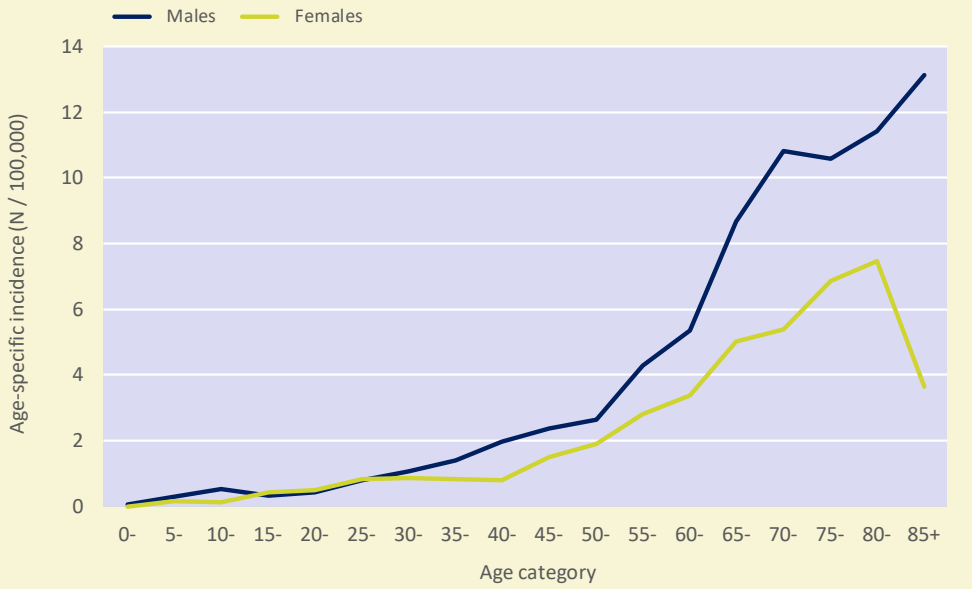
CR: crude (all ages) rate (N/100,000 person years)

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

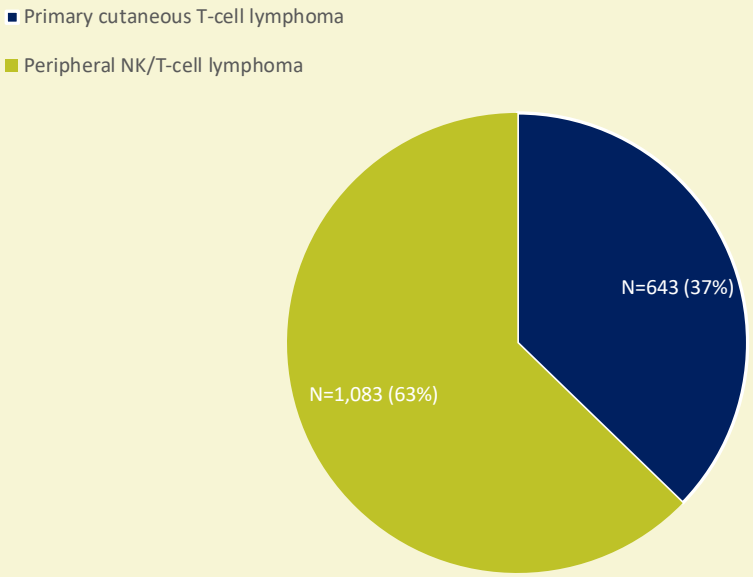
Incidence

Figure 1 Mature T-cell and NK-cell neoplasms:
Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018



Source: Belgian Cancer Registry

Figure 2 Mature T-cell and NK-cell neoplasms: Incidence by subtype and age group, Belgium 2013-2018



Source: Belgian Cancer Registry

Figure 3 Mature T-cell and NK-cell neoplasms:
Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

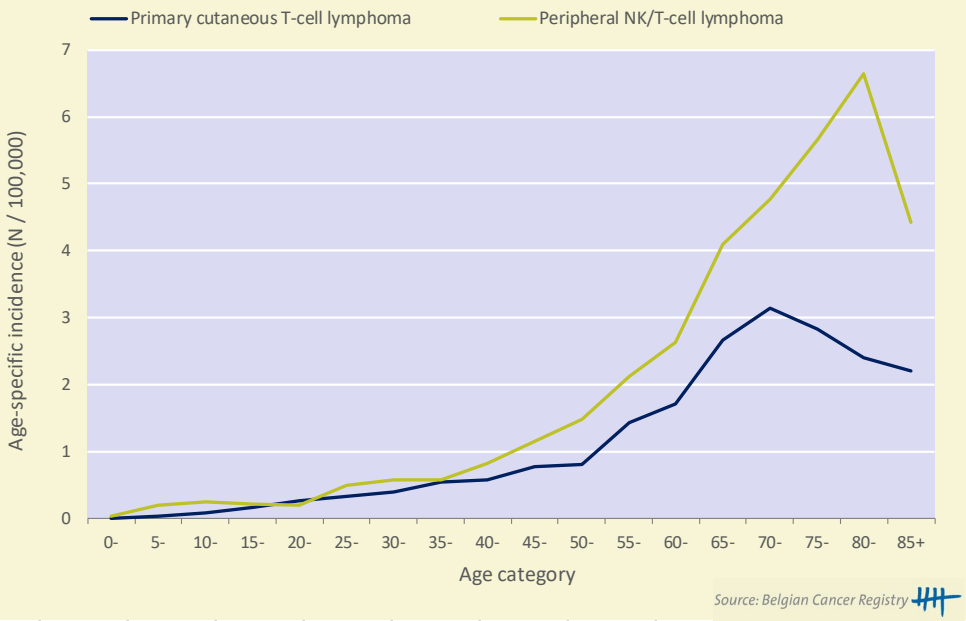
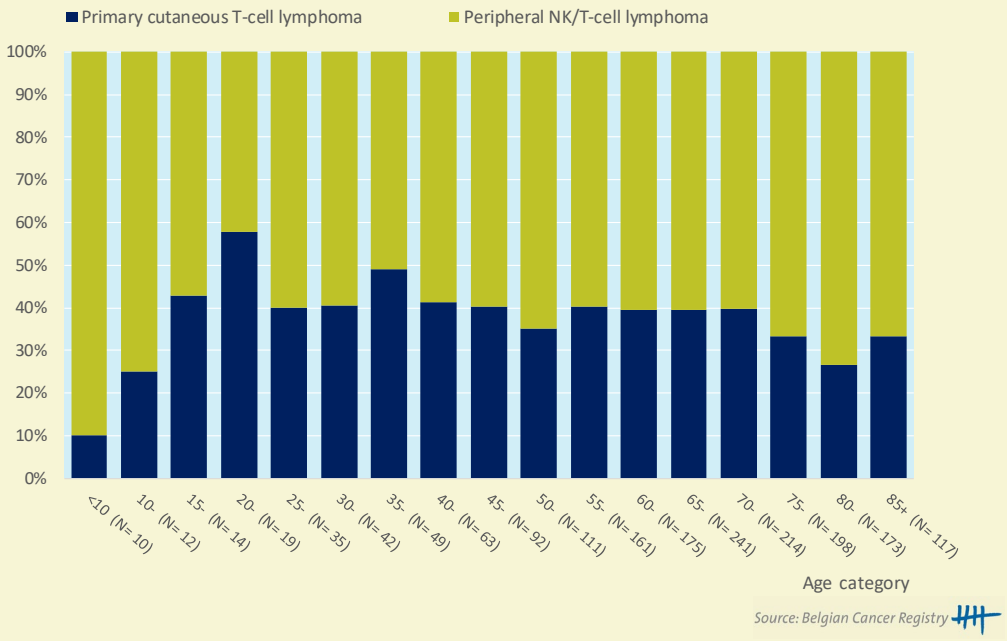
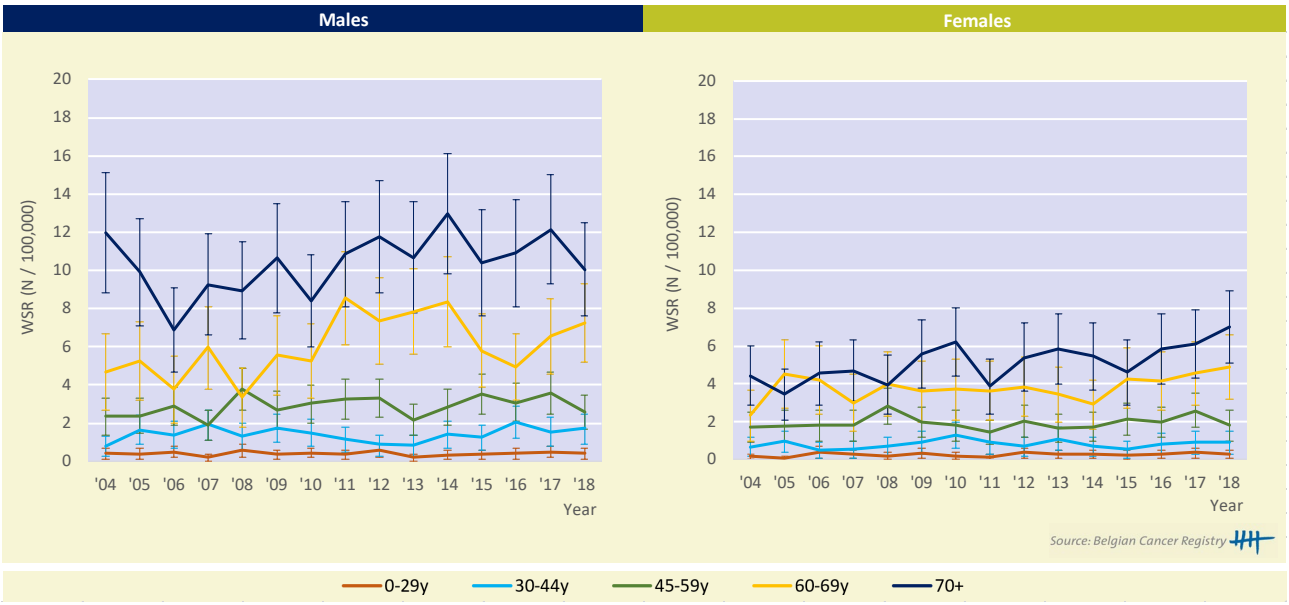


Figure 4 Mature T-cell and NK-cell neoplasms: Incidence by subtype and age group, Belgium 2013-2018



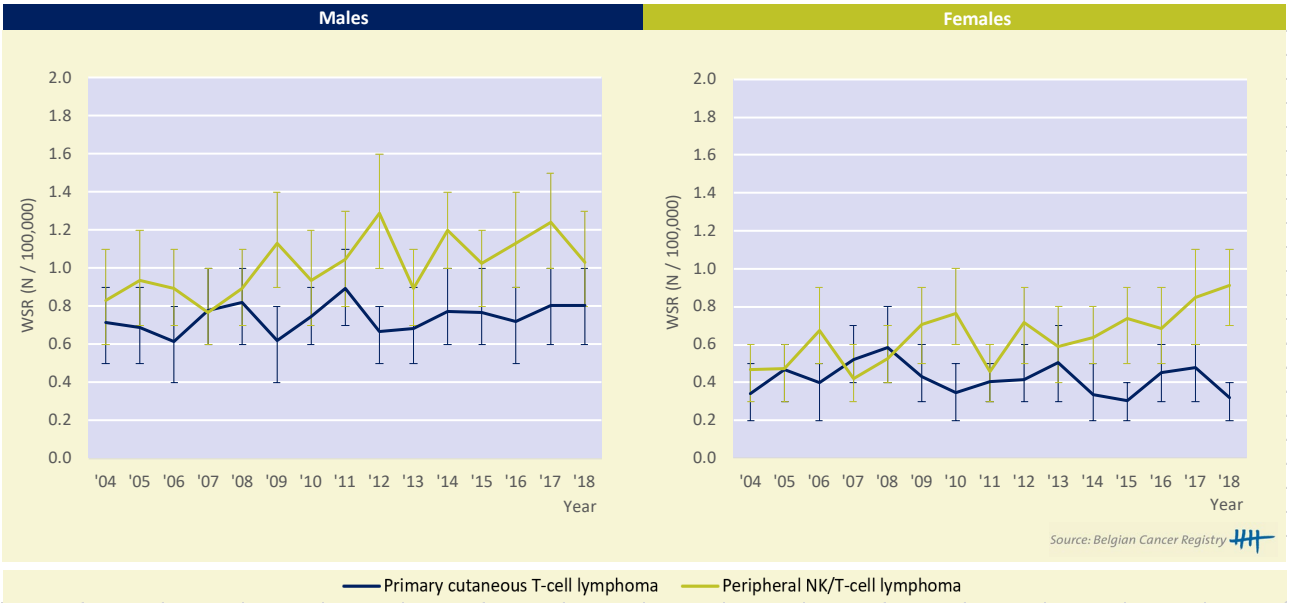
Incidence trends

Figure 5 Mature T-cell and NK-cell neoplasms: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Mature T-cell and NK-cell neoplasms: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Mature T-cell and NK-cell neoplasms: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	-0.1	[-3.9; 3.9]	2004-2018	4.9	[-0.9; 11.1]	2004-2018
30 - 44 yrs	2.3	[-2.0; 6.9]	2004-2018	1.3	[-2.1; 4.9]	2004-2018
	12.4	[-10.1; 40.6]	2004-2007			
	-0.2	[-5.3; 5.1]	2007-2018			
45 - 59 yrs	1.7	[-0.8; 4.2]	2004-2018	0.6	[-1.6; 2.9]	2004-2018
60 - 69 yrs	3.4	[0.3; 6.7]	2004-2018	2.0	[-0.3; 4.4]	2004-2018
70+	1.5	[-0.4; 3.5]	2004-2018	3.2	[1.2; 5.2]	2004-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Primary cutaneous T-cell lymphoma	0.8	[-0.5; 2.2]	2004-2018	-1.1	[-3.6; 1.4]	2004-2018
Peripheral NK/T-cell lymphoma	2.3	[0.7; 3.9]	2004-2018	3.9	[1.6; 6.2]	2004-2018

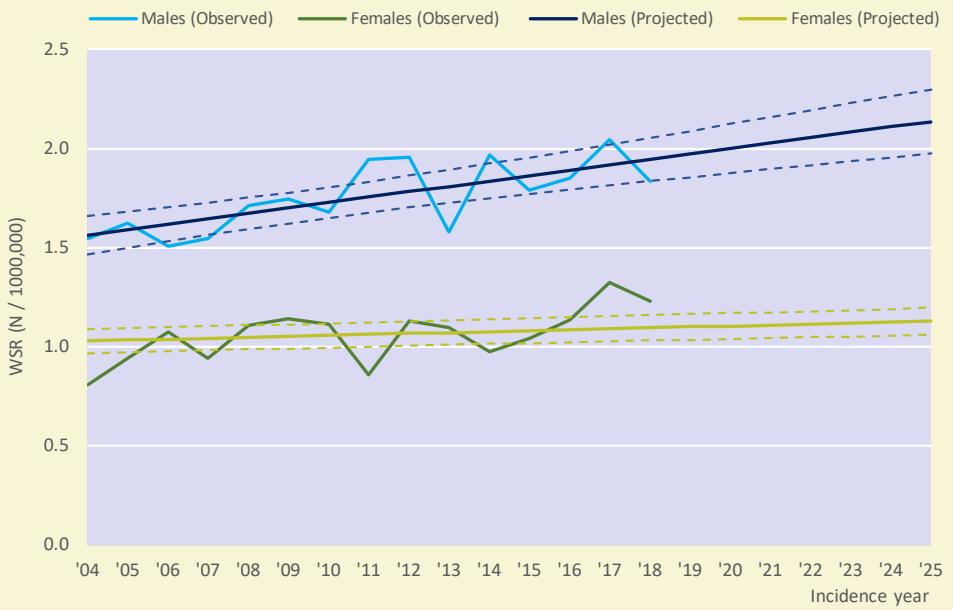
Source: Belgian Cancer Registry

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.

Incidence projections

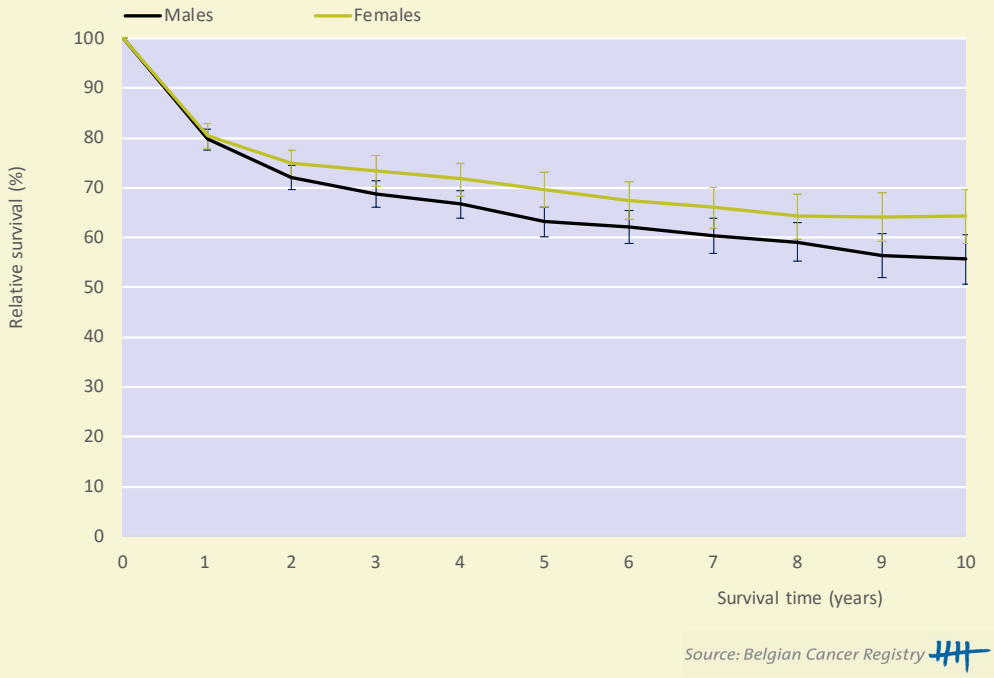
Figure 7 Mature T-cell and NK-cell neoplasms: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Mature T-cell and NK-cell neoplasms: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Mature T-cell and NK-cell neoplasms: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

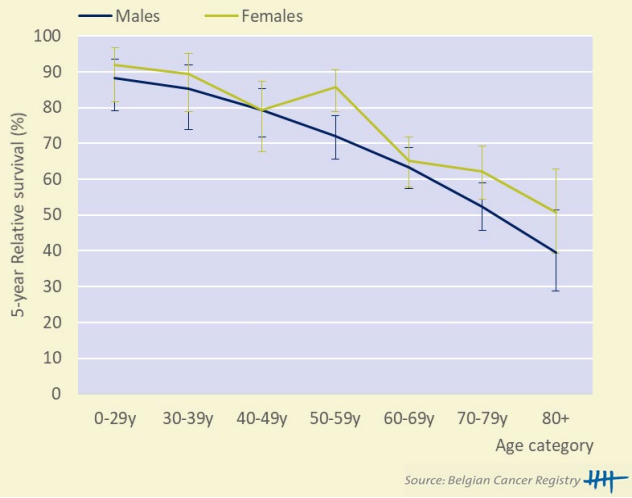
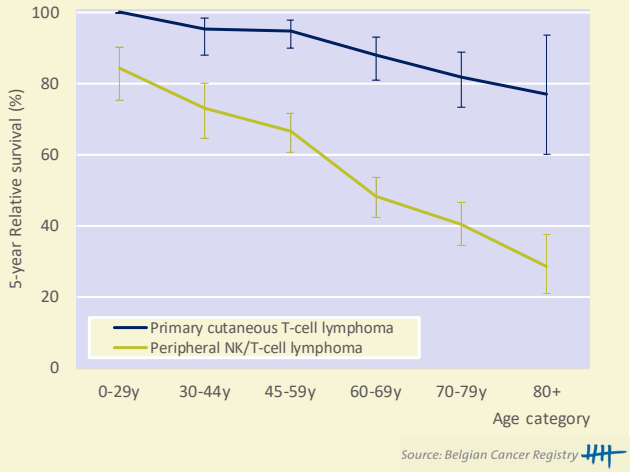


Figure 10 Mature T-cell and NK-cell neoplasms: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



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

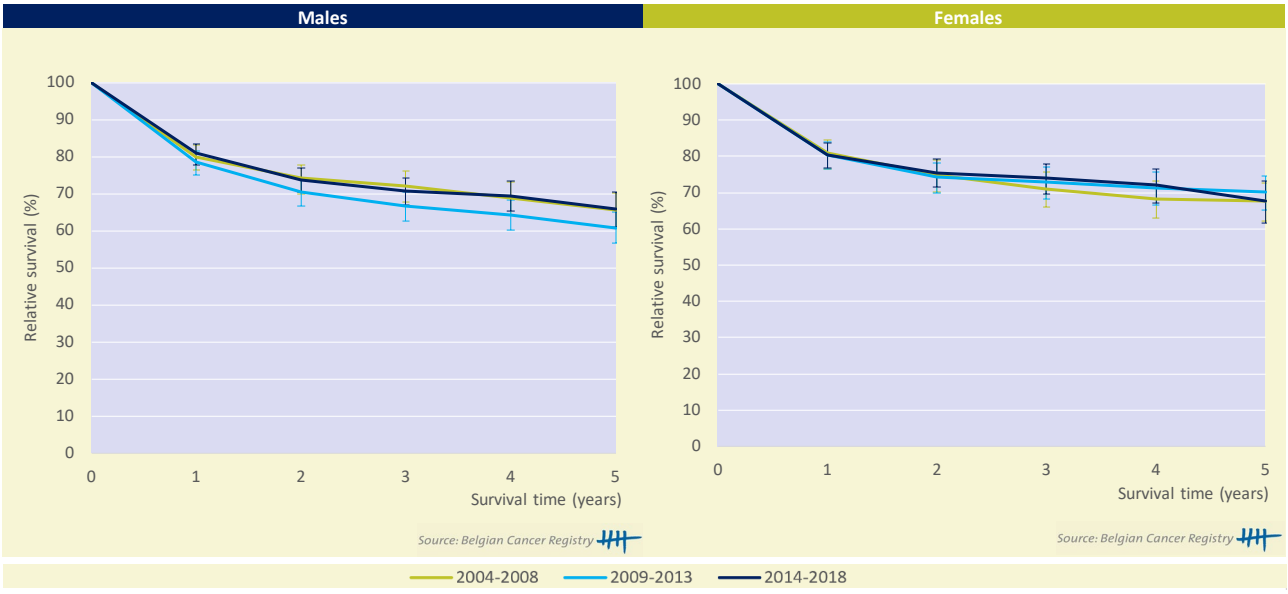
Table 3 Mature T-cell and NK-cell neoplasms: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

Males		
X years since diagnosis	N at risk	%
1 year	1,247	78.0
2 year	1,005	83.7
3 year	806	85.9
Females		
X years since diagnosis	N at risk	%
1 year	865	83.9
2 year	727	88.2
3 year	597	87.6

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Mature T-cell and NK-cell neoplasms: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.1.3.1 PRIMARY CUTANEOUS T-CELL LYMPHOMAS

MAIN SUBTYPES:

- *Mycosis fungoides*
- *Primary cutaneous anaplastic large cell lymphoma*
- *Sézary syndrome*
- *Miscellaneous primary cutaneous T-cell lymphoma*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- Primary cutaneous T-cell lymphomas are more frequently diagnosed in males than in females (male/female ratio: 2.5) and in the older population.
- Mycosis fungoides represents the largest subtype of primary cutaneous T-cell lymphomas with 70%.
- The incidence rates show no clear trend between 2004 and 2018 in both sexes and in the main age categories.

Survival (Table 3; Figure 8-10)

- Patients with primary cutaneous T-cell lymphomas have a good prognosis. The 10-year relative survival is 81% in males and 92% in females.
- No significant improvement of the 5-year relative survival is observed in the period 2004-2018.

Table 1 Primary cutaneous T-cell lymphomas: Overview of incidence, prevalence and survival by sex in Belgium

	Males		
Incidence	N	CR	WSR
Incidence, 2018	75	1.3	0.8
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	304	5.4	3.2
Prevalence (10 years), 2009-2018	505	9.0	5.1
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	347	89.2	[82.3;94.8]
10-year Relative survival, 2009-2018	664	80.5	[71.9;88.3]
	Females		
Incidence	N	CR	WSR
Incidence, 2018	33	0.6	0.3
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	161	2.8	1.6
Prevalence (10 years), 2009-2018	312	5.4	2.9
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	184	89.4	[78.7;97.1]
10-year Relative survival, 2009-2018	390	91.7	[82.5;99.6]
Median age at diagnosis, 2018	66		
M/F-ratio, 2018	2.5		

Source: Belgian Cancer Registry

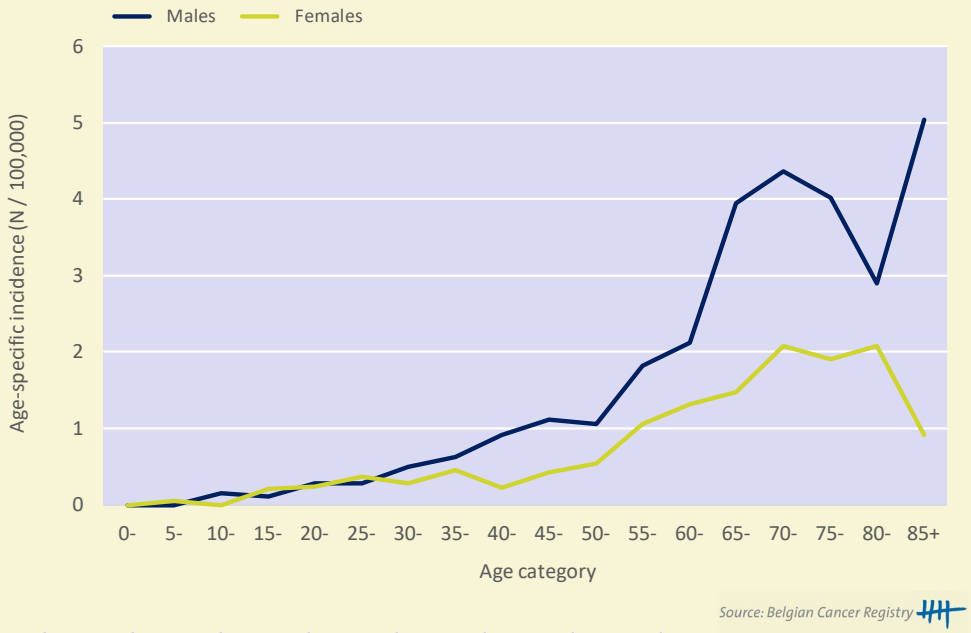
CR: crude (all ages) rate (N/100,000 person years)

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

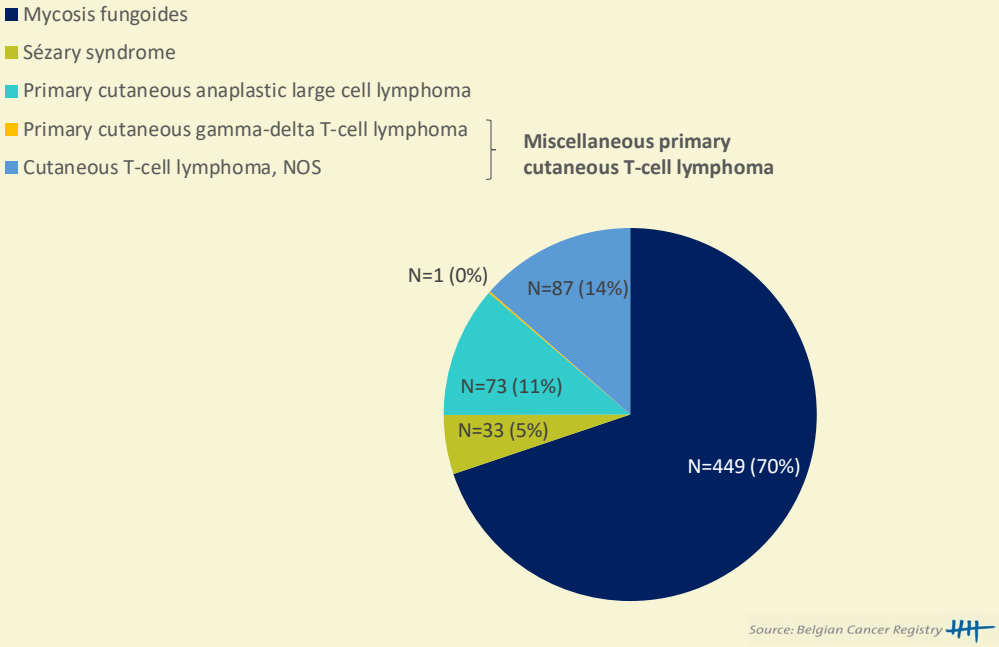
Incidence

Figure 1 Primary cutaneous T-cell lymphomas: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018



Source: Belgian Cancer Registry

Figure 2 Primary cutaneous T-cell lymphomas: Incidence by subtype, Belgium 2013-2018



Source: Belgian Cancer Registry

Figure 3 **Primary cutaneous T-cell lymphomas: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018**

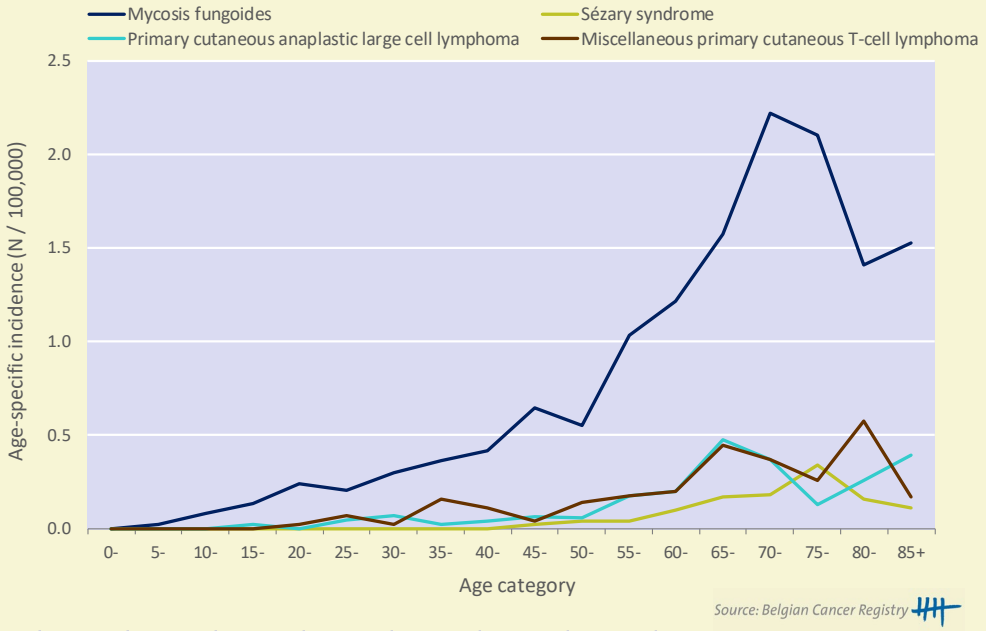
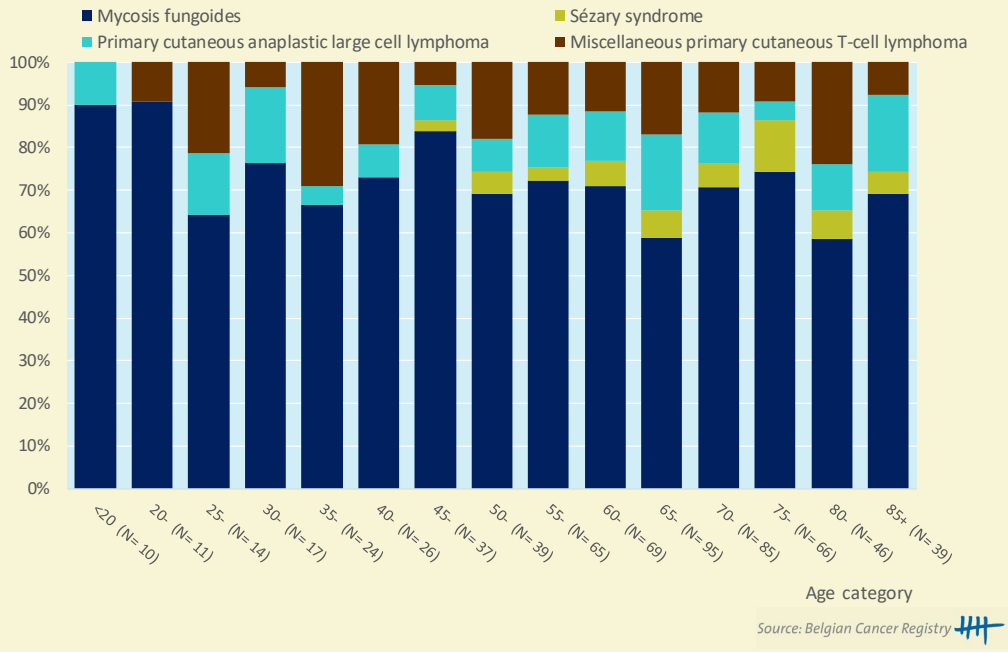
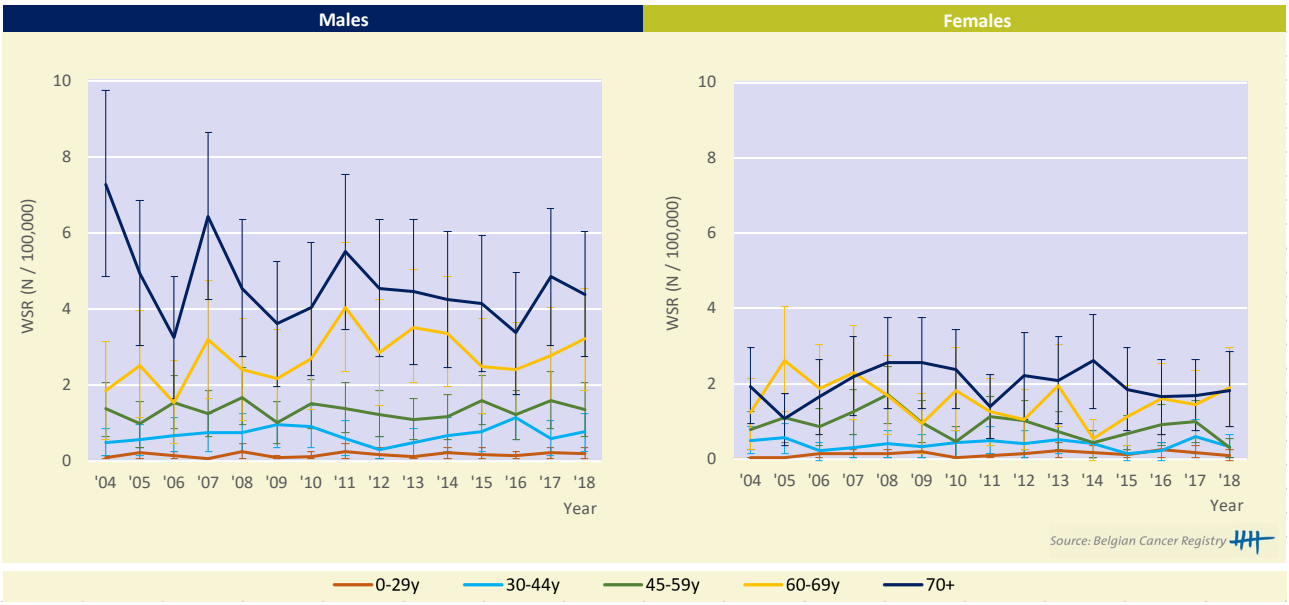


Figure 4 **Primary cutaneous T-cell lymphomas: Incidence by subtype and age group, Belgium 2013-2018**



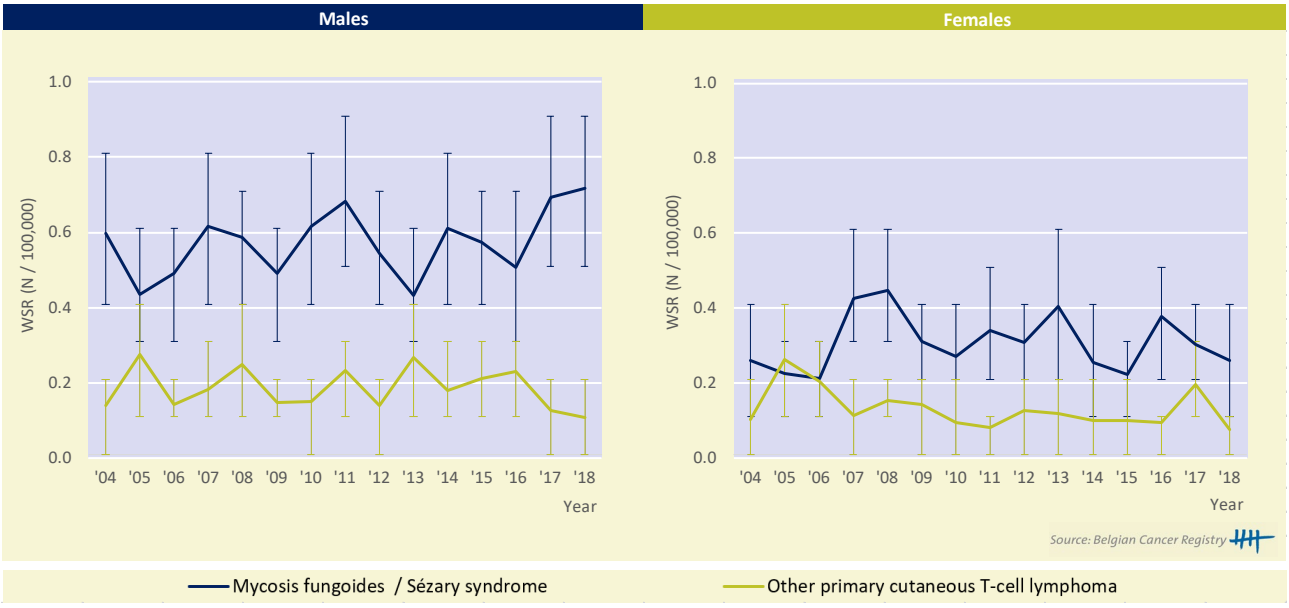
Incidence trends

Figure 5 Primary cutaneous T-cell lymphomas: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Primary cutaneous T-cell lymphomas: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Primary cutaneous T-cell lymphomas: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	-	-	-	-	-	-
30 - 44 yrs	2.5	[-2.7; 8.1]	2004-2018	-2.0	[-8.0; 4.4]	2004-2018
	13.5	[-13.4; 48.9]	2004-2007			
	-0.3	[-6.4; 6.2]	2007-2018			
45 - 59 yrs	0.6	[-1.7; 3.0]	2004-2018	-5.0	[-10.2; 0.6]	2004-2018
60 - 69 yrs	2.6	[-0.2; 5.5]	2004-2018	-2.5	[-7.6; 3.0]	2004-2018
	6.9	[1.3; 12.7]	2004-2012			
	-2.9	[-9.8; 4.6]	2012-2018			
70+	-1.7	[-4.4; 1.0]	2004-2018	0.5	[-2.8; 4.0]	2004-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Mycosis fungoides / Sézary syndrome	1.4	[-0.6; 3.4]	2004-2018	0.4	[-2.9; 3.8]	2004-2018
Other primary cutaneous T-cell lymphoma	-1.2	[-5.2; 2.9]	2004-2018	-3.6	[-8.0; 1.0]	2004-2018

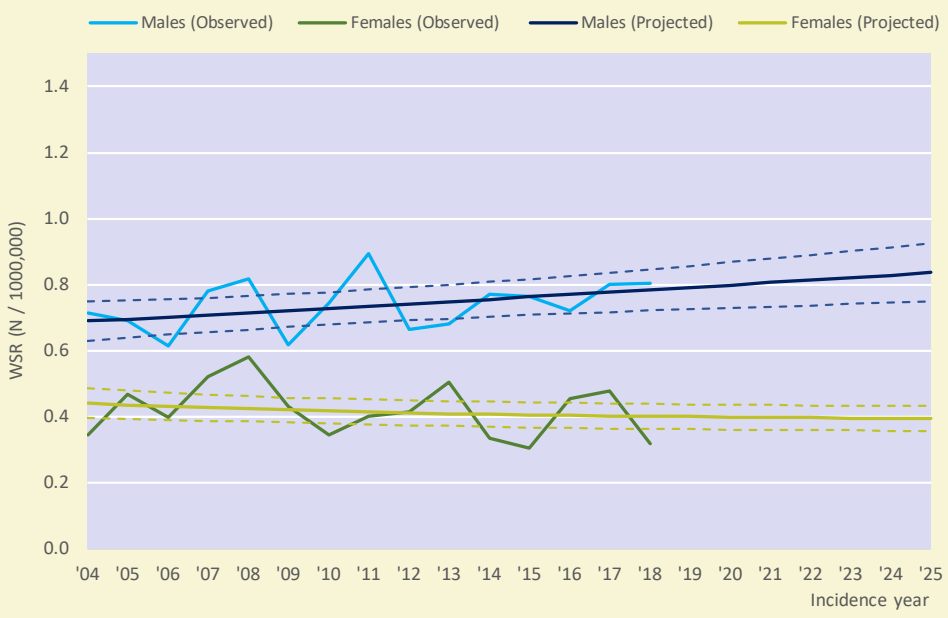
Source: Belgian Cancer Registry

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.

Incidence projections

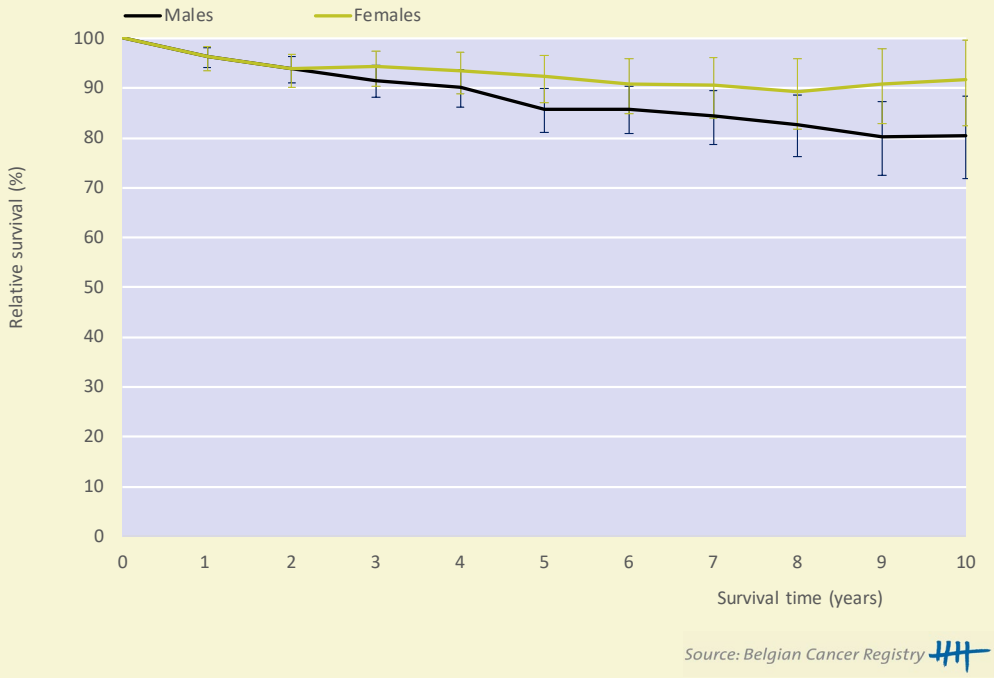
Figure 7 Primary cutaneous T-cell lymphomas: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Primary cutaneous T-cell lymphomas: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Primary cutaneous T-cell lymphoma: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

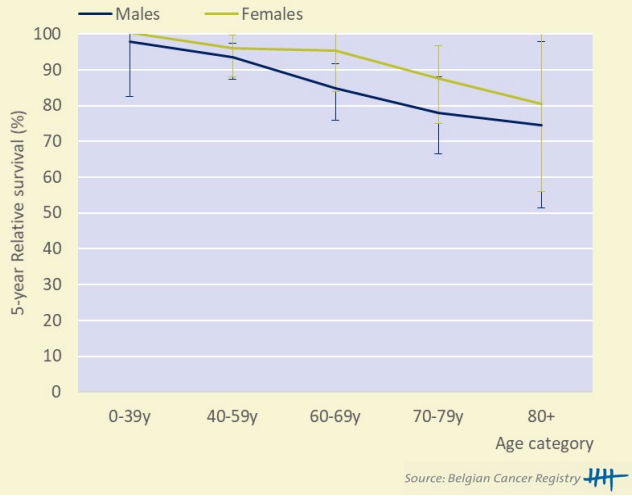
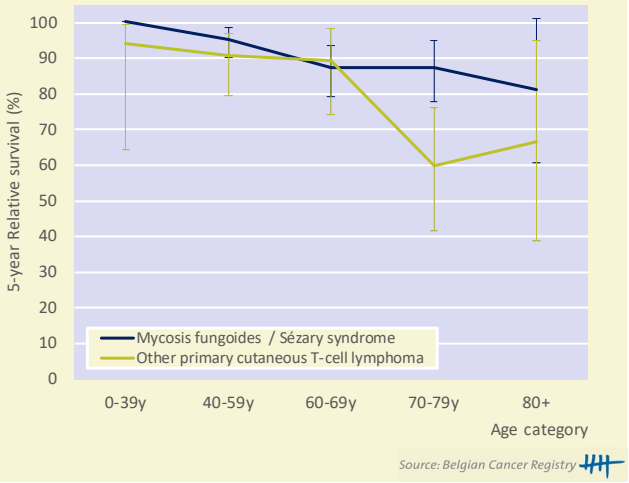


Figure 10 Primary cutaneous T-cell lymphoma: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



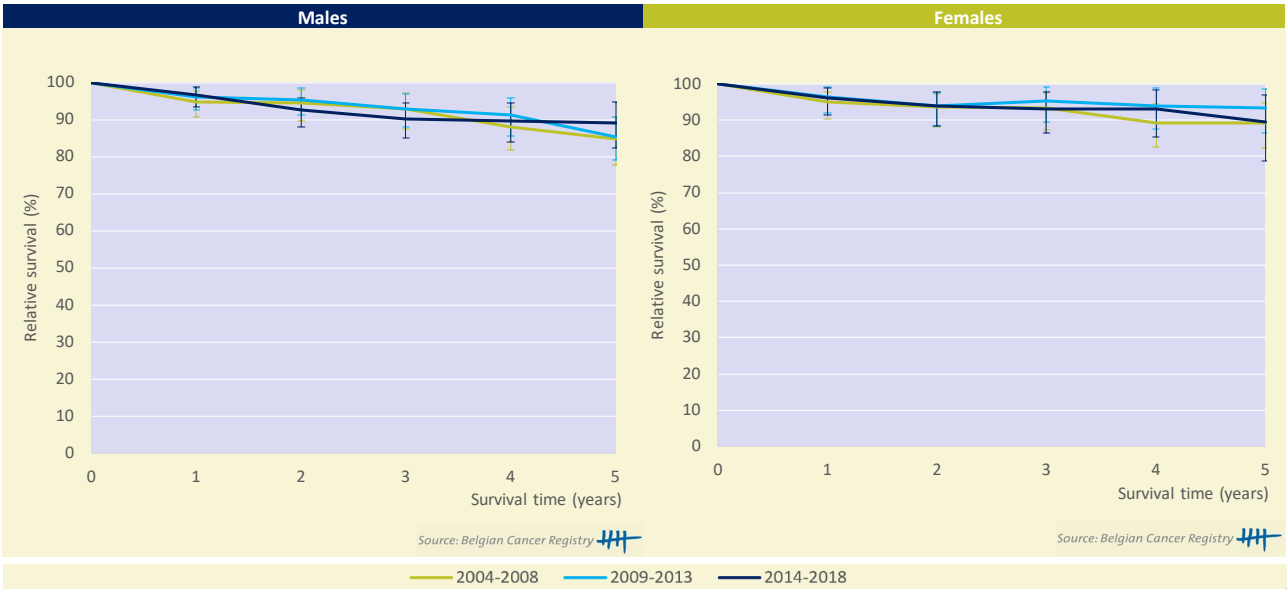
** The relative survival values are represented with 95% Confidence Intervals*

Table 3 Primary cutaneous T-cell lymphomas: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)		
	Males	
X years since diagnosis	N at risk	%
1 year	618	89.1
2 year	537	89.9
3 year	440	90.3
	Females	
X years since diagnosis	N at risk	%
1 year	366	94.4
2 year	326	96.4
3 year	282	94.7

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Primary cutaneous T-cell lymphomas: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.1.3.2 PERIPHERAL NK/T-CELL LYMPHOMAS

MAIN SUBTYPES:

- *Nodal PNK/TCL*
- *Leukaemic PNK/TCL*
- *Extra-nodal PNK/TCL*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- The peripheral NK/T cell lymphomas are more frequent in the older population.
- Between 2004 and 2018 the incidence rate of peripheral NK/T-cell lymphomas (PNK/TCL) increases in Belgium, mostly in the age group 70+.
- This increase appears most clearly in leukaemic PNK/TCL with an AAPC of 10.8% in males and 9.3% in females.

Survival (Table 3; Figure 8-11)

- The relative survival is higher in females than in males starting from 2 years after diagnosis. The 10-year relative survival is 38% in males and 48% in females.
- The relative survival decreases significantly with age and also depends on the subtype. Compared to nodal and extra-nodal PNK/TCL, the 5-year relative survival of leukaemic PNK/TCL is considerably higher.
- Considering both sexes together, the results suggest an improvement of the 5-year relative survival over time (from 47% in 2004-2008 to 53% in 2014-2018).

Table 1 Peripheral NK/T-cell lymphomas: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	99	1.8	1.0
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	303	5.4	3.3
Prevalence (10 years), 2009-2018	457	8.1	5.0
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	515	50.1	[43.8;56.2]
10-year Relative survival, 2009-2018	950	37.8	[32.0;43.8]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	95	1.6	0.9
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	263	4.5	2.6
Prevalence (10 years), 2009-2018	394	6.8	3.9
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	400	57.6	[50.4;64.4]
10-year Relative survival, 2009-2018	707	48.2	[41.6;54.8]
Median age at diagnosis, 2018	68		
M/F-ratio, 2018	1.1		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Peripheral NK/T-cell lymphomas: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

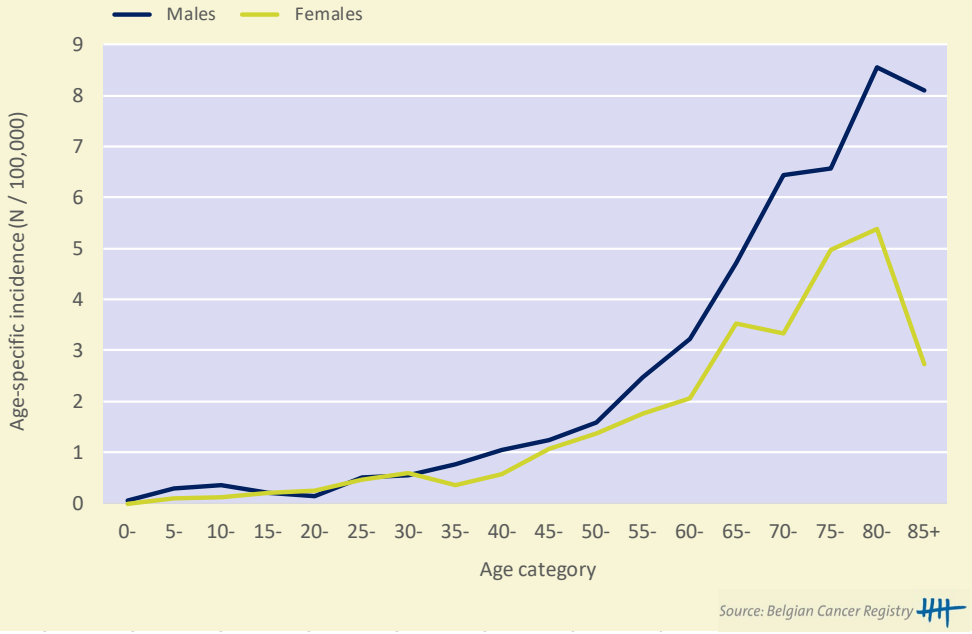
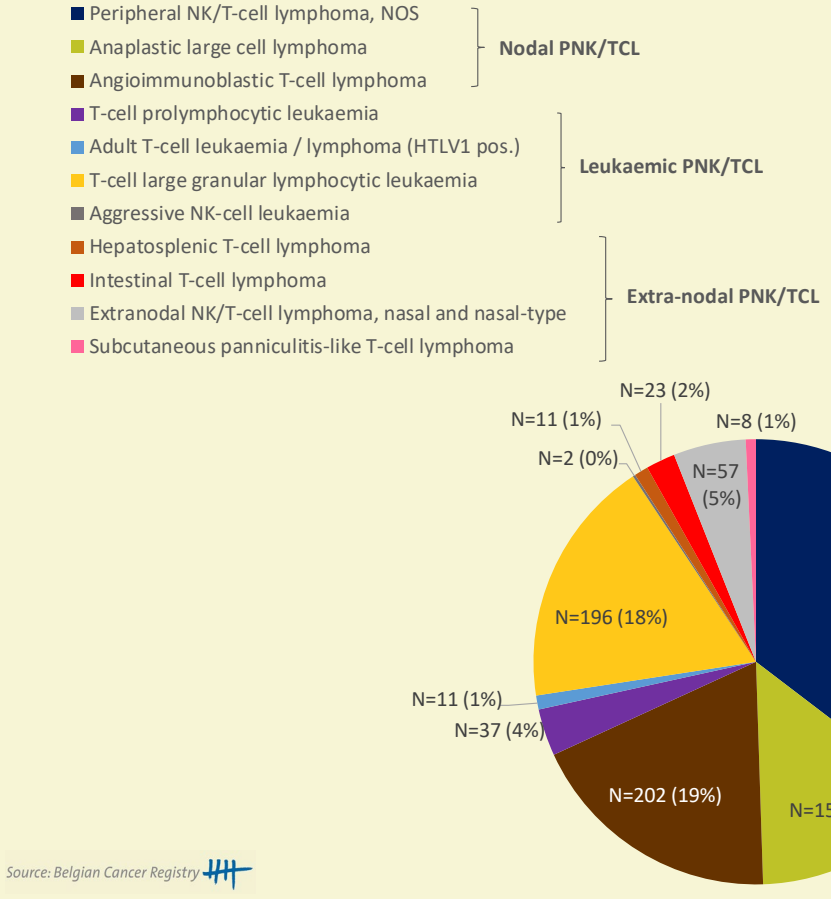


Figure 2 Peripheral NK/T-cell lymphomas*: Incidence by subtype, Belgium 2013-2018



** The subtypes anaplastic large cell lymphoma, ALK positive and ALK negative are grouped together as "Anaplastic large B-cell lymphoma".*

Figure 3 **Peripheral NK/T-cell lymphomas: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018**

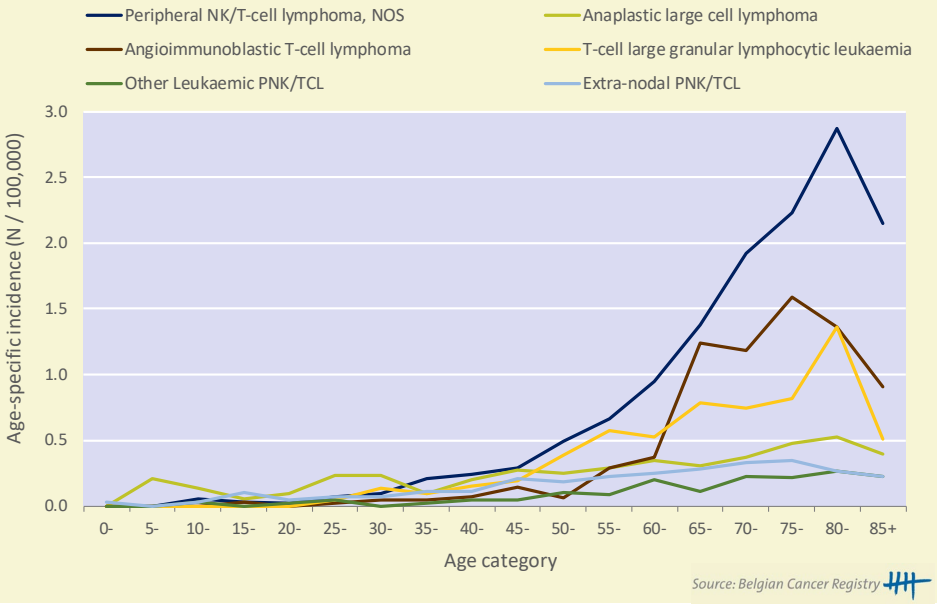
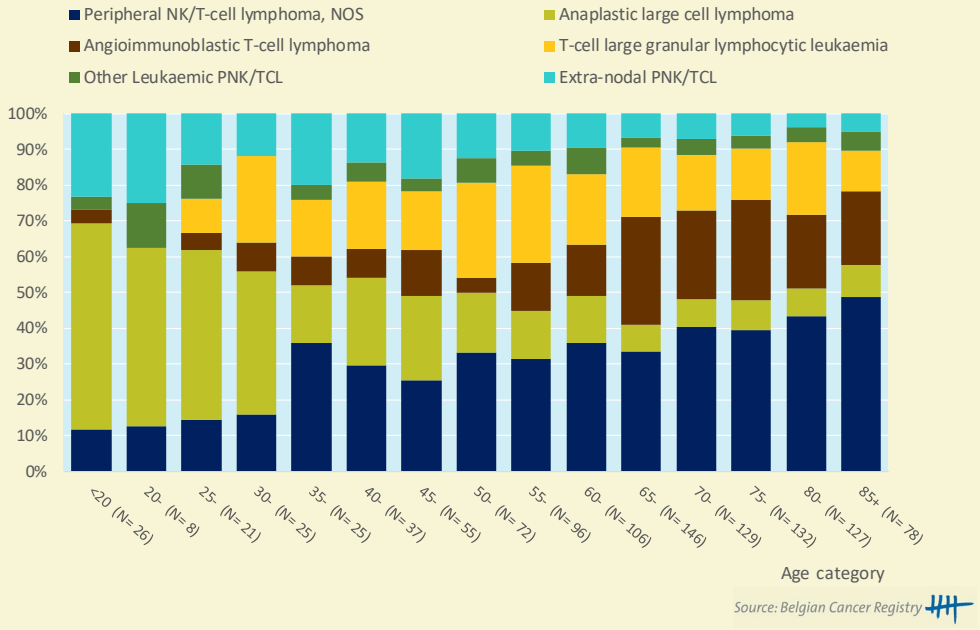
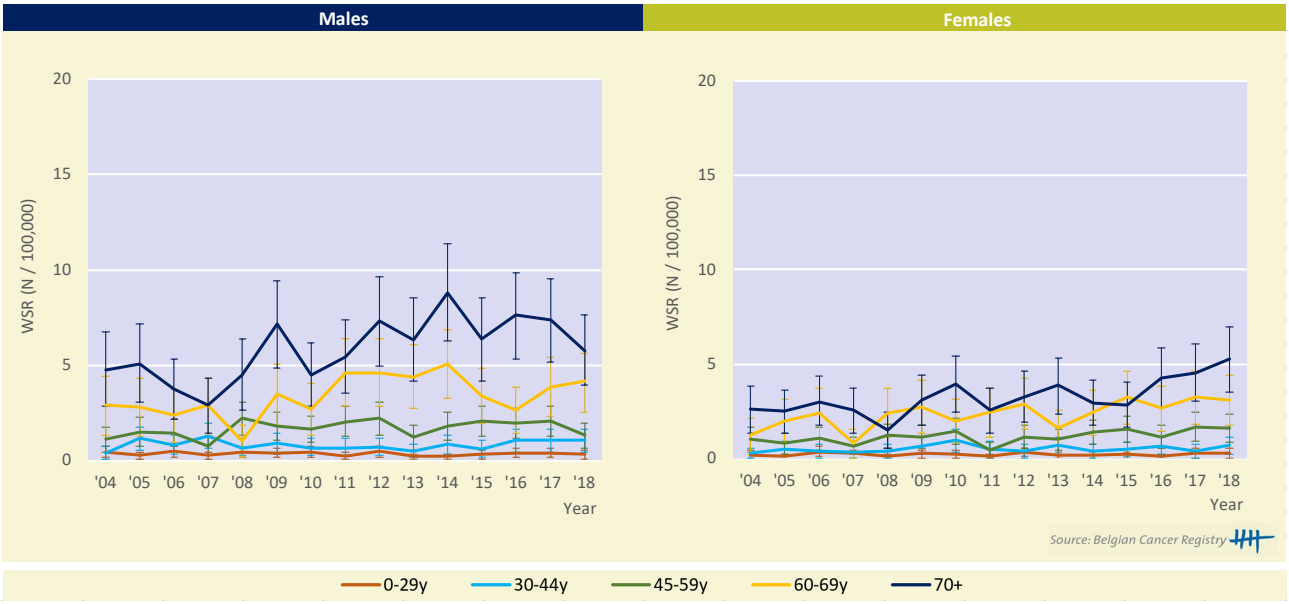


Figure 4 **Peripheral NK/T-cell lymphomas: Incidence by subtype and age group, Belgium 2013-2018**



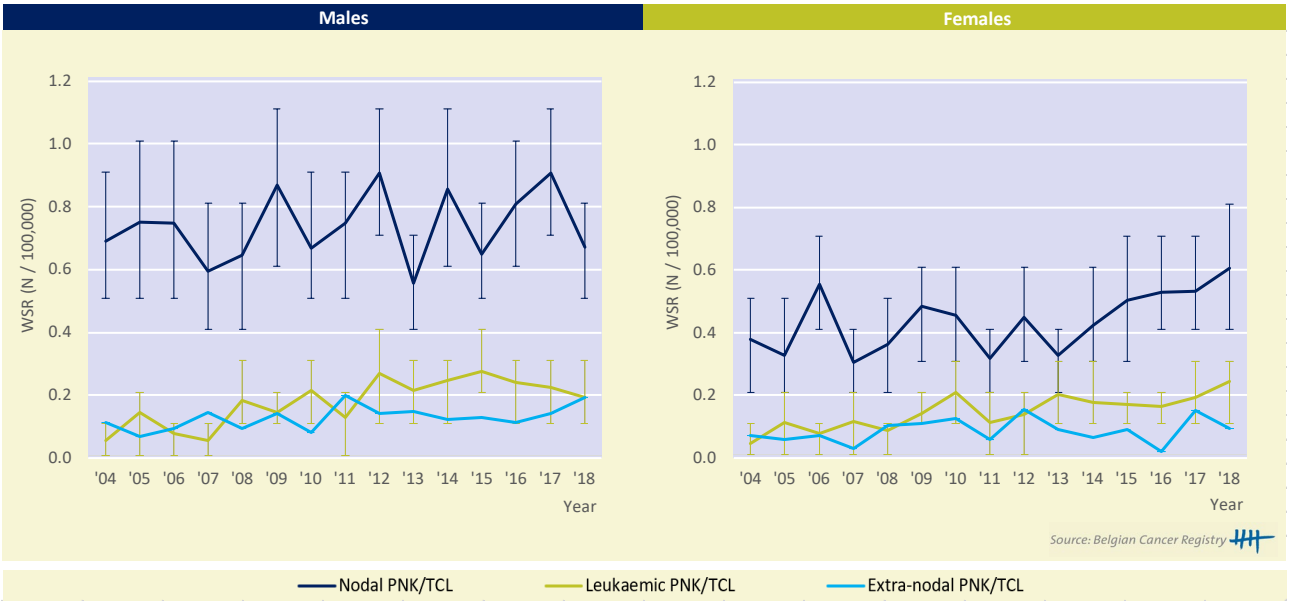
Incidence trends

Figure 5 Peripheral NK/T-cell lymphomas: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Peripheral NK/T-cell lymphomas: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Peripheral NK/T-cell lymphomas: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	-1.7	[-6.1; 2.9]	2004-2018	1.3	[-4.6; 7.6]	2004-2018
30 - 44 yrs	1.4	[-3.2; 6.2]	2004-2018	3.3	[-1.1; 7.9]	2004-2018
45 - 59 yrs	2.8	[-1.0; 6.8]	2004-2018	4.2	[-0.2; 8.9]	2004-2018
60 - 69 yrs	4.3	[-0.6; 9.3]	2004-2018	5.6	[1.3; 10.2]	2004-2018
70+	4.6	[1.5; 7.8]	2004-2018	4.8	[1.6; 8.1]	2004-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Nodal PNK/TCL	0.7	[-1.3; 2.7]	2004-2018	2.8	[0.2; 5.5]	2004-2018
Leukaemic PNK/TCL	10.8	[5.5; 16.3]	2004-2018	9.3	[5.2; 13.6]	2004-2018
	21.6	[6.9; 38.3]	2004-2010			
	3.3	[-5.9; 13.4]	2010-2018			
Extra-nodal PNK/TCL	3.9	[0.2; 7.8]	2004-2018	1.1	[-7.9; 11.1]	2004-2018

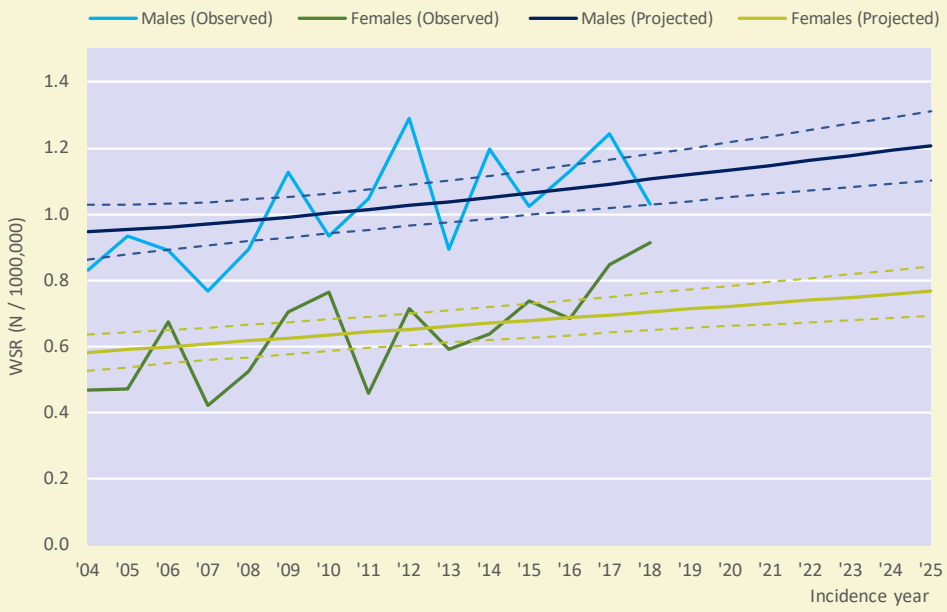
Source: Belgian Cancer Registry

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.

Incidence projections

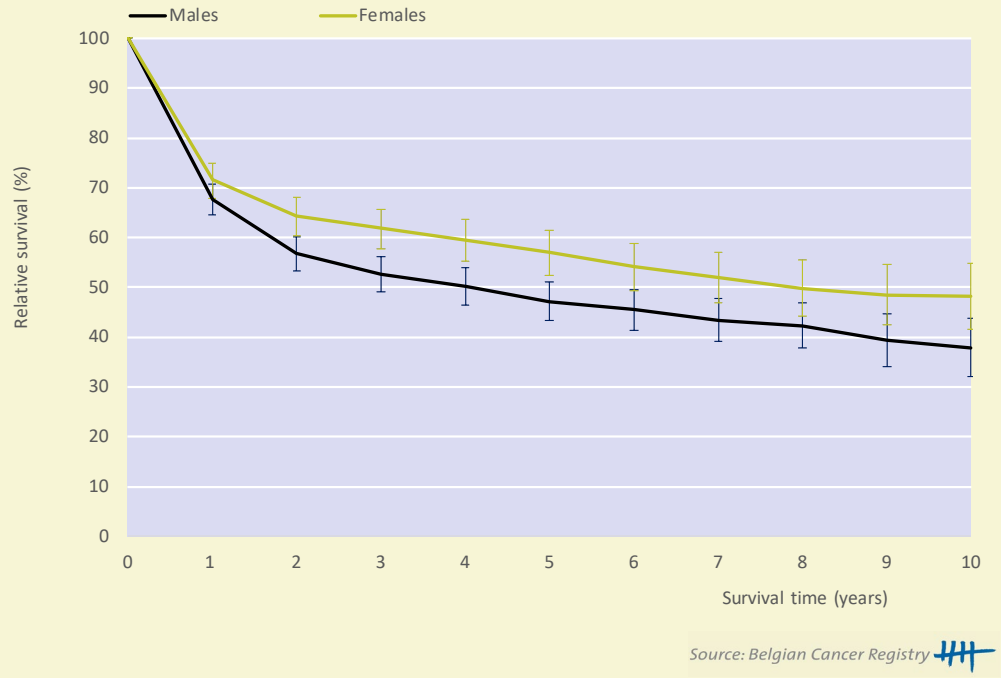
Figure 7 Peripheral NK/T-cell lymphomas: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Peripheral NK/T-cell lymphomas: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Peripheral NK/T-cell lymphoma: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

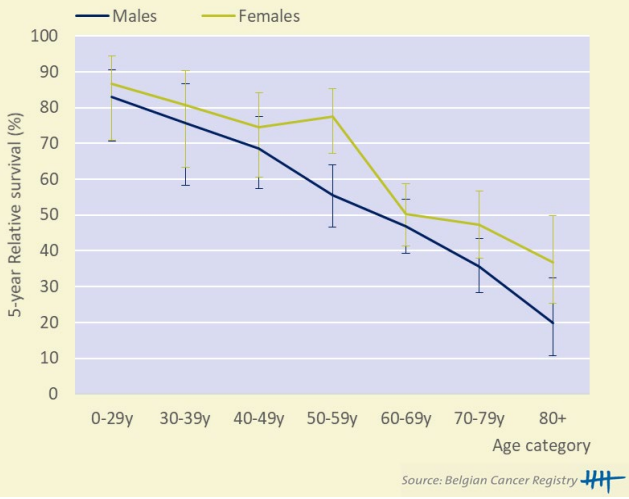
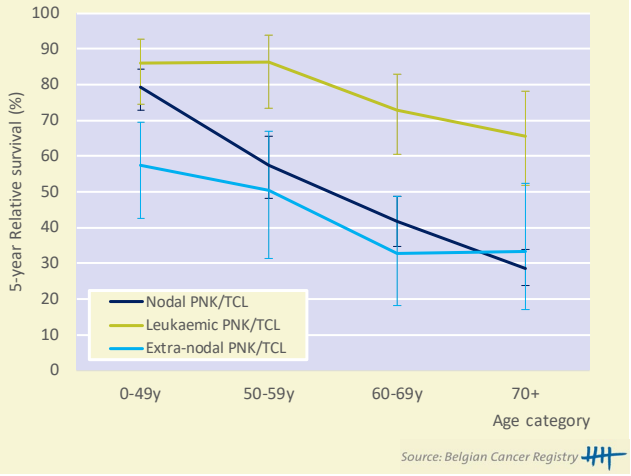


Figure 10 Peripheral NK/T-cell lymphoma: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



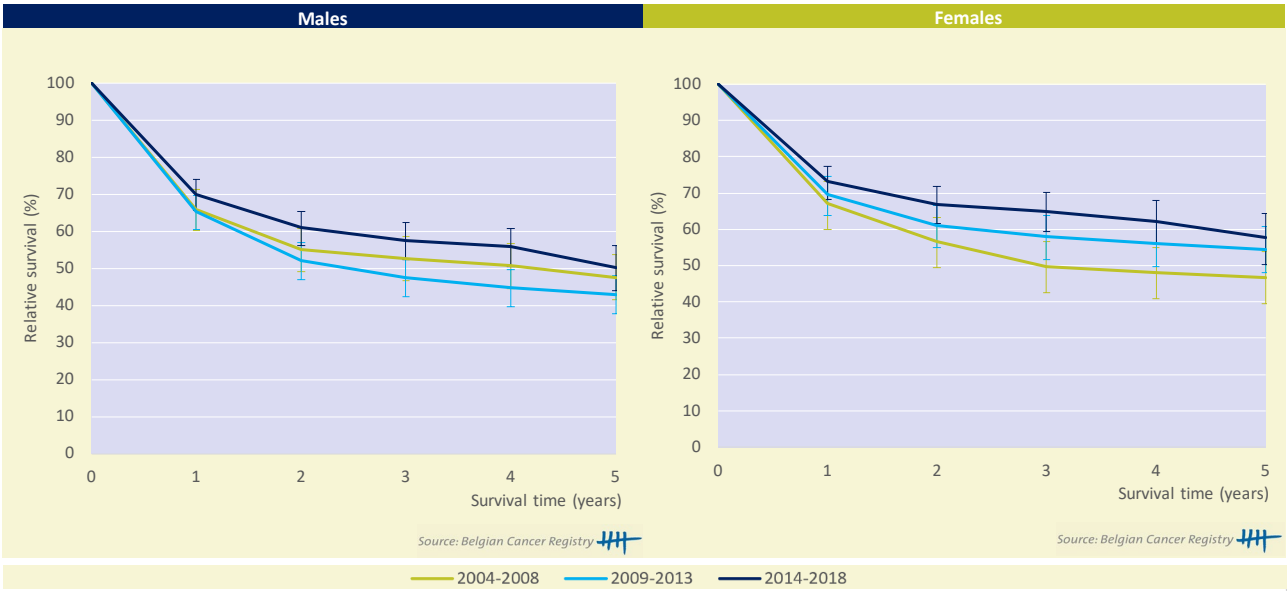
* The relative survival values are represented with 95% Confidence Intervals

Table 3 Peripheral NK/T-cell lymphomas: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)		
	Males	
X years since diagnosis	N at risk	%
1 year	629	67.1
2 year	468	76.6
3 year	366	80.5
	Females	
X years since diagnosis	N at risk	%
1 year	499	75.7
2 year	401	80.8
3 year	315	80.7

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Peripheral NK/T-cell lymphomas: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.2 PRECURSOR NEOPLASMS

MAIN SUBTYPES:

- *Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma*
- *Acute myeloid leukaemias and related precursor neoplasms*
- *Acute leukaemias of ambiguous lineage*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- Precursor lymphoid neoplasms are more frequent in children (below age 15) while acute myeloid leukaemias and related precursor neoplasms are mainly diagnosed in the older population (age group 60+).
- No significant change of the incidence rates is observed between 2004 and 2018.

Survival (Table 3; Figure 8-11)

- The relative survival between males and females is similar and nearly reaching a plateau 5 years after diagnosis.
- The 5-year relative survival shows a considerable variation according to age (from 89% in the age group 0-9 years to 3% in the age group 80+).
- In children and young adults (i.e. <30 years) and in the older population (age group 70+), the relative survival of precursor lymphoid neoplasms is higher than that of acute myeloid leukaemias and related precursor neoplasms.
- No consistent improvement of the 5-year relative survival is observed in the period 2004-2018 (if myeloid and lymphoid precursor neoplasms are considered together).

Table 1 Precursor neoplasms: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	396	7.1	4.8
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	918	16.3	14.9
Prevalence (10 years), 2009-2018	1,456	25.9	24.8
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	1,736	28.4	[25.9;31.1]
10-year Relative survival, 2009-2018	3,350	24.1	[22.2;26.1]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	380	6.6	4.5
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	776	13.4	12.7
Prevalence (10 years), 2009-2018	1,257	21.7	20.8
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	1,468	26.1	[23.4;28.9]
10-year Relative survival, 2009-2018	2,790	24.5	[22.5;26.7]
Median age at diagnosis, 2018	66		
M/F-ratio, 2018	1.1		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Precursor neoplasms: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

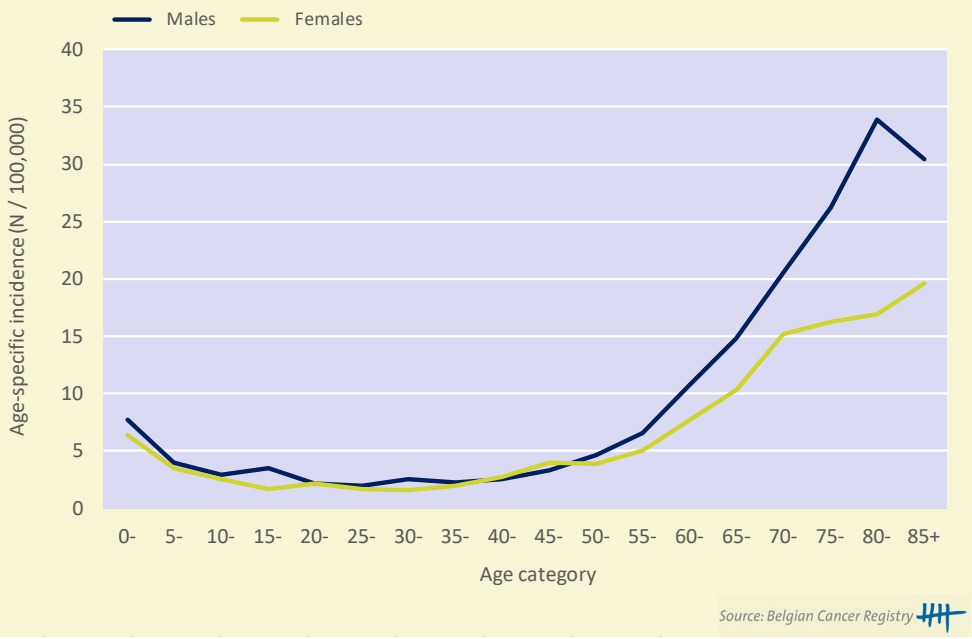


Figure 2 Precursor neoplasms: Incidence by subtype, Belgium 2013-2018

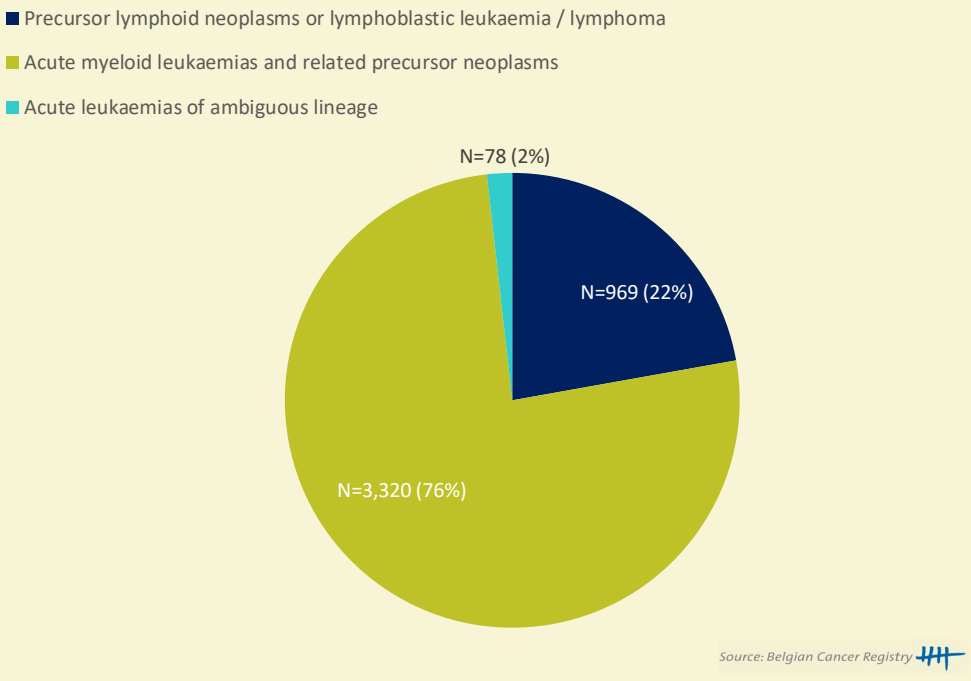


Figure 3 Precursor neoplasms: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

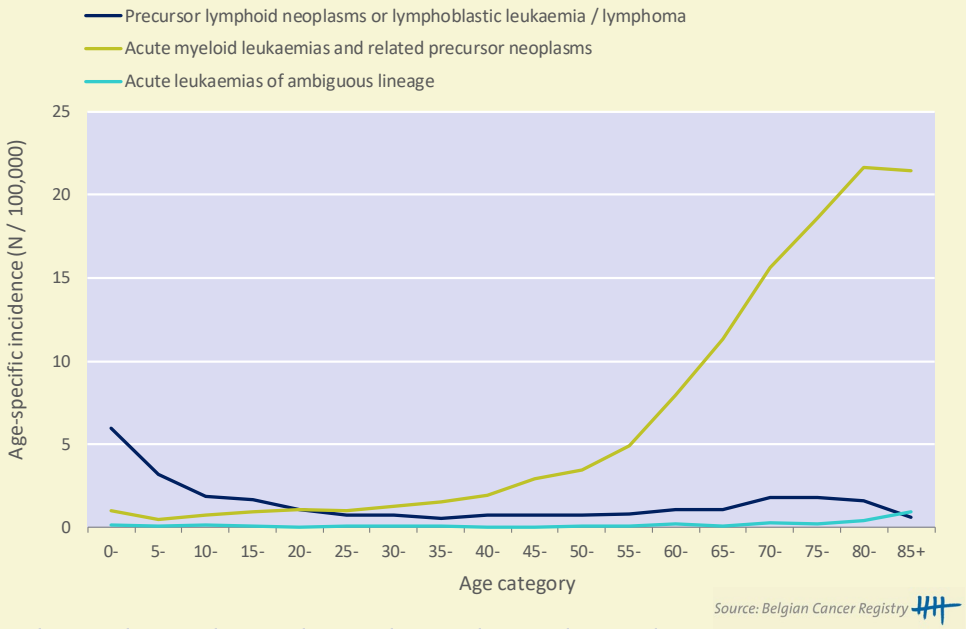
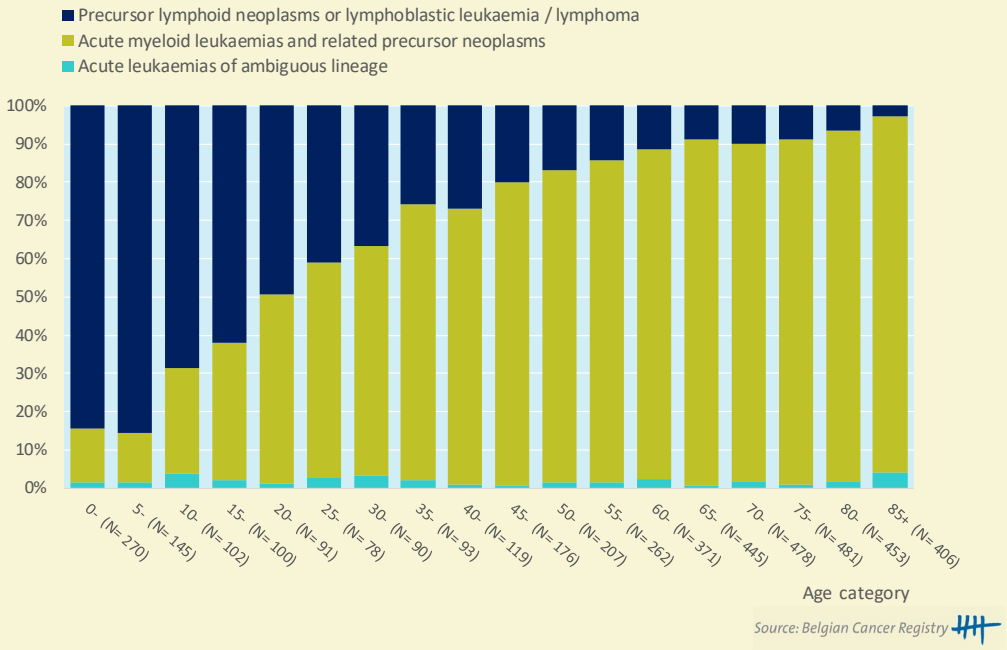
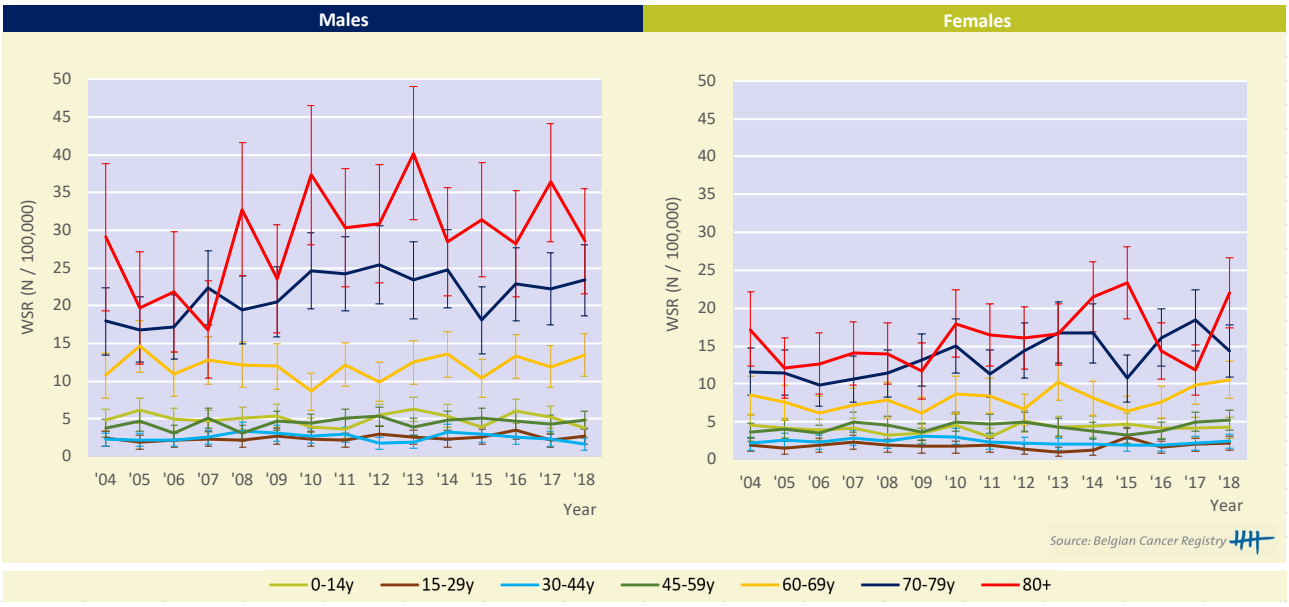


Figure 4 Precursor neoplasms: Incidence by subtype and age group, Belgium 2013-2018



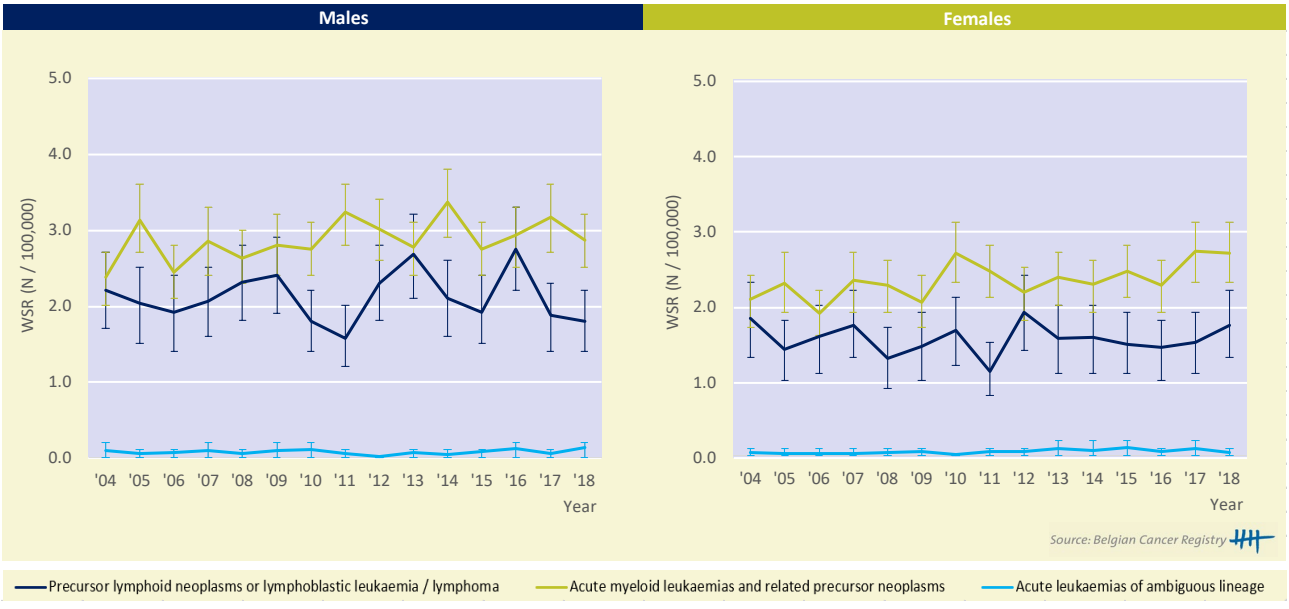
Incidence trends

Figure 5 Precursor neoplasms: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Precursor neoplasms: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Precursor neoplasms: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 14 yrs	-0.6	[-2.9; 1.8]	2004-2018	0.7	[-1.1; 2.6]	2004-2018
15 - 29 yrs	1.5	[-0.3; 3.3]	2004-2018	0.0	[-3.4; 3.5]	2004-2018
30 - 44 yrs	-1.1	[-4.7; 2.6]	2004-2018	0.5	[-1.2; 2.3]	2004-2018
	8.6	[-7.5; 27.5]	2004-2007	6.8	[1.0; 12.9]	2004-2008
	-0.3	[-5.4; 5.0]	2007-2015	-5.9	[-8.6; -3.2]	2008-2015
	-11.7	[-24.8; 3.7]	2015-2018	8.2	[0.1; 17.0]	2015-2018
45 - 59 yrs	1.7	[-0.4; 3.8]	2004-2018	1.0	[-1.1; 3.1]	2004-2018
				3.1	[-2.3; 8.9]	2004-2010
				-0.6	[-4.4; 3.4]	2010-2018
60 - 69 yrs	0.4	[-1.4; 2.2]	2004-2018	1.6	[-0.5; 3.8]	2004-2018
70 - 79 yrs	1.9	[0.6; 3.2]	2004-2018	3.1	[1.1; 5.1]	2004-2018
	5.4	[2.5; 8.4]	2004-2011			
	-1.5	[-4.3; 1.3]	2011-2018			
80+	2.8	[0.0; 5.7]	2004-2018	2.2	[-0.5; 5.0]	2004-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma	-0.1	[-2.1; 2.0]	2004-2018	-0.1	[-1.9; 1.7]	2004-2018
Acute myeloid leukaemias and related precursor neoplasms	1.1	[-0.1; 2.2]	2004-2018	1.4	[0.4; 2.6]	2004-2018
Acute leukaemias of ambiguous lineage	0.9	[-6.2; 8.4]	2004-2018	8.6	[2.7; 14.8]	2004-2018

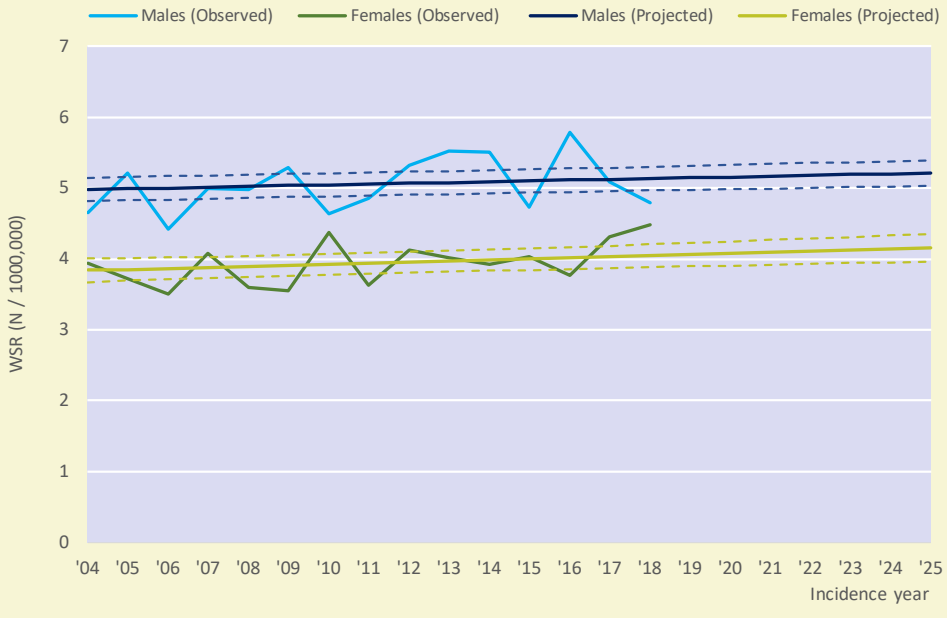
Source: Belgian Cancer Registry

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.

Incidence projections

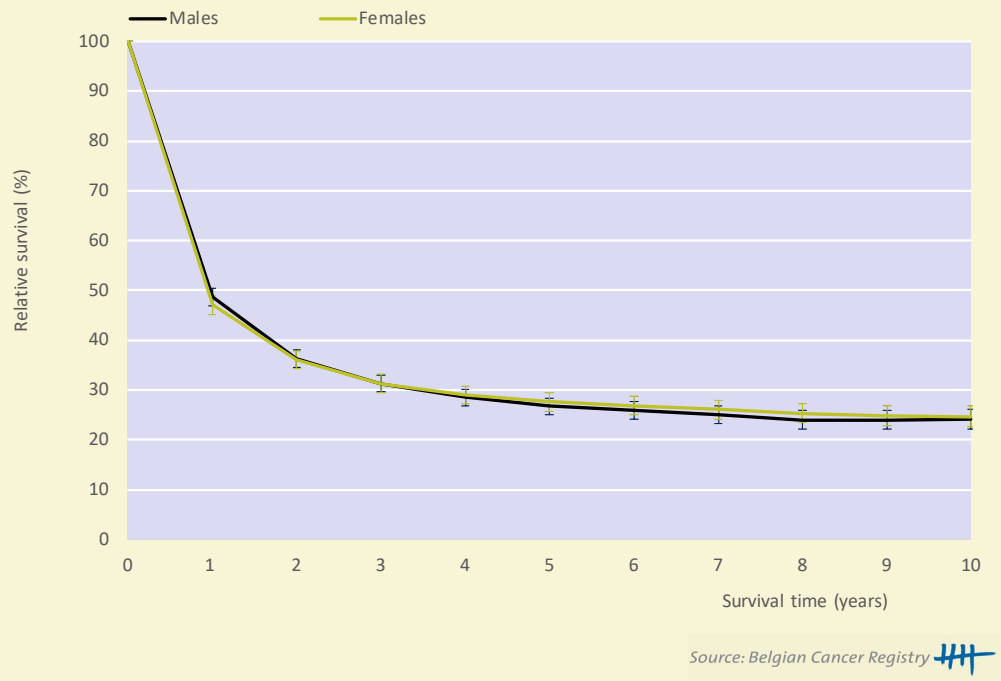
Figure 7 Precursor neoplasms: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Precursor neoplasms: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Precursor neoplasms: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

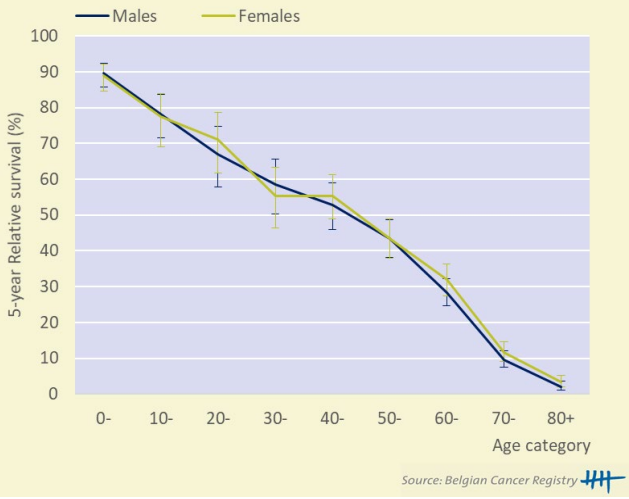
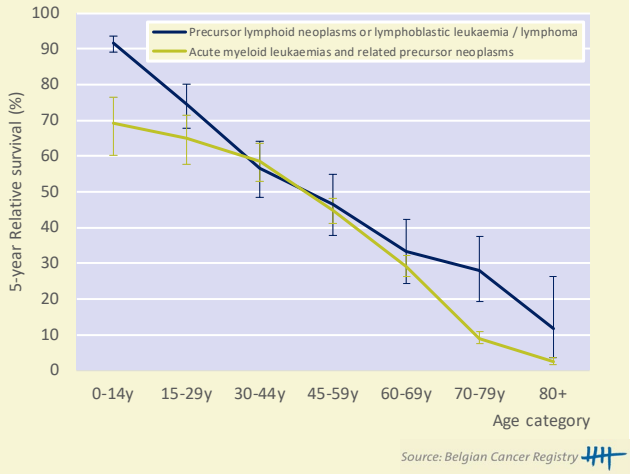


Figure 10 Precursor neoplasms: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



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

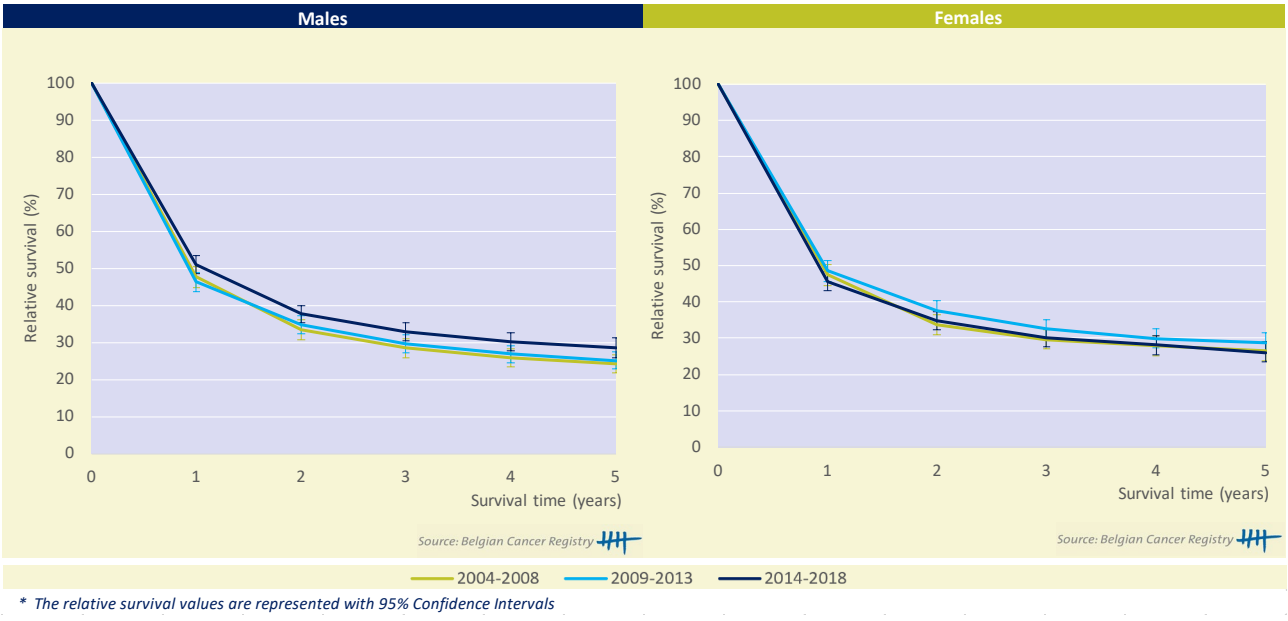
Table 3 Precursor neoplasms: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

Males		
X years since diagnosis	N at risk	%
1 year	1,679	53.1
2 year	1,124	68.9
3 year	856	76.9
Females		
X years since diagnosis	N at risk	%
1 year	1,370	57.1
2 year	934	72.3
3 year	693	81.1

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Precursor neoplasms: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.2.1 PRECURSOR LYMPHOID NEOPLASMS OR LYMPHOBLASTIC LEUKAEMIA / LYMPHOMA

MAIN SUBTYPES:

- *B-cell precursor lymphoid neoplasm (PLN) or lymphoblastic leukaemia / lymphoma*
- *T-cell and NK-cell PLN or lymphoblastic leukaemia / lymphoma*
- *PLN or lymphoblastic leukaemia / lymphoma, NOS and related neoplasms (including Blastic plasmacytoid dendritic cell neoplasm – BPDCN since 2012)*

KEYNOTES

Incidence (Table 1-2; Figure 1-8)

- PLNs occur most often in children (adolescents to a lesser extent) with a second smaller incidence peak after the age 65.
- B-cell PLN represents the largest group of PLN (69%), followed by T-cell and NK-cell PLN (25%).
- The different B-cell PLN subtypes with recurrent cytogenetic abnormalities are often underspecified and probably registered as B-cell PLN, NOS (not otherwise specified) or even PLN, NOS.

Survival (Table 3; Figure 9-13)

- Given that a patient survives the first two years, the relative survival probability 5 years later is nearly 80%.
- The 5-year relative survival ranges from more than 90% in the age group 0-9 years to less than 30% in the age group 70+.
- The trends of the 5-year relative survival suggest an improvement in both sexes:
  - Males: From 41% in 2004-2008 to 53% in 2014-2018
  - Females: From 39% in 2004-2008 to 56% to 2014-2018
- This improvement is more pronounced in the age group 15+ (from 40% in 2004-2008 to 54% in 2014-2018) than in children which have a 5-year relative survival above 90% since the period 2009-2013.

Table 1 Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	85	1.5	1.8
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	344	6.1	8.1
Prevalence (10 years), 2009-2018	615	10.9	14.5
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	277	53.0	[45.9;59.6]
10-year Relative survival, 2009-2018	515	46.3	[40.9;51.6]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	80	1.4	1.7
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	262	4.5	6.4
Prevalence (10 years), 2009-2018	465	8.0	11.1
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	173	56.2	[46.1;65.3]
10-year Relative survival, 2009-2018	367	42.4	[34.7;50.2]
Median age at diagnosis, 2018	27		
M/F-ratio, 2018	1.0		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Relative survival is calculated for the age group 15+ (see methodology).

Incidence

Figure 1 Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

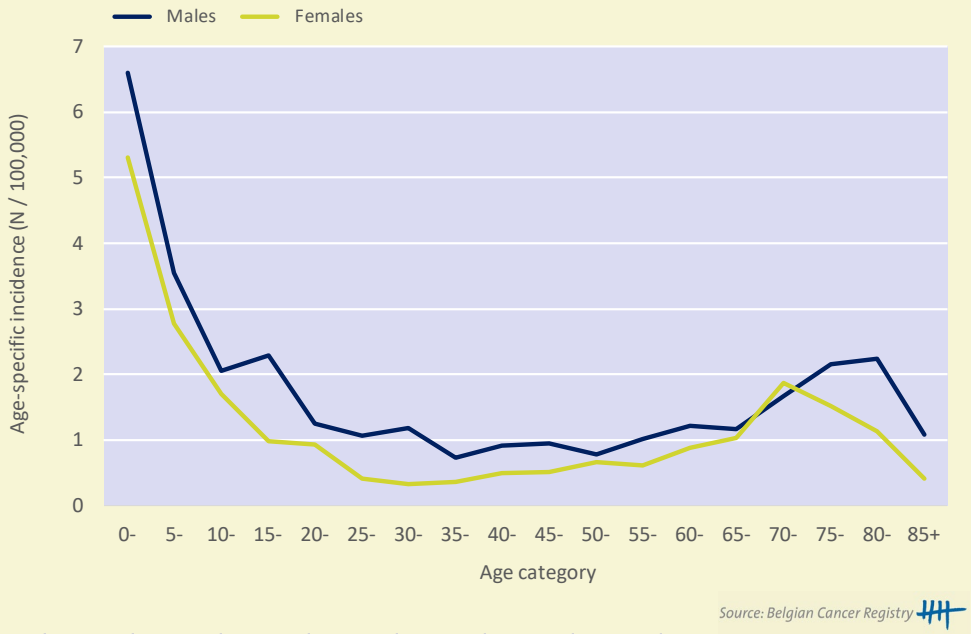
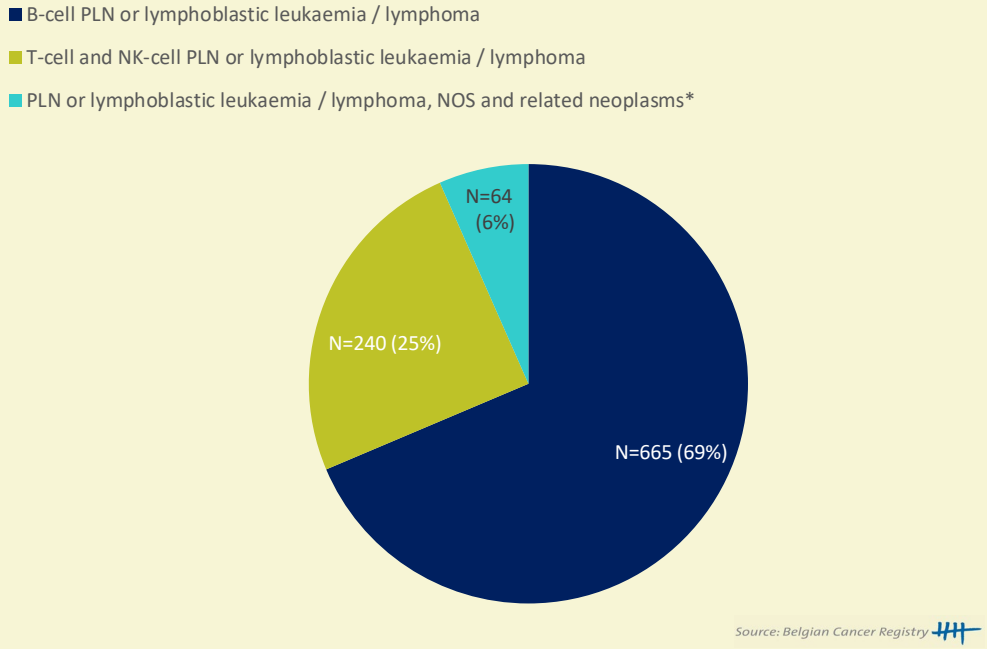


Figure 2 Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma: Incidence by subtype, Belgium 2013-2018



** Also includes blastic plasmacytoid dendritic cell neoplasm (BPDCN) since 2012*

Figure 3 B-cell PLN or lymphoblastic leukaemia / lymphoma: Incidence by subtype and age group, Belgium 2013-2018

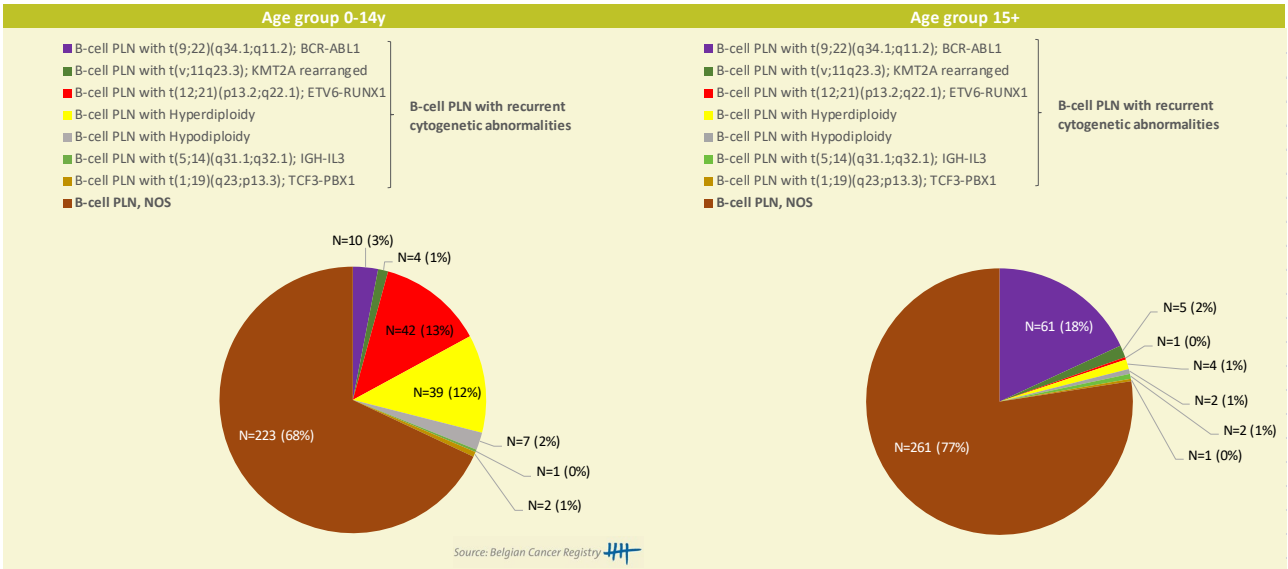


Figure 4 Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

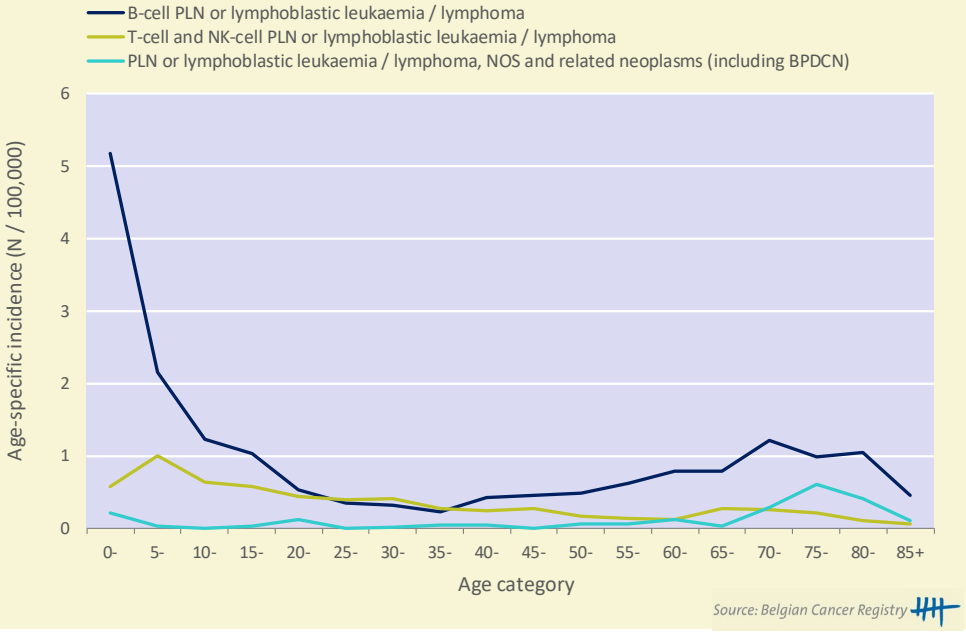
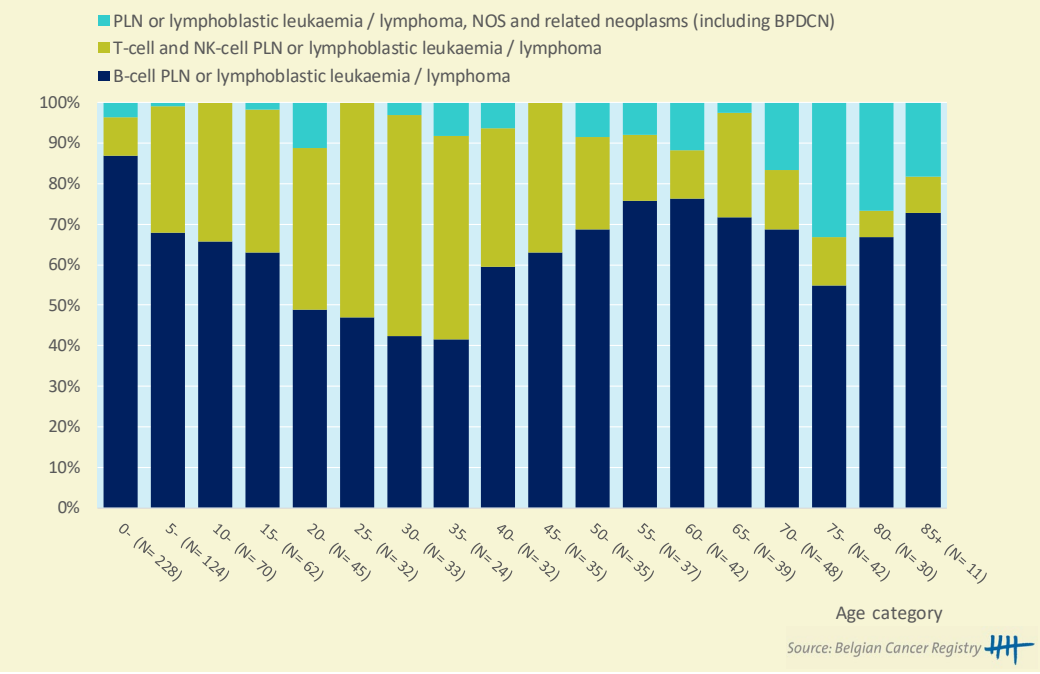
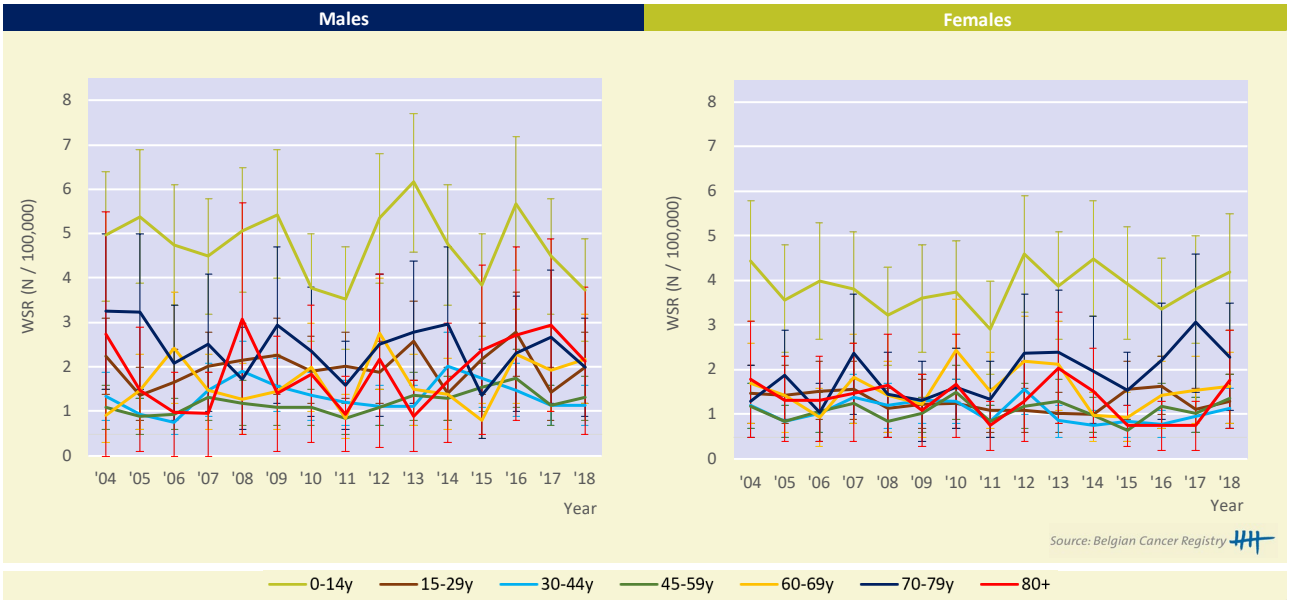


Figure 5 Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma: Incidence by subtype and age group, Belgium 2013-2018



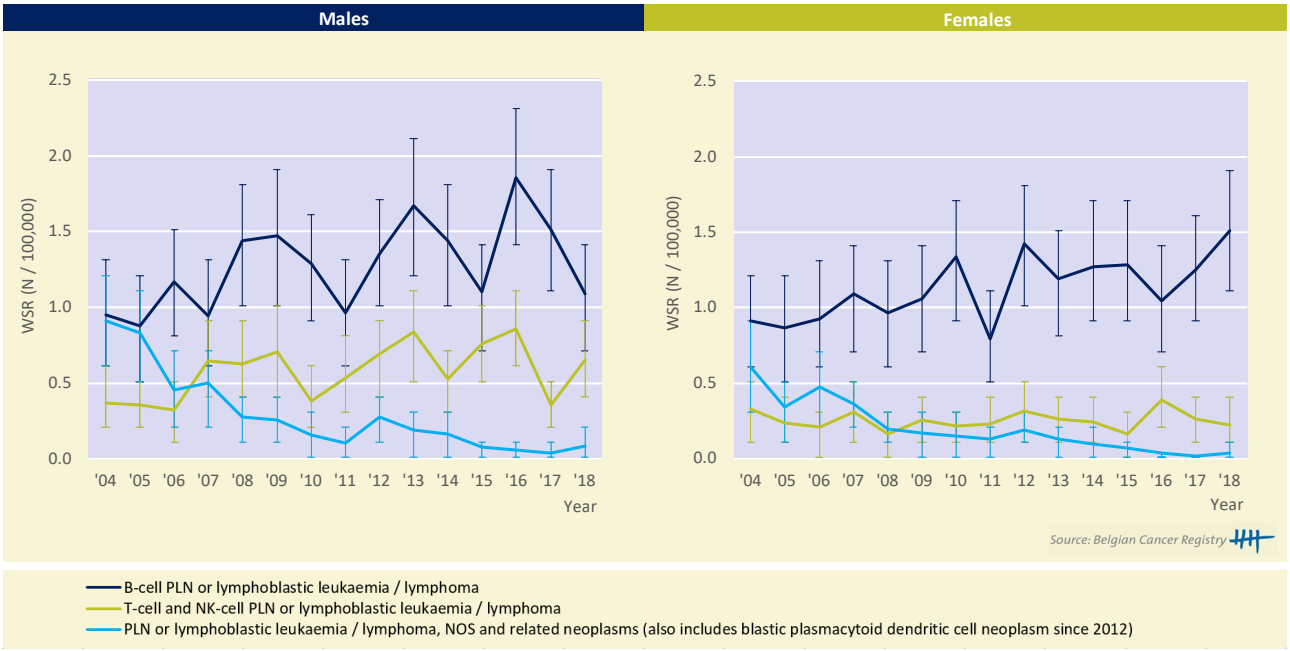
Incidence trends

Figure 6 Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 7 PLN or lymphoblastic leukaemia / lymphoma: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 PLN or lymphoblastic leukaemia / lymphoma: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 14 yrs	-1.0	[-3.4; 1.5]	2004-2018	0.2	[-1.7; 2.2]	2004-2018
15 - 29 yrs	0.6	[-3.2; 4.5]	2004-2018	-1.3	[-4.2; 1.7]	2004-2018
				-7.1	[-12.3; -1.7]	2004-2012
				7.1	[-1.1; 15.9]	2012-2018
30 - 44 yrs	2.5	[-3.5; 8.9]	2004-2018	-3.6	[-8.9; 2.0]	2004-2018
45 - 59 yrs	4.5	[0.7; 8.6]	2004-2018	0.0	[-6.2; 6.6]	2004-2018
60 - 69 yrs	2.8	[-5.2; 11.4]	2004-2018	-0.3	[-6.3; 6.0]	2004-2018
70 - 79 yrs	-2.3	[-6.4; 2.1]	2004-2018	6.0	[1.2; 11.0]	2004-2018
80+	4.7	[-3.9; 14.0]	2004-2018	-5.9	[-13.2; 2.0]	2004-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
B-cell PLN or lymphoblastic leukaemia / lymphoma	2.7	[0.1; 5.5]	2004-2018	3.0	[1.0; 4.9]	2004-2018
T-cell and NK-cell PLN or lymphoblastic leukaemia / lymphoma	3.7	[-0.4; 8.0]	2004-2018	0.0	[-3.3; 3.5]	2004-2018
PLN or lymphoblastic leukaemia / lymphoma, NOS and related neoplasms (including BPDCN)	-19.1	[-23.5; -14.4]	2004-2018	-21.1	[-26.7; -15.1]	2004-2018
				-11.3	[-39.2; 29.3]	2004-2007
				-23.6	[-30.0; -16.6]	2007-2018

Source: Belgian Cancer Registry

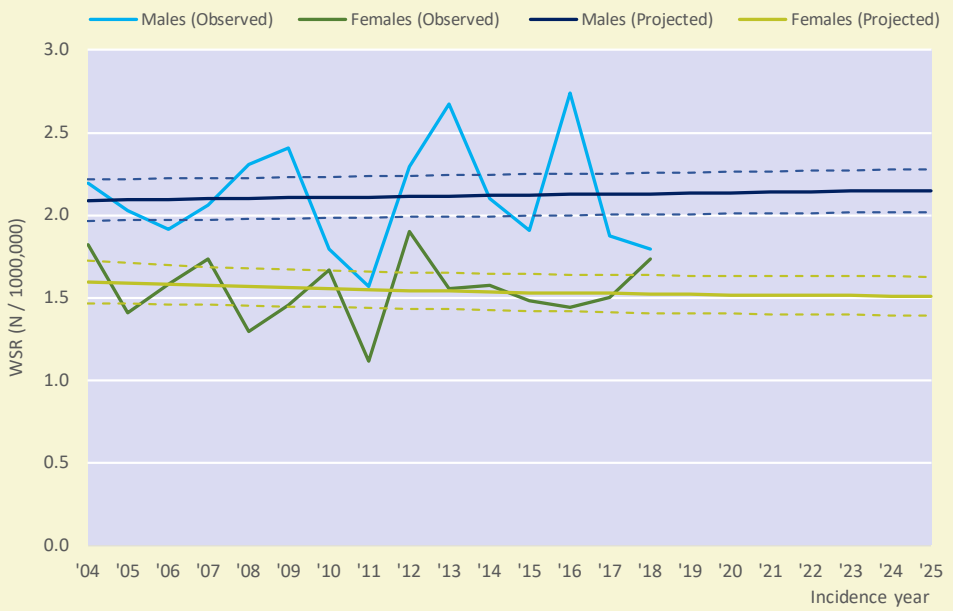
AAPC: average annual percentage change

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.

Incidence projections

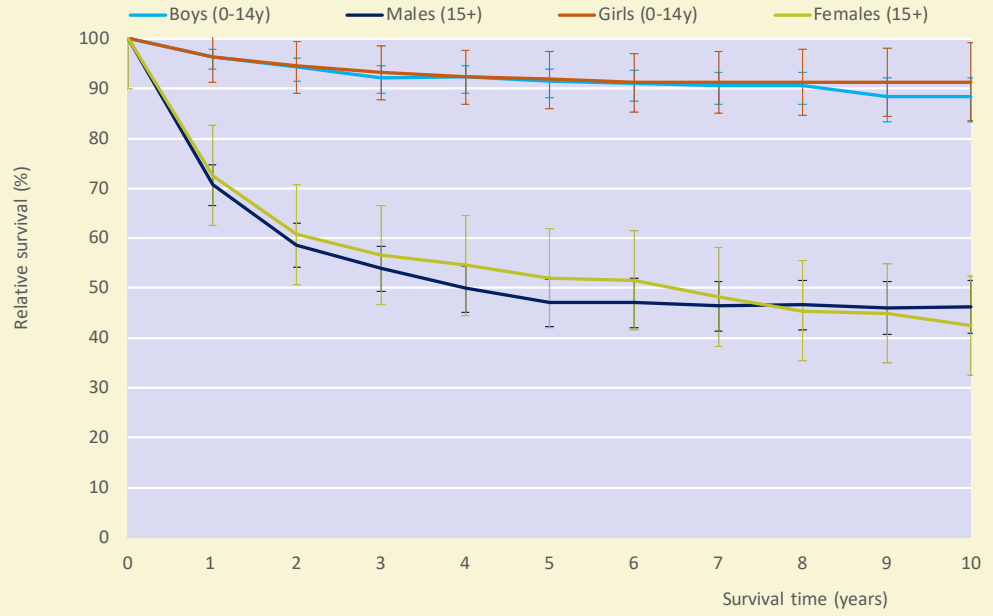
Figure 8 PLN or lymphoblastic leukaemia / lymphoma: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 9 Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma: Relative survival* by sex and age group, Belgium 2009-2018



Source: Belgian Cancer Registry

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

Figure 10 PLN or lymphoblastic leukaemia / lymphoma: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

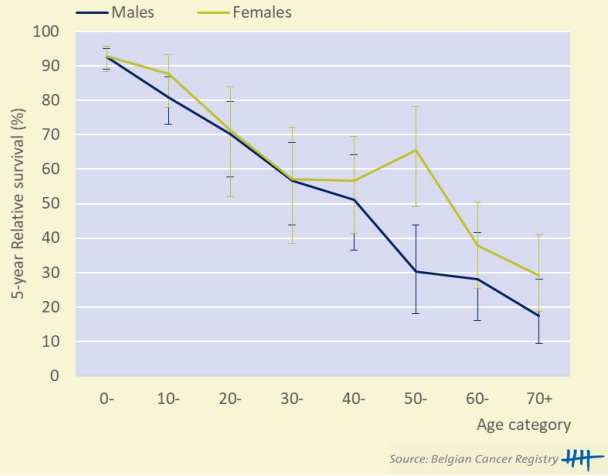
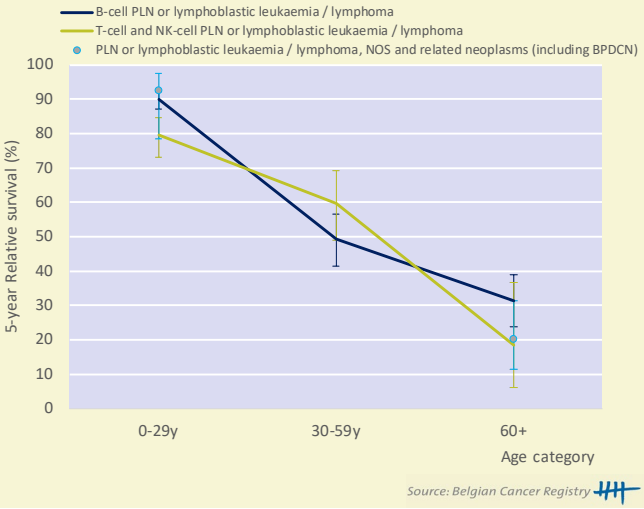


Figure 11 PLN or lymphoblastic leukaemia / lymphoma: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



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

Table 3 PLN or lymphoblastic leukaemia / lymphoma: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

	Males	
X years since diagnosis	N at risk	%
1 year	361	66.5
2 year	267	79.0
3 year	225	86.4
	Females	
X years since diagnosis	N at risk	%
1 year	266	70.9
2 year	200	79.4
3 year	159	80.2

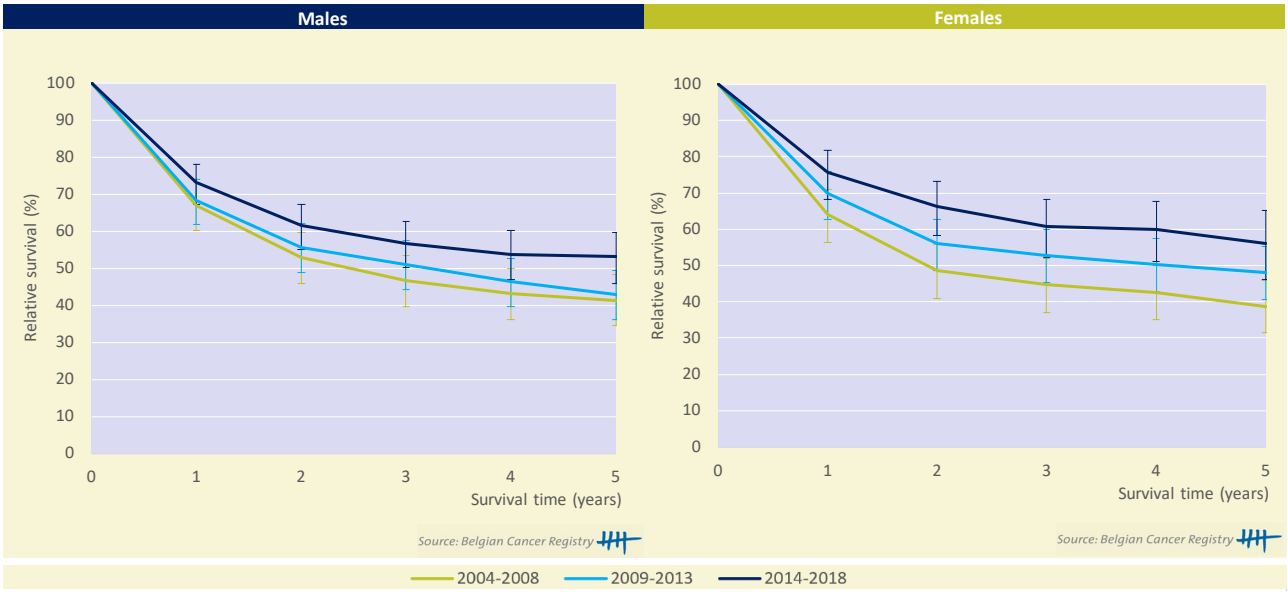
** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*

** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

** Relative survival is calculated for the age group 15+ (see methodology).*

Survival trends

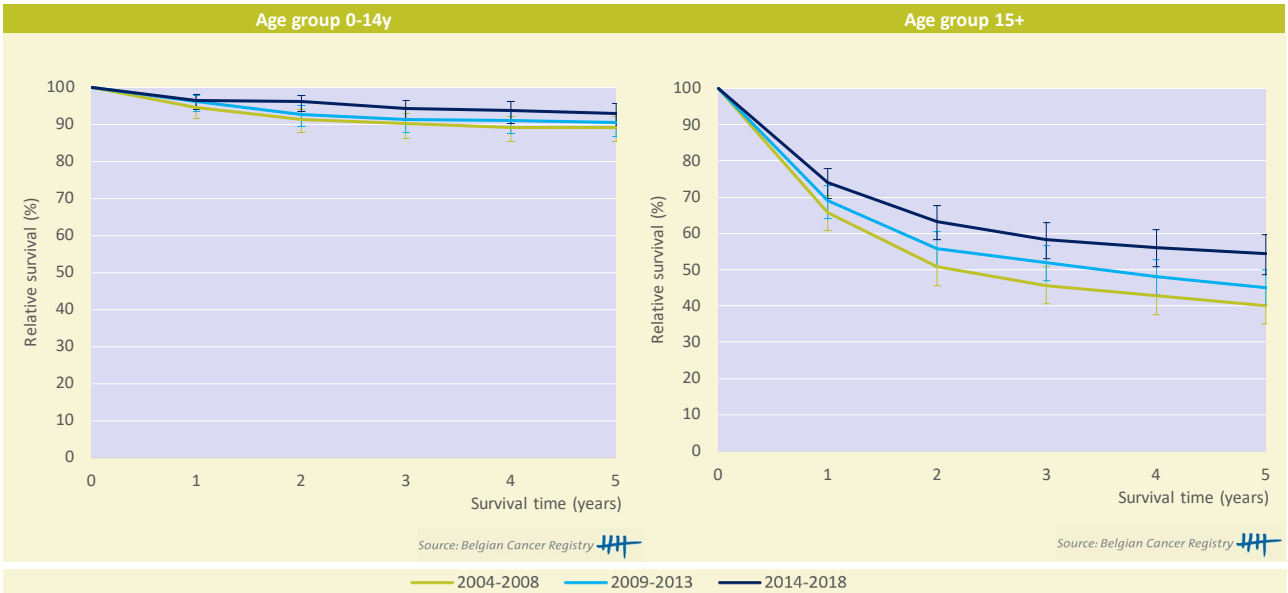
Figure 12 Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma: Relative survival* by cohort and sex, Belgium 2004-2018



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

** Relative survival is calculated for the age group 15+ (see methodology).*

Figure 13 Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma: Relative survival* by cohort and age group, Belgium 2004-2018



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

3.2.2 ACUTE MYELOID LEUKAEMIAS AND RELATED PRECURSOR NEOPLASMS

MAIN SUBTYPES:

- *Acute myeloid leukaemias (AML) with recurrent cytogenetic abnormalities*
- *AML with specific conditions (includes AML with myelodysplasia-related changes, therapy-related myeloid neoplasm and myeloid leukaemia associated with Down syndrome)*
- *Other AML according to the FAB classification*
- *Other related myeloid precursor neoplasms (includes acute panmyelosis with myelofibrosis and myeloid sarcoma)*
- *AML, NOS*

KEYNOTES

Incidence (Table 1-2; Figure 1-10)

- AML are mostly diagnosed in the older population (very rare under 40).
- The incidence increases between 2004 and 2018 in the age group 75+ with an AAPC of 2.9% in males and 2.5% in females.
- The remarkable increase observed in the group of "AML with specific conditions" (AAPC of 6.4% in males and 10.4% in females) probably illustrates the improved molecular diagnosis and the implementation of the updated WHO classification.
- However, the large group of AML NOS (38%), especially in the older population, illustrates that further improvement of correct registration is necessary.

Survival (Table 3; Figure 11-14)

- The 10-year relative survival is 20% in males and 22% in females.
- Given that a patient survives the first three years, the relative survival probability 5 years later is 74% in males and 81% in females.
- The 5-year relative survival varies considerably with age, ranging from approximately 70% in the age group 0-9 years to less than 10% in the age group 70+.
- The 5-year relative survival of AML with recurrent genetic abnormalities (mix of AML subtypes with good and poor prognosis) is higher than that of the other AML categories.
- No consistent improvement of the 5-year relative survival is observed in the period 2004-2018.

Table 1 Acute myeloid leukaemias and related precursor neoplasms: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	301	5.4	2.9
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	557	9.9	6.6
Prevalence (10 years), 2009-2018	822	14.6	10.0
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	1,428	23.5	[20.8;26.3]
10-year Relative survival, 2009-2018	2,784	20.3	[18.3;22.4]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	294	5.1	2.7
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	501	8.6	6.0
Prevalence (10 years), 2009-2018	776	13.4	9.5
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	1,274	22.0	[19.3;24.8]
10-year Relative survival, 2009-2018	2,379	22.0	[19.9;24.1]
Median age at diagnosis, 2018	69		
M/F-ratio, 2018	1.1		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Acute myeloid leukaemias and related precursor neoplasms: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

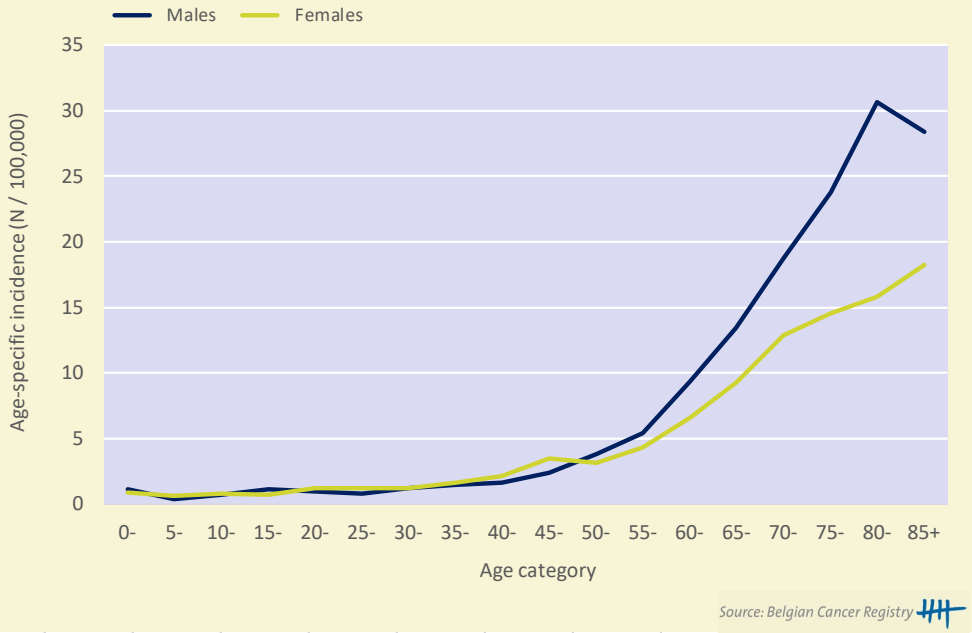


Figure 2 AML and related precursor neoplasms: Incidence by subtype, Belgium 2013-2018

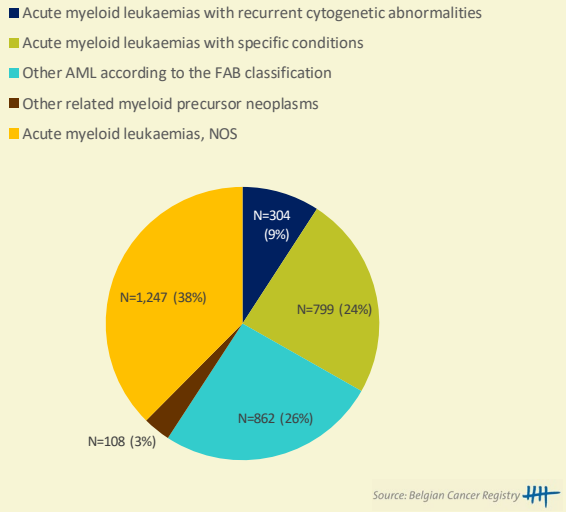


Figure 3 AML with recurrent cytogenetic abnormalities: Incidence by subtype, Belgium 2013-2018

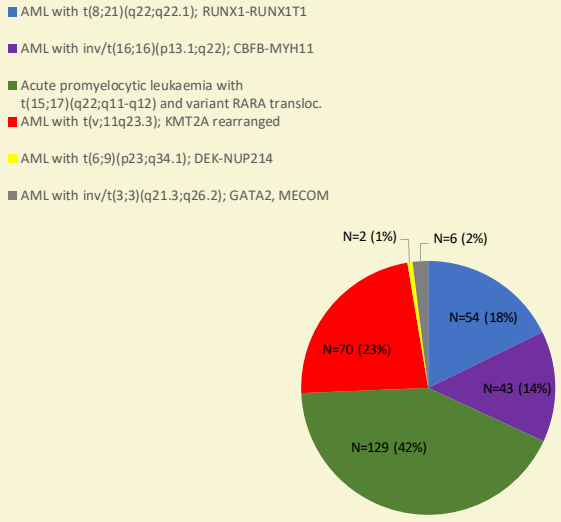
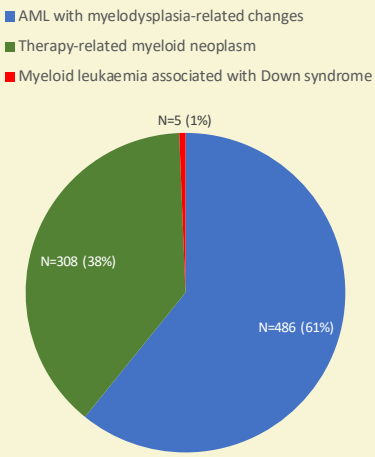


Figure 4 AML with specific conditions: Incidence by subtype, Belgium 2013-2018



Source: Belgian Cancer Registry

Figure 5 Other AML (FAB classification) and related : Incidence by subtype, Belgium 2013-2018

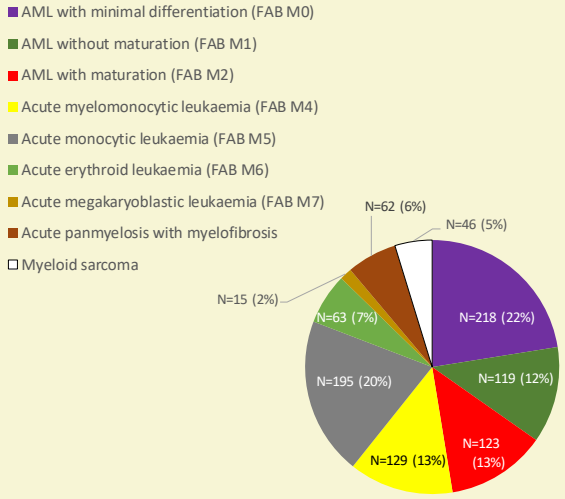
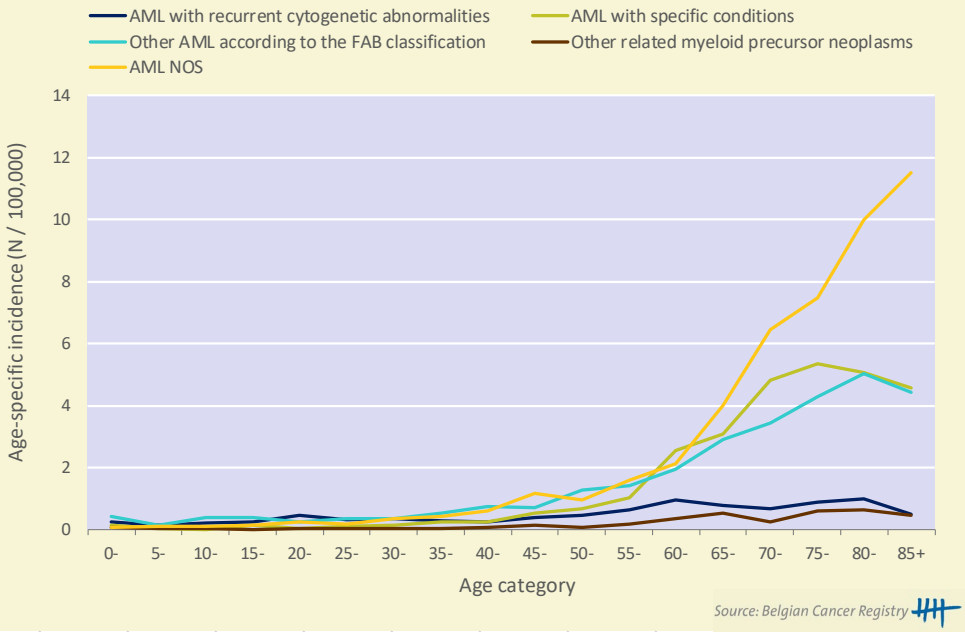
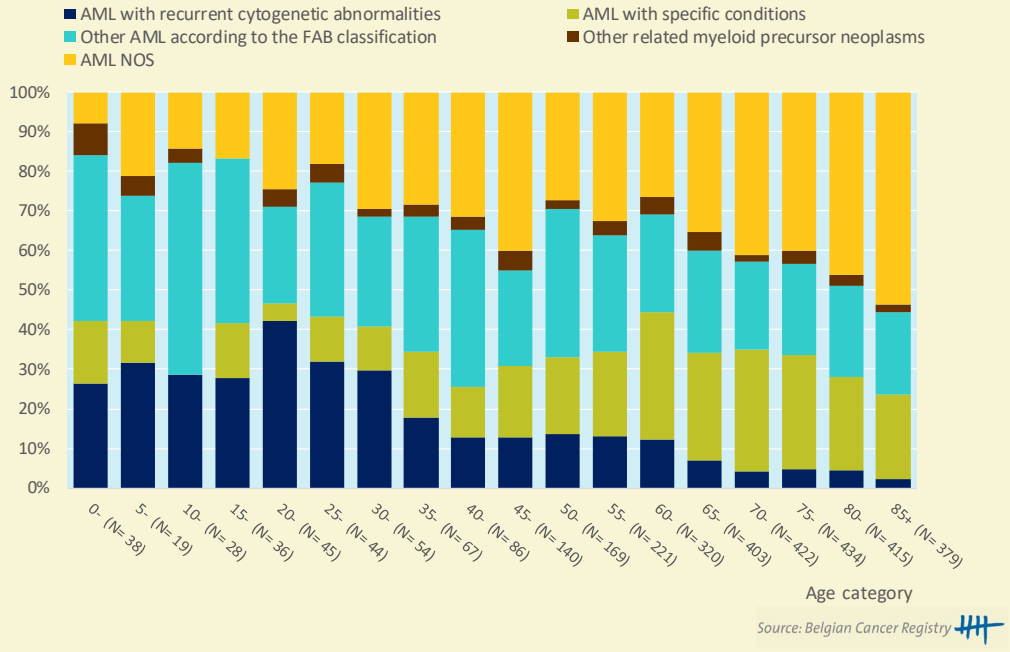


Figure 6 Acute myeloid leukaemias and related precursor neoplasms: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018



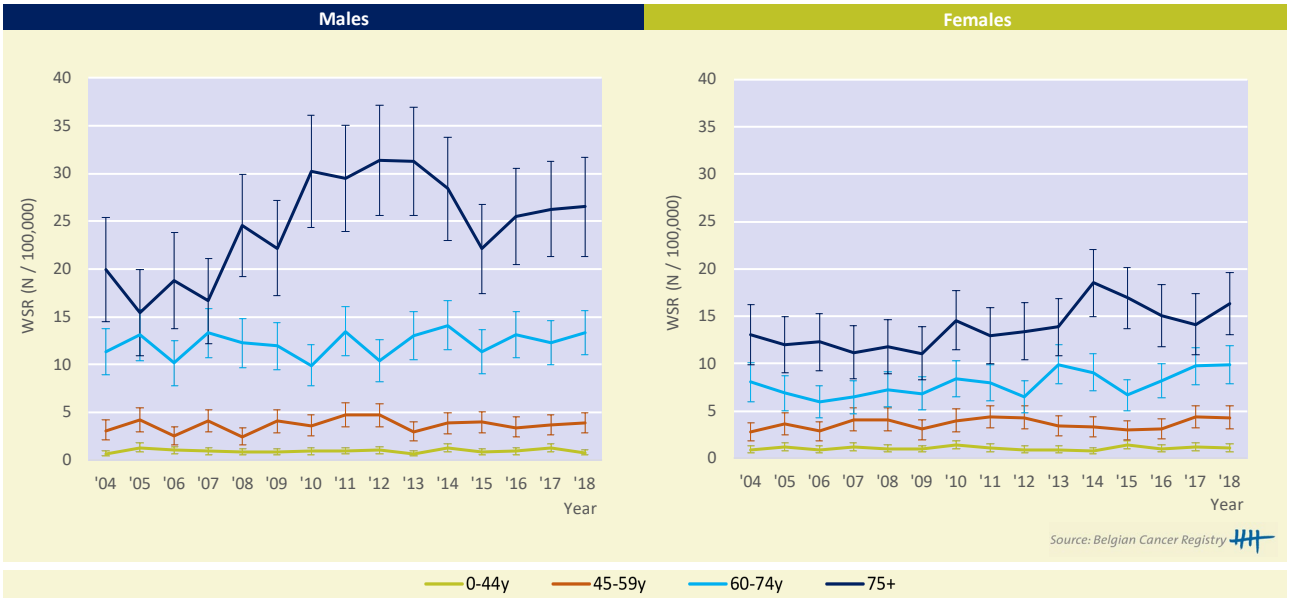
Source: Belgian Cancer Registry

Figure 7 Acute myeloid leukaemias and related precursor neoplasms: Incidence by subtype and age group, Belgium 2013-2018



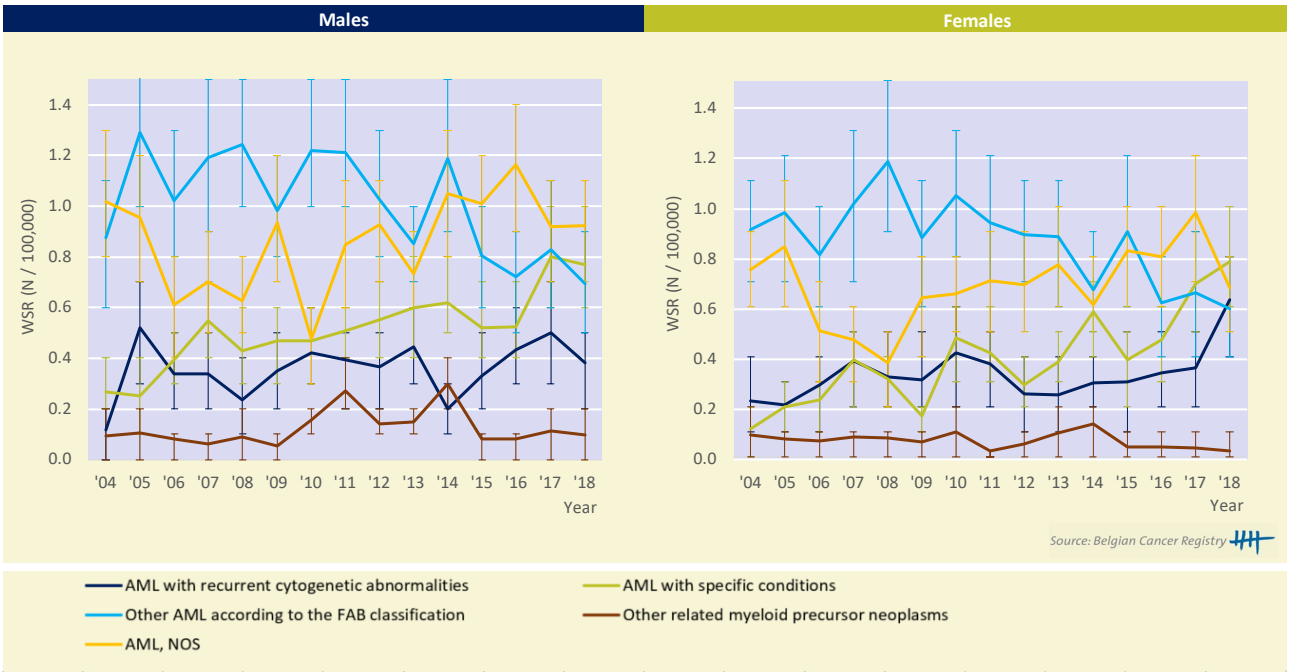
Incidence trends

Figure 8 Acute myeloid leukaemias and related precursor neoplasms: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 9 Acute myeloid leukaemias and related precursor neoplasms: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Acute myeloid leukaemias and related precursor neoplasms: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 44 yrs	0.4	[-2.3; 3.1]	2004-2018	0.4	[-1.8; 2.6]	2004-2018
45 - 59 yrs	1.1	[-1.5; 3.6]	2004-2018	1.1	[-1.0; 3.3]	2004-2018
60 - 74 yrs	0.7	[-0.8; 2.3]	2004-2018	2.4	[0.6; 4.2]	2004-2018
75+	2.9	[1.2; 4.7]	2004-2018	2.5	[1.1; 4.0]	2004-2018
	8.2	[4.8; 11.8]	2004-2012			
	-3.7	[-8.0; 0.6]	2012-2018			
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
AML with recurrent cytogenetic abnormalities	3.2	[-1.6; 8.3]	2004-2018	7.4	[4.3; 10.6]	2004-2018
				21.7	[7.2; 38.2]	2004-2007
				-3.5	[-7.4; 0.5]	2007-2015
				26.5	[11.4; 43.6]	2015-2018
AML with specific conditions	6.4	[4.0; 8.7]	2004-2018	10.4	[6.0; 14.9]	2004-2018
Other AML according to the FAB classification	-2.6	[-4.4; -0.8]	2004-2018	-3.0	[-4.4; -1.5]	2004-2018
	2.7	[-2.1; 7.7]	2004-2010	1.9	[-2.1; 6.1]	2004-2010
	-6.4	[-9.6; -3.1]	2010-2018	-6.5	[-9.1; -3.7]	2010-2018
Other related myeloid precursor neoplasms	0.6	[-5.3; 6.9]	2004-2018	-5.7	[-11.3; 0.2]	2004-2018
	9.3	[0.4; 19.0]	2004-2014			
	-18.1	[-35.5; 4.0]	2014-2018			
AML, NOS	0.4	[-2.5; 3.4]	2004-2018	1.2	[-1.4; 3.9]	2004-2018
	-14.0	[-26.1; -0.0]	2004-2007	-9.6	[-18.5; 0.2]	2004-2008
	4.8	[1.2; 8.5]	2007-2018	6.0	[2.1; 9.9]	2008-2018

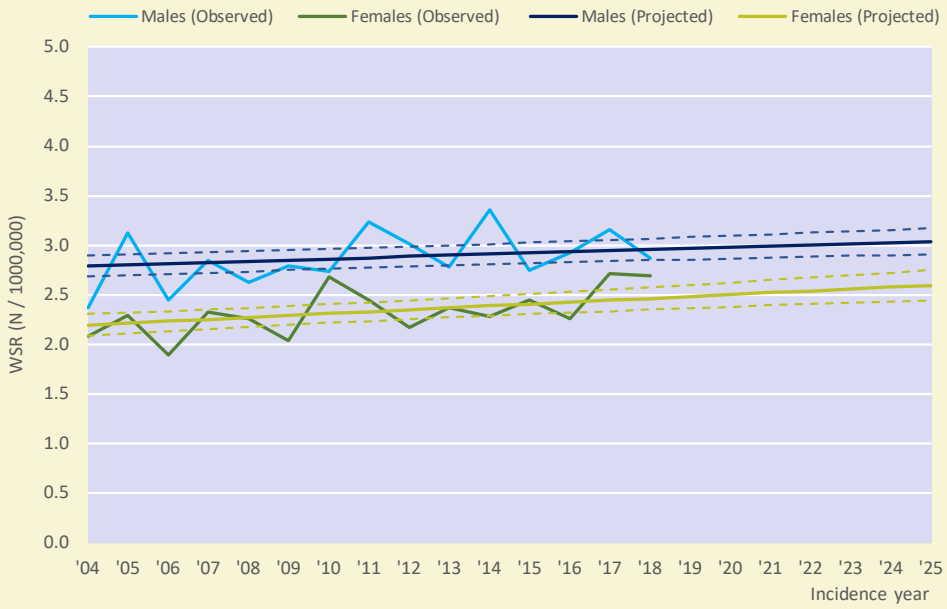
Source: Belgian Cancer Registry

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.

Incidence projections

Figure 10 Acute myeloid leukaemias and related precursor neoplasms: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 11 Acute myeloid leukaemias and related precursor neoplasms: Relative survival* by sex, Belgium 2009-2018

Source: Belgian Cancer Registry

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

Figure 12 Acute myeloid leukaemias and related precursor neoplasms: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

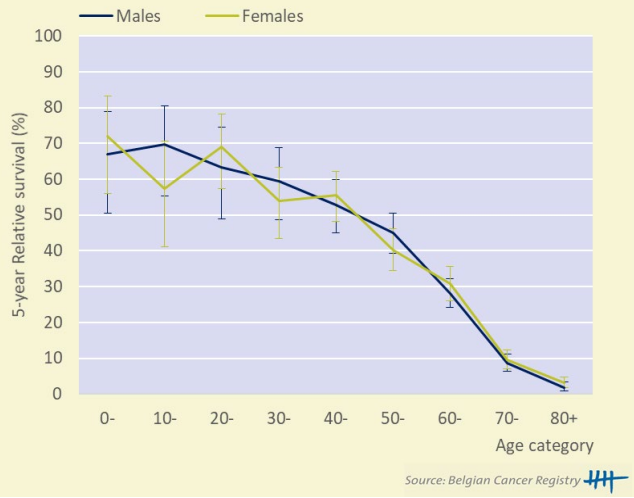
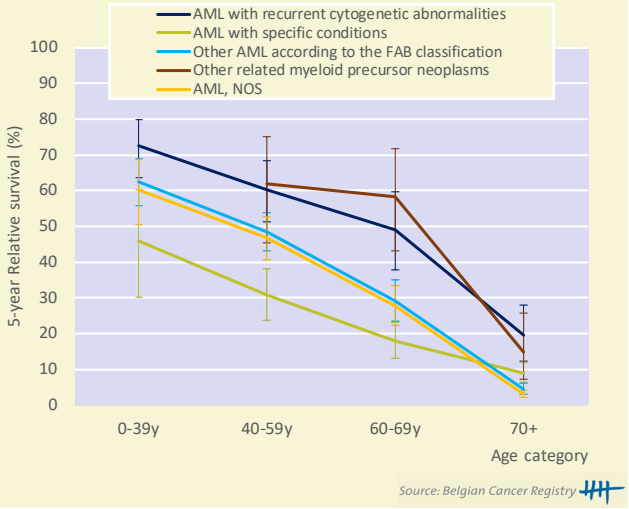


Figure 13 Acute myeloid leukaemias and related precursor neoplasms: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



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

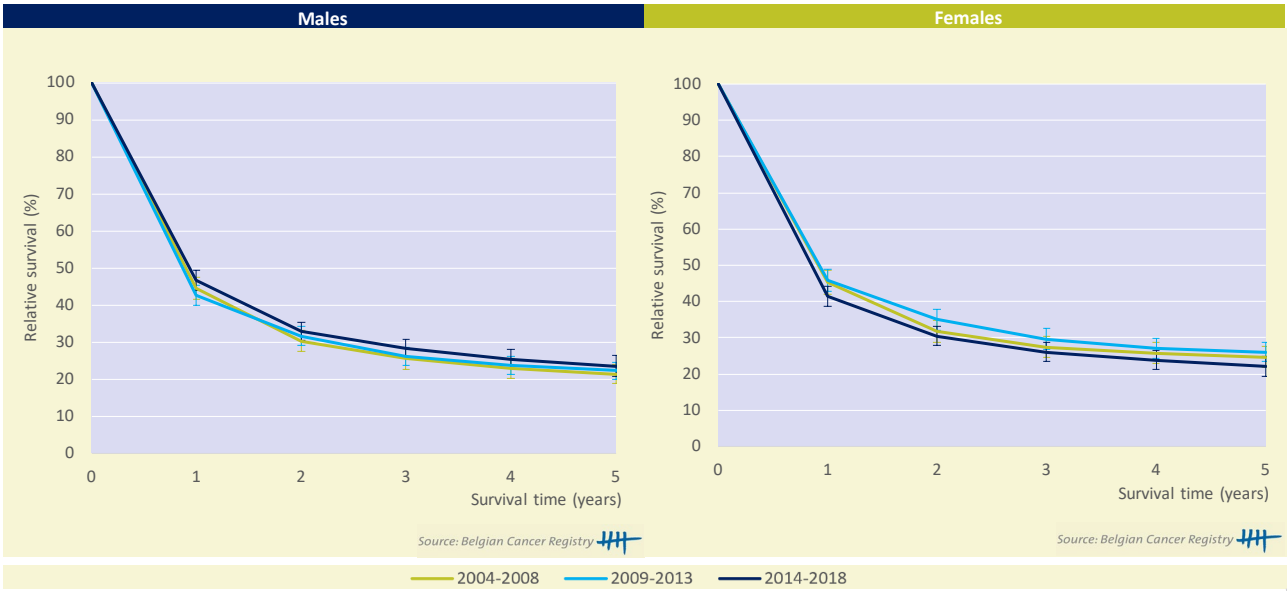
Table 3 Acute myeloid leukaemias and related precursor neoplasms: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

	Males	
X years since diagnosis	N at risk	%
1 year	1,299	49.0
2 year	841	65.5
3 year	621	74.3
	Females	
X years since diagnosis	N at risk	%
1 year	1,093	53.5
2 year	725	70.2
3 year	528	80.9

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 14 Acute myeloid leukaemias and related precursor neoplasms: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.3 CHRONIC MYELOID NEOPLASMS

MAIN SUBTYPES:

- *Myeloproliferative neoplasms*
- *Myelodysplastic syndrome*
- *Other leukaemias, NOS*
- *Mast cell neoplasms*
- *Myelodysplastic/myeloproliferative neoplasms*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- Between 2004 and 2018 the incidence of chronic myeloid neoplasms increases in all age groups from age 30 onwards.
- This trend is observed for all subtypes: myeloproliferative neoplasm (MPN), mast cell neoplasm (MCN), myelodysplastic syndrome (MDS) and mixed MDS/MPN neoplasms.
- Potential explanations may be better registration and improved diagnosis (e.g. discovery of specific molecular biomarkers, particularly for myeloproliferative neoplasms).

Survival (Table 3; Figure 8-11)

- The 10-year relative survival is considerably higher in females (59%) than in males (48%). This difference is the most pronounced in older age groups (i.e. 60+ years).
- The 5-year relative survival of MPN and MCN is considerably higher than that of MDS and mixed MDS/MPN neoplasms in all age groups.
- No clear improvement of the 5-year relative survival is observed in the period 2004-2018.

Table 1 Chronic myeloid neoplasms: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	1,100	19.7	9.2
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	3,706	65.8	32.0
Prevalence (10 years), 2009-2018	5,341	94.9	47.4
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	5,268	62.5	[60.3;64.7]
10-year Relative survival, 2009-2018	9,430	48.3	[45.9;50.6]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	964	16.7	7.4
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	3,370	58.1	25.6
Prevalence (10 years), 2009-2018	5,063	87.2	39.2
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	4,441	72.5	[70.3;74.7]
10-year Relative survival, 2009-2018	7,852	59.3	[56.7;62.0]
Median age at diagnosis, 2018	73		
M/F-ratio, 2018	1.2		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Chronic myeloid neoplasms: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

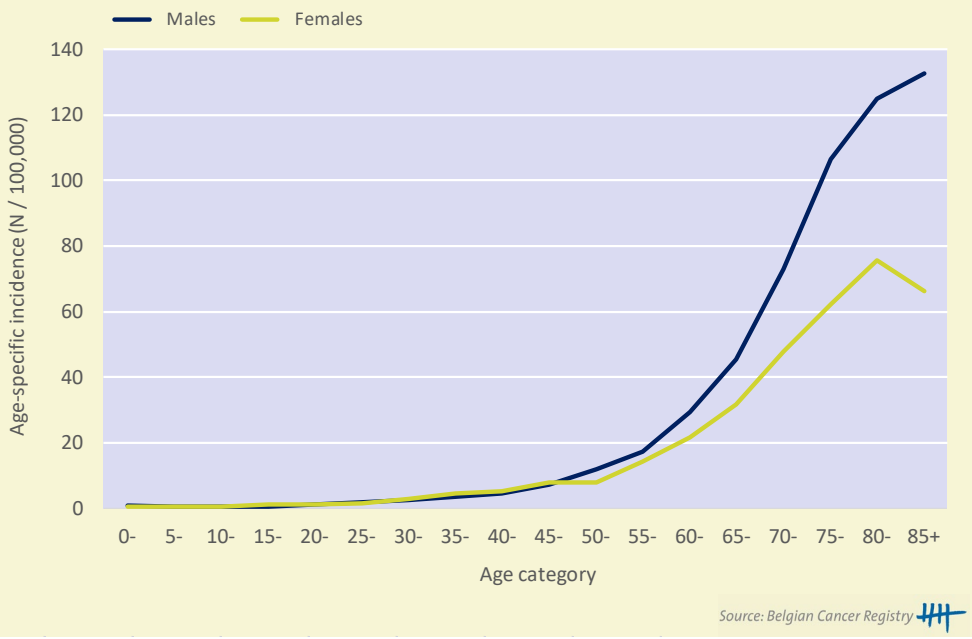


Figure 2 Chronic myeloid neoplasms: Incidence by subtype, Belgium 2013-2018

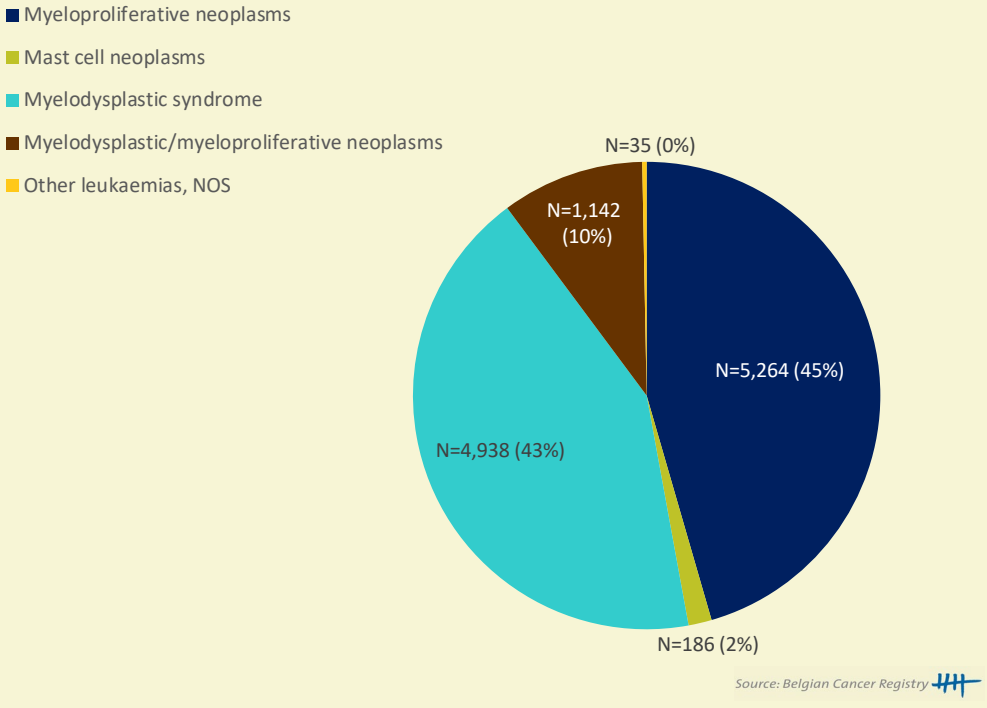


Figure 3 Chronic myeloid neoplasms: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

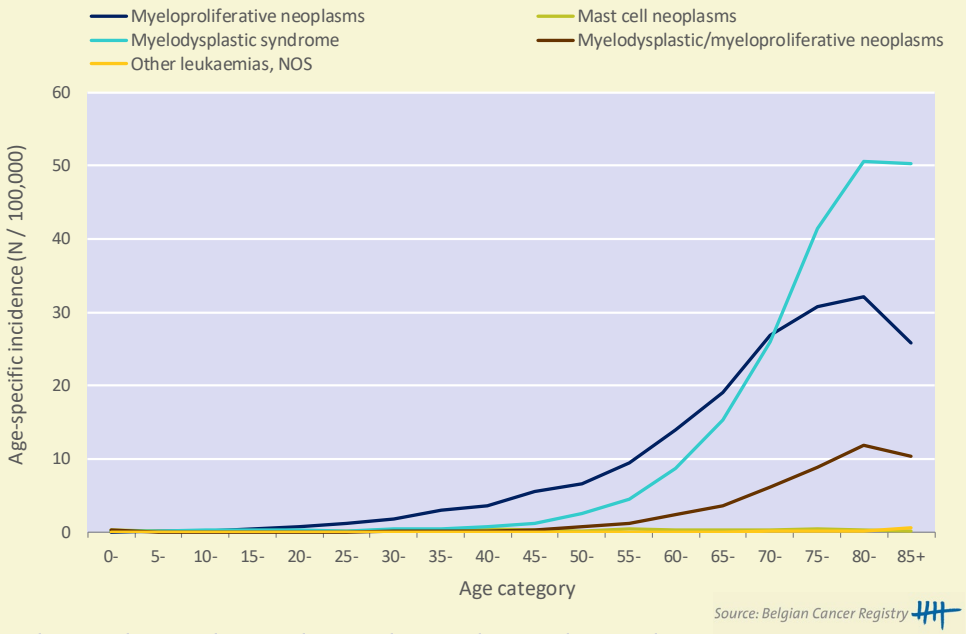
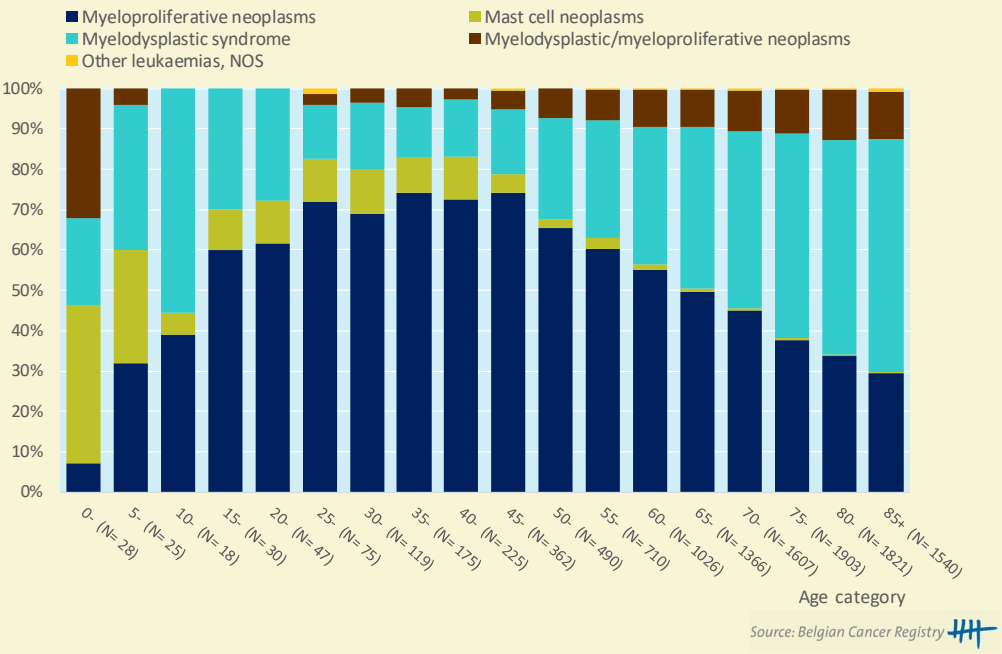
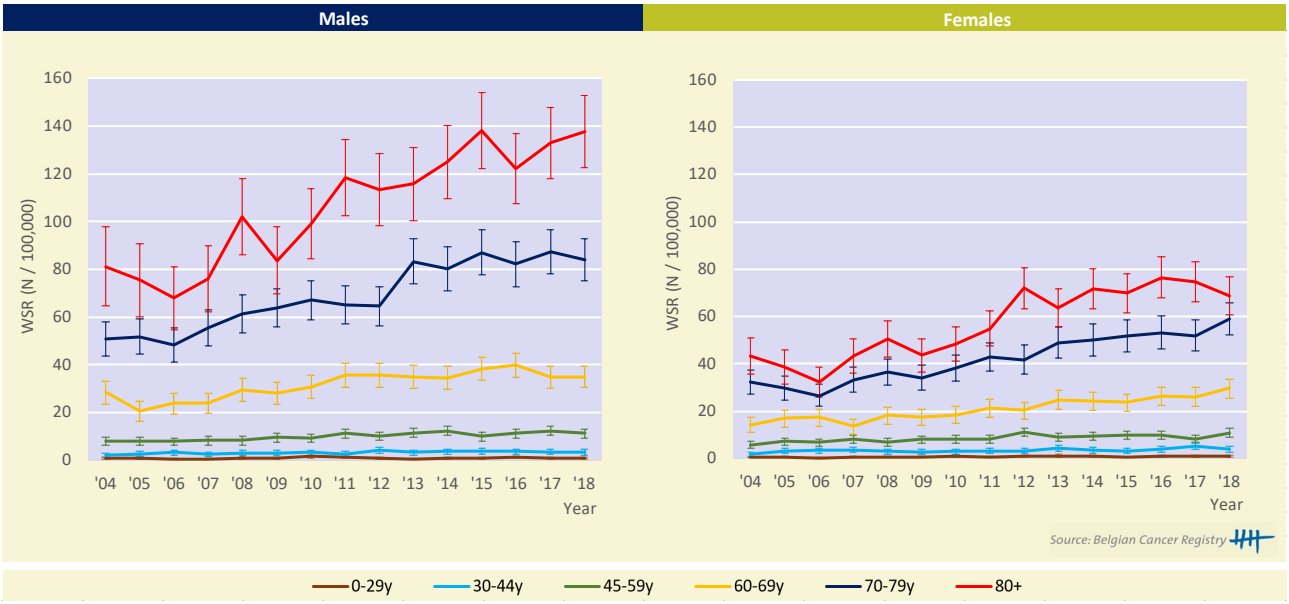


Figure 4 Chronic myeloid neoplasms: Incidence by subtype and age group, Belgium 2013-2018



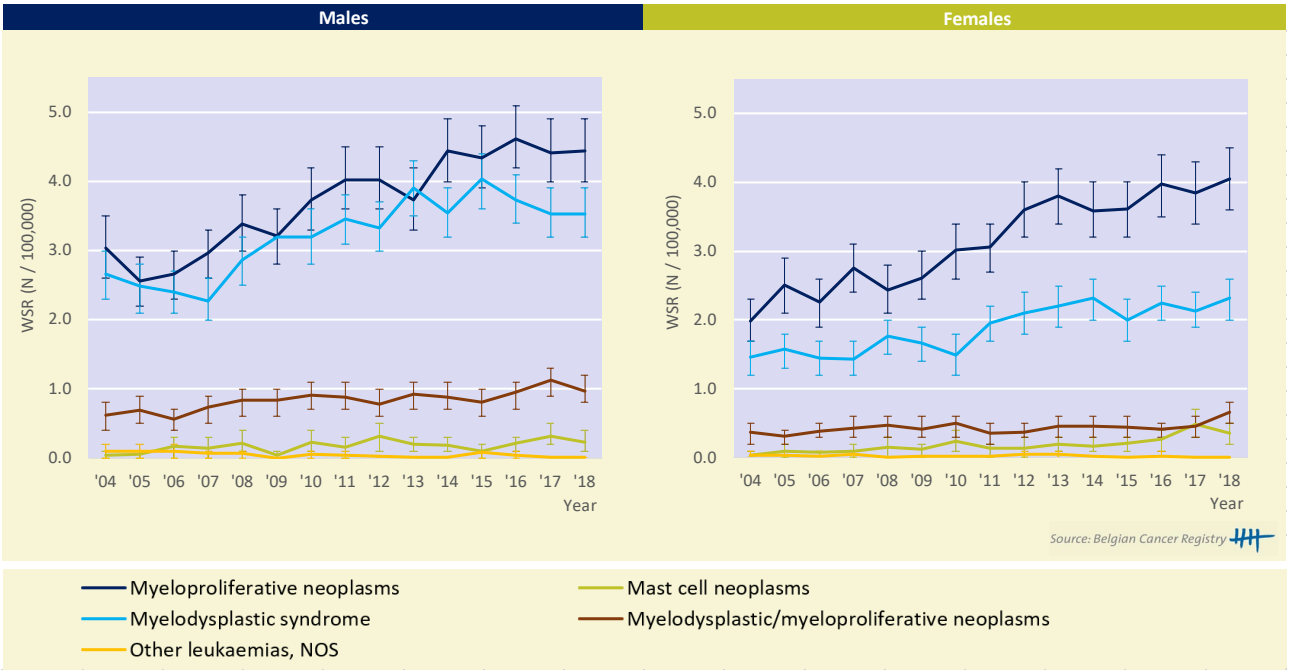
Incidence trends

Figure 5 Chronic myeloid neoplasms: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Chronic myeloid neoplasms: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Chronic myeloid neoplasms: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	1.7	[-2.0; 5.5]	2004-2018	4.4	[0.6; 8.3]	2004-2018
	9.6	[-0.5; 20.7]	2004-2010			
	-3.9	[-10.4; 3.0]	2010-2018			
30 - 44 yrs	2.7	[1.0; 4.4]	2004-2018	3.5	[1.3; 5.8]	2004-2018
45 - 59 yrs	3.4	[2.4; 4.4]	2004-2018	3.2	[1.9; 4.5]	2004-2018
				5.4	[2.9; 8.0]	2004-2012
				0.3	[-3.0; 3.7]	2012-2018
60 - 69 yrs	3.0	[1.5; 4.5]	2004-2018	5.0	[3.9; 6.2]	2004-2018
	4.8	[3.1; 6.6]	2004-2015			
	-3.6	[-10.4; 3.7]	2015-2018			
70 - 79 yrs	4.5	[3.6; 5.4]	2004-2018	5.3	[4.3; 6.3]	2004-2018
80+	5.0	[3.7; 6.4]	2004-2018	5.7	[4.1; 7.4]	2004-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Myeloproliferative neoplasms	4.1	[3.1; 5.1]	2004-2018	4.9	[3.9; 6.0]	2004-2018
	5.4	[3.5; 7.4]	2004-2012			
	2.3	[-0.3; 4.9]	2012-2018			
Mast cell neoplasms	9.7	[2.1; 17.9]	2004-2018	13.4	[9.2; 17.7]	2004-2018
Myelodysplastic syndrome	2.3	[1.2; 3.5]	2004-2018	3.8	[2.6; 5.0]	2004-2018
	-1.1	[-6.3; 4.4]	2004-2007			
	7.7	[5.3; 10.2]	2007-2013			
	-1.9	[-4.7; 1.1]	2013-2018			
Myelodysplastic/myeloproliferative neoplasms	3.4	[2.0; 4.8]	2004-2018	2.4	[0.5; 4.3]	2004-2018
Other leukaemias, NOS	-	-	-	-	-	-

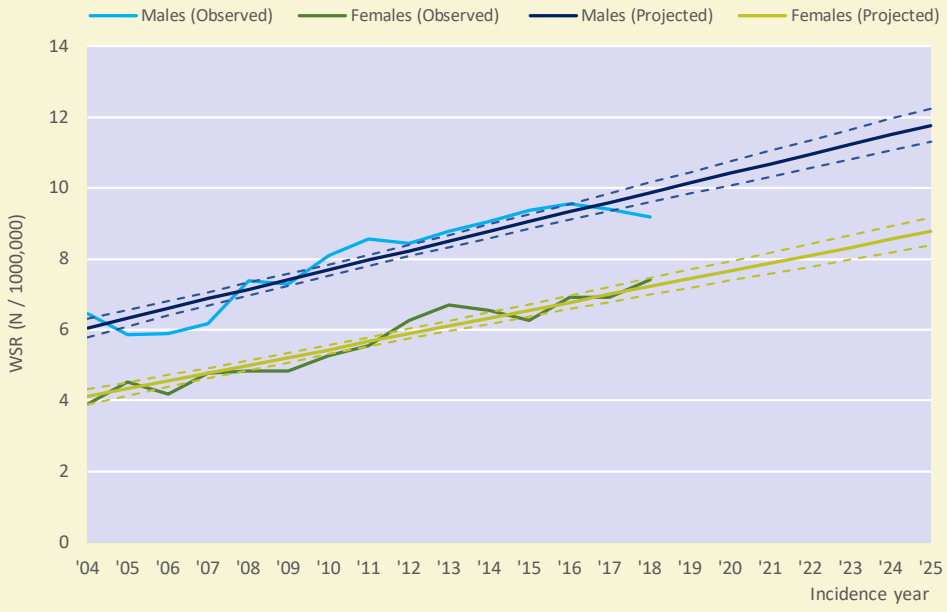
Source: Belgian Cancer Registry

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.

Incidence projections

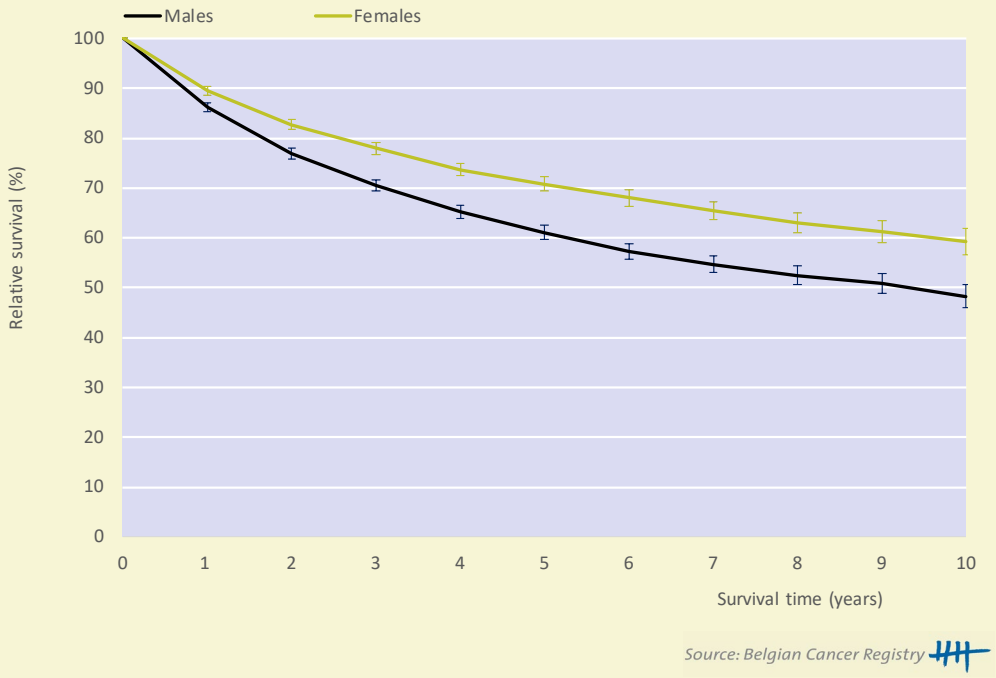
Figure 7 Chronic myeloid neoplasms: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

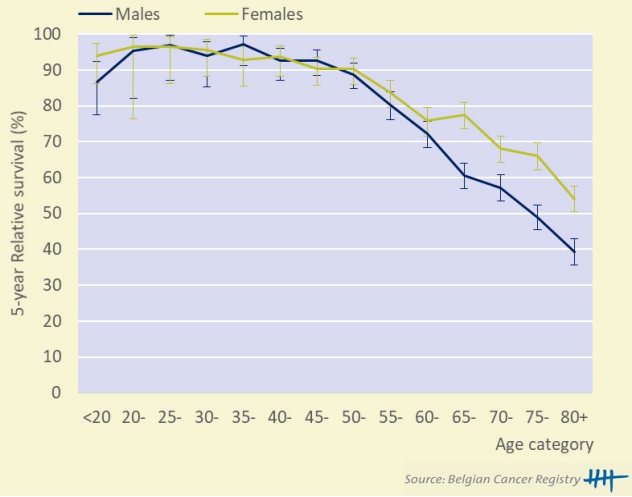
Survival

Figure 8 Chronic myeloid neoplasms: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Chronic myeloid neoplasms: Age-specific 5-year relative survival* by sex, Belgium 2009-2018



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

Figure 10 Chronic myeloid neoplasms: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018

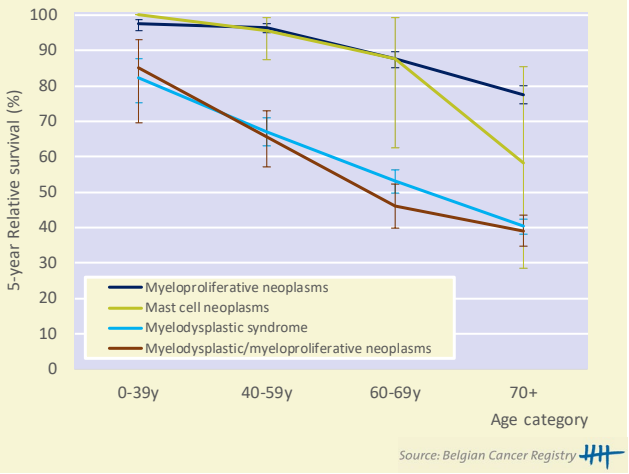


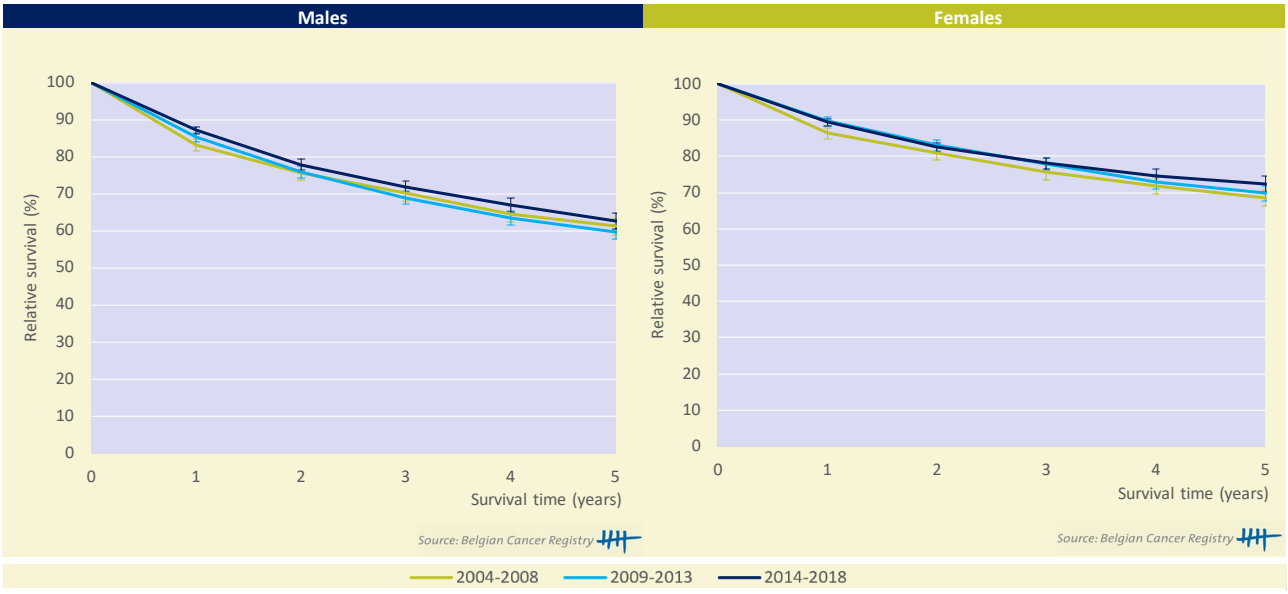
Table 3 Chronic myeloid neoplasms: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

Males		
X years since diagnosis	N at risk	%
1 year	7,744	66.5
2 year	6,036	71.1
3 year	4,599	74.5
Females		
X years since diagnosis	N at risk	%
1 year	6,764	76.0
2 year	5,488	79.1
3 year	4,325	80.9

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Chronic myeloid neoplasms: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.3.1 MYELOPROLIFERATIVE NEOPLASMS

MAIN SUBTYPES:

- *Chronic myeloid leukaemia*
- *Myeloproliferative neoplasms (MPN) BCR-ABL1 negative and related neoplasms (includes polycythaemia vera, essential thrombocythaemia, primary myelofibrosis and other MPN and related neoplasms)*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- The age-specific incidence rates are very similar in males and females. The male/female ratio is 1.1.
- Between 2004 and 2018 the incidence rates of myeloproliferative neoplasms increase in Belgium (AAPC of 4.1% in males and 4.9% in females). This increase is observed in all age groups from age 30 onwards and is most pronounced in older age groups.
- This trend is mainly caused by the rise of myeloproliferative neoplasms *BCR-ABL1* negative. This may be partly explained by improvement of diagnosis by the availability of specific molecular biomarkers (Most prominent for myeloproliferative neoplasms *BCR-ABL1* negative).

Survival (Table 3; Figure 8-11)

- The 10-year relative survival is higher in females (81%) than in males (74%). The difference between the sexes is mostly prominent in age groups above 60.
- The relative survival shows a slow, but progressive decrease over time.
- No significant improvement of the 5-year relative survival is observed between 2004-2008 and 2014-2018.

Table 1 Myeloproliferative neoplasms: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	469	8.4	4.4
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	1,891	33.6	17.9
Prevalence (10 years), 2009-2018	2,898	51.5	27.7
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	2,238	84.3	[81.2;87.2]
10-year Relative survival, 2009-2018	3,936	73.9	[70.3;77.4]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	474	8.2	4.1
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	1,972	34.0	16.0
Prevalence (10 years), 2009-2018	3,129	53.9	25.3
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	2,211	92.0	[89.2;94.5]
10-year Relative survival, 2009-2018	3,933	80.7	[76.9;84.3]
Median age at diagnosis, 2018	69		
M/F-ratio, 2018	1.1		

Source: Belgian Cancer Registry

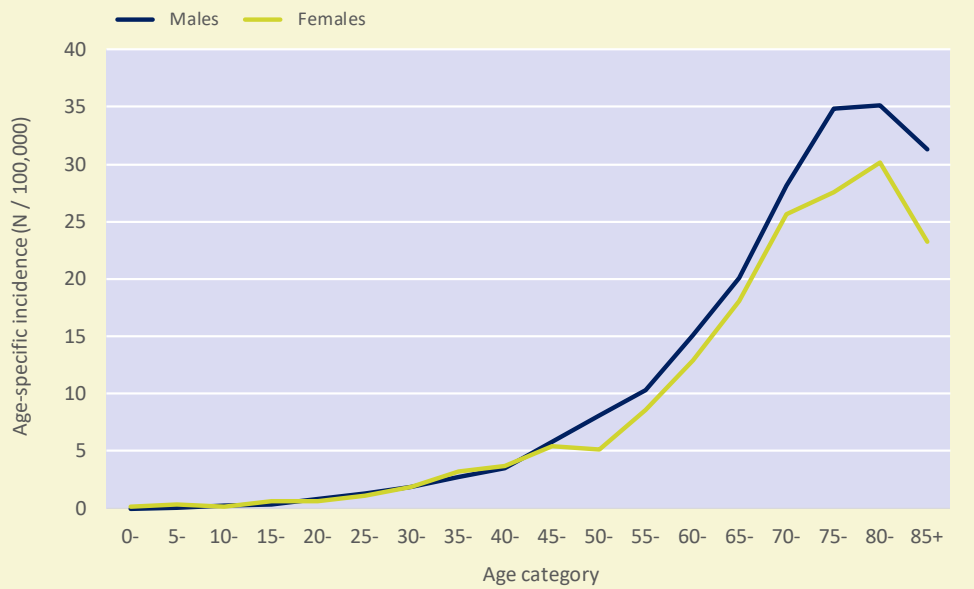
CR: crude (all ages) rate (N/100,000 person years)

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

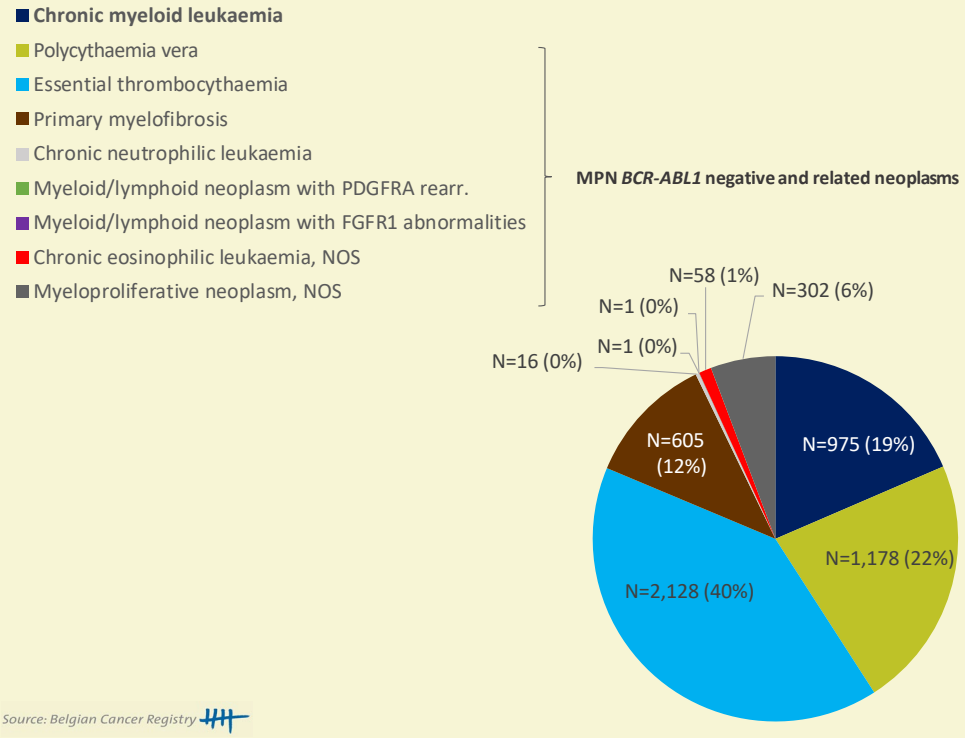
Incidence

Figure 1 Myeloproliferative neoplasms: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018



Source: Belgian Cancer Registry

Figure 2 Myeloproliferative neoplasms: Incidence by subtype, Belgium 2013-2018



Source: Belgian Cancer Registry

Figure 3 **Myeloproliferative neoplasms: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018**

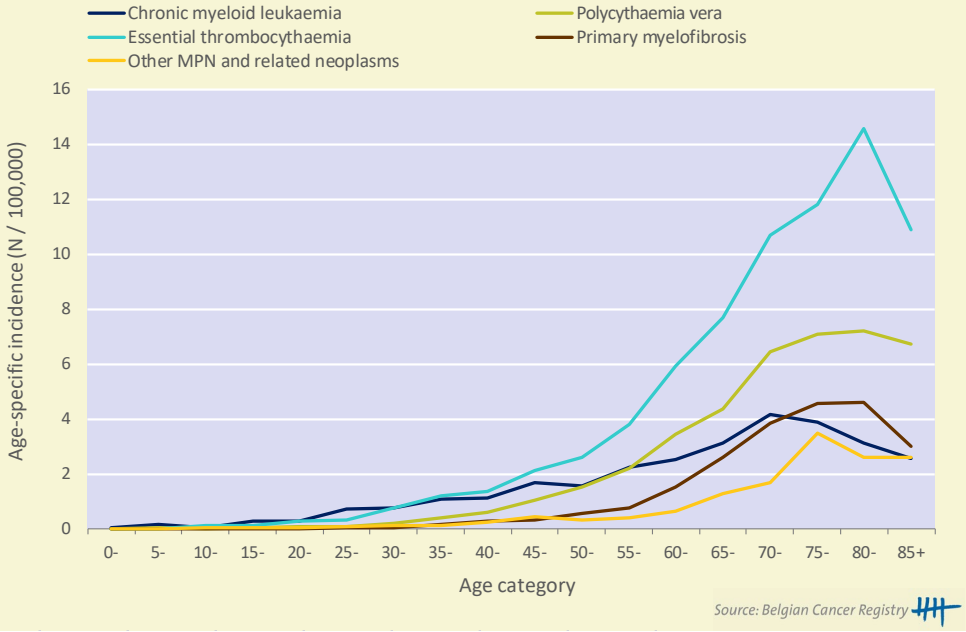
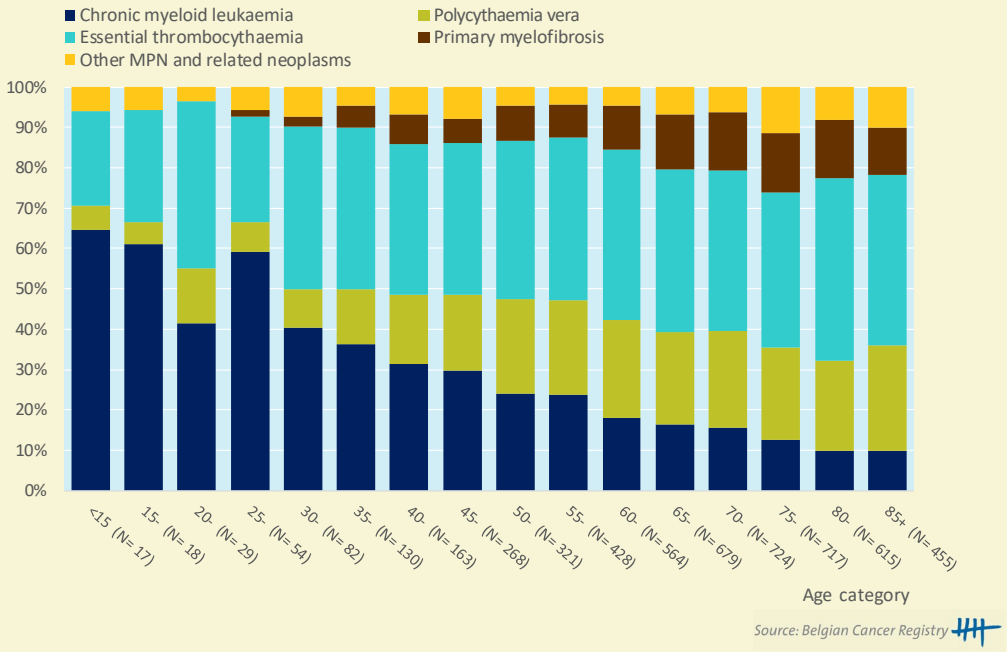
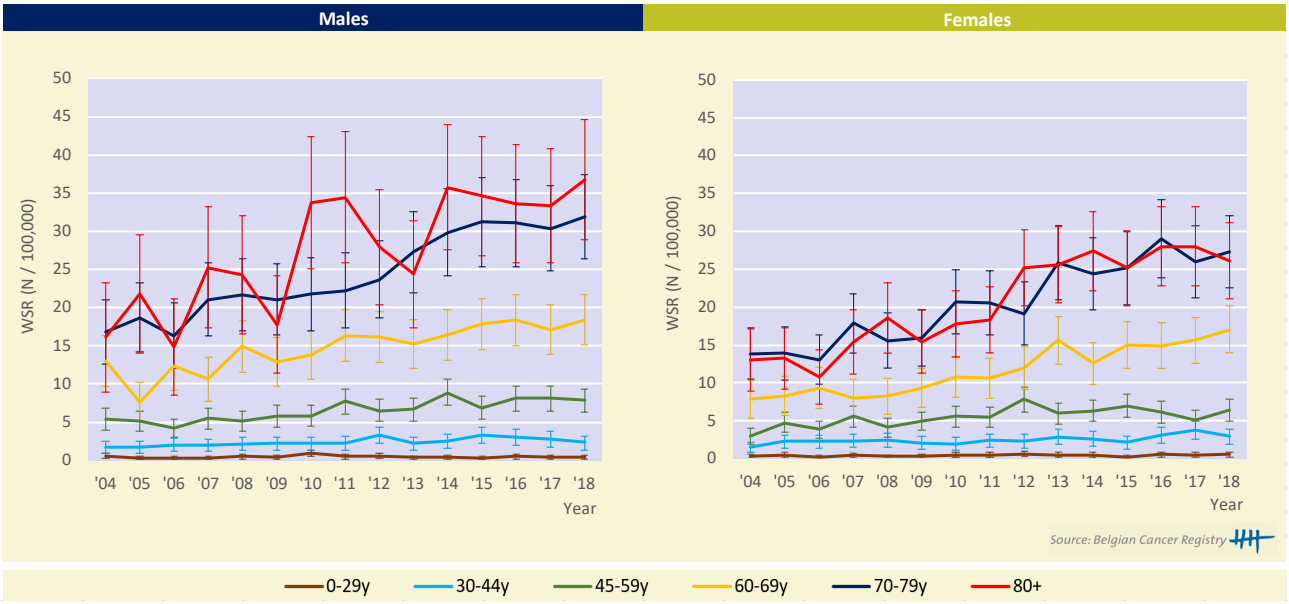


Figure 4 **Myeloproliferative neoplasms: Incidence by subtype and age group, Belgium 2013-2018**



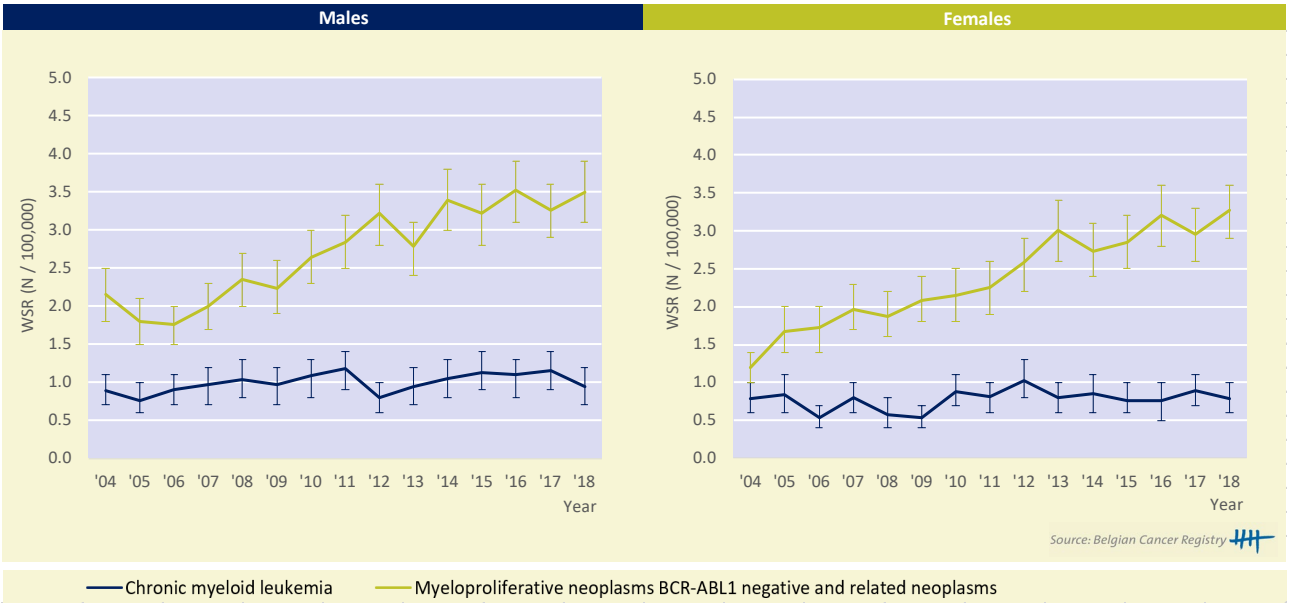
Incidence trends

Figure 5 Myeloproliferative neoplasms: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Myeloproliferative neoplasms: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Myeloproliferative neoplasms: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	1.3	[-3.2; 5.9]	2004-2018	2.6	[-1.6; 6.9]	2004-2018
30 - 44 yrs	2.5	[0.9; 4.2]	2004-2018	3.7	[1.7; 5.7]	2004-2018
	5.2	[3.2; 7.2]	2004-2015			
	-6.5	[-13.8; 1.3]	2015-2018			
45 - 59 yrs	4.2	[2.7; 5.7]	2004-2018	3.7	[1.8; 5.8]	2004-2018
				8.2	[4.3; 12.2]	2004-2012
				-1.9	[-6.7; 3.2]	2012-2018
60 - 69 yrs	4.4	[2.5; 6.3]	2004-2018	6.0	[4.8; 7.2]	2004-2018
70 - 79 yrs	5.0	[4.2; 5.9]	2004-2018	5.9	[4.6; 7.2]	2004-2018
80+	5.6	[3.1; 8.2]	2004-2018	6.9	[5.1; 8.7]	2004-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Chronic myelogenous leukaemia	1.5	[0.0; 3.1]	2004-2018	1.5	[-0.9; 3.9]	2004-2018
Myeloproliferative neoplasms BCR-ABL1 negative and related neoplasms	5.2	[3.9; 6.5]	2004-2018	6.3	[5.2; 7.4]	2004-2018
				8.3	[5.8; 10.9]	2004-2011
				4.3	[1.8; 6.8]	2011-2018

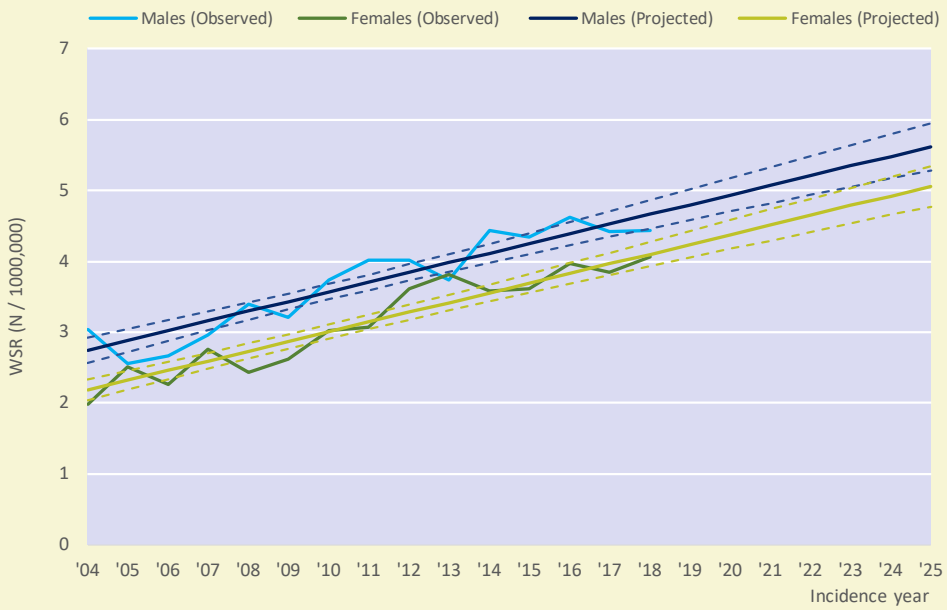
Source: Belgian Cancer Registry

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.

Incidence projections

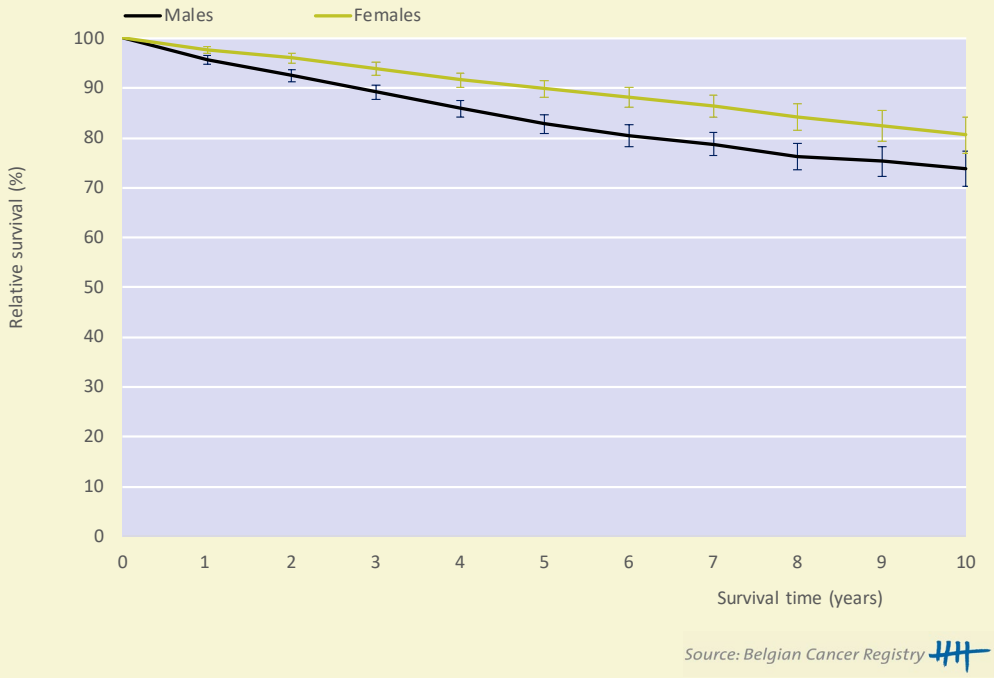
Figure 7 Myeloproliferative neoplasms: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Myeloproliferative neoplasms: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Myeloproliferative neoplasms: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

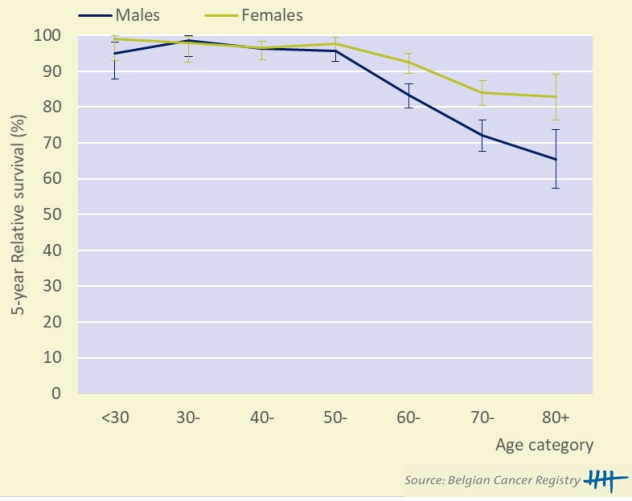
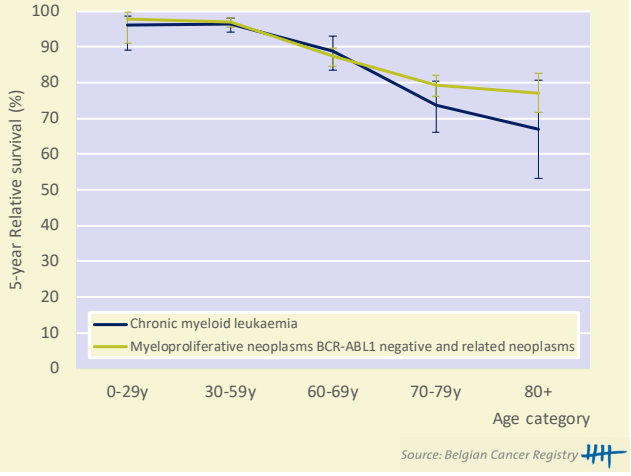


Figure 10 Myeloproliferative neoplasms: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



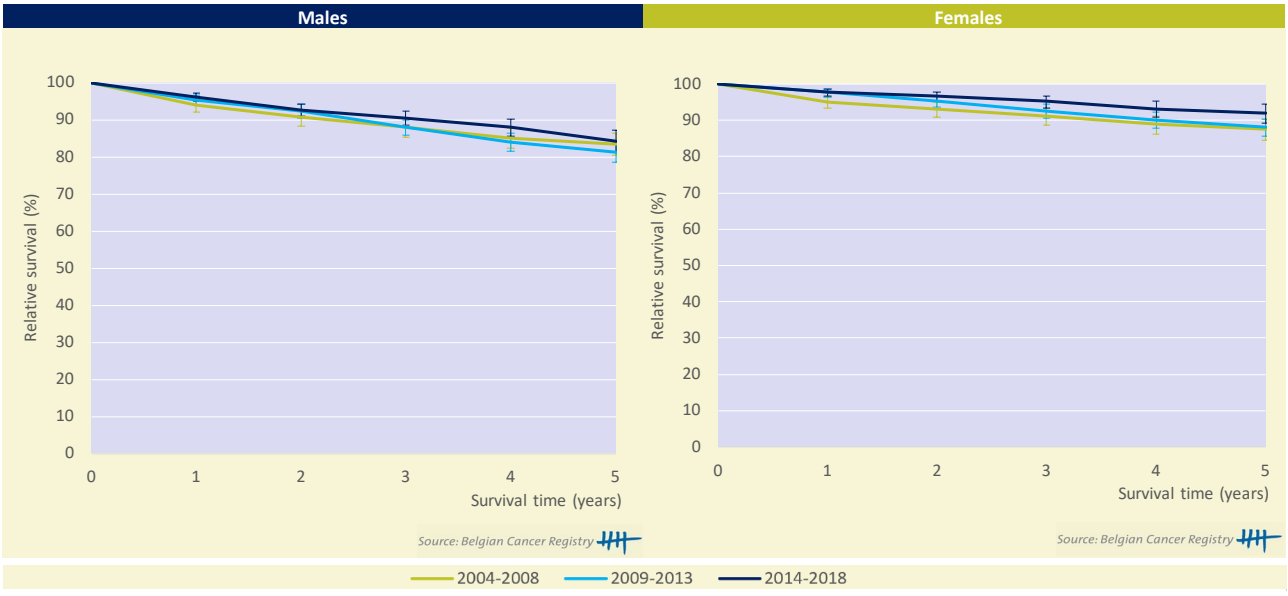
** The relative survival values are represented with 95% Confidence Intervals*

Table 3 Myeloproliferative neoplasms: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)		
Males		
X years since diagnosis	N at risk	%
1 year	3,636	84.0
2 year	3,092	85.1
3 year	2,515	85.5
Females		
X years since diagnosis	N at risk	%
1 year	3,727	90.3
2 year	3,238	90.0
3 year	2,673	89.7

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Myeloproliferative neoplasms: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.3.1.1 CHRONIC MYELOID LEUKAEMIA

KEYNOTES

Incidence (Table 1-2; Figure 1-3)

- No clear change of the incidence rates is observed between 2004-2008 in any of the age groups.

Survival (Table 3; Figure 4-6)

- The 10-year relative survival is higher in males (85%) than in females (78%).
- The 5-year relative survival is very high in children and adults (>90%) and drops after age 50 in both sexes.
- The improvement of the relative survival is mainly observed in males (5-year relative survival: from 79% in 2004-2008 to 90% in 2014-2018).

Table 1 Chronic myeloid leukaemia: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	86	1.5	0.9
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	409	7.3	4.6
Prevalence (10 years), 2009-2018	686	12.2	7.7
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	452	90.1	[84.6;94.6]
10-year Relative survival, 2009-2018	847	84.7	[78.4;90.4]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	72	1.2	0.8
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	328	5.7	3.5
Prevalence (10 years), 2009-2018	578	10.0	5.9
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	363	86.6	[80.0;91.8]
10-year Relative survival, 2009-2018	716	77.5	[70.6;83.8]
Median age at diagnosis, 2018	64		
M/F-ratio, 2018	1.2		

Source: Belgian Cancer Registry

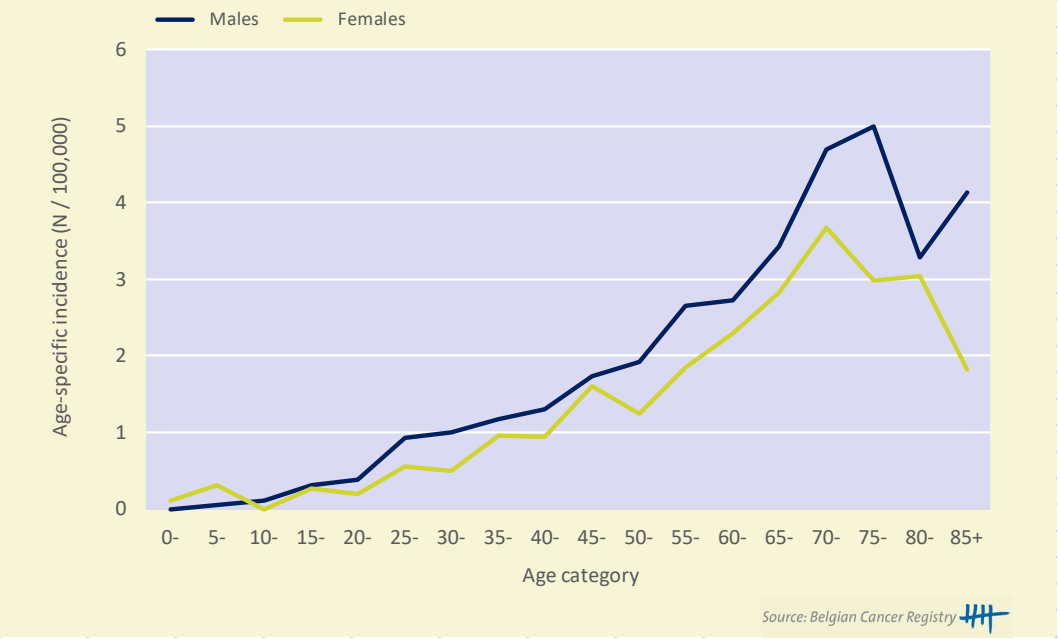
CR: crude (all ages) rate (N/100,000 person years)

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

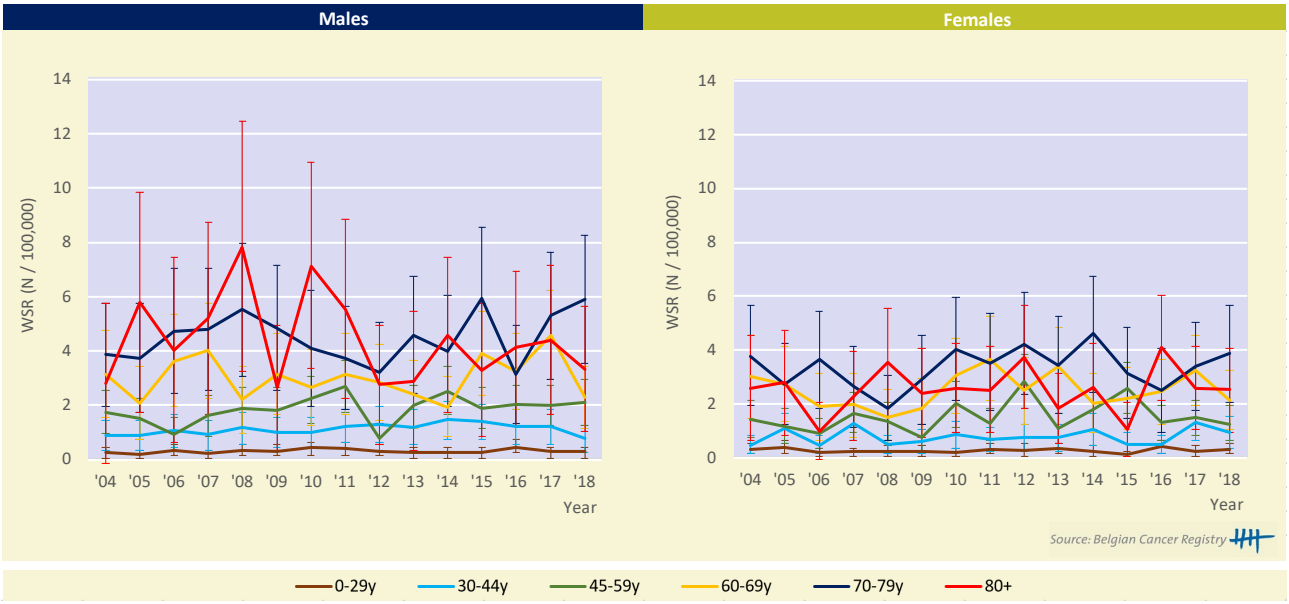
Incidence

Figure 1 Chronic myeloid leukaemia: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018



Incidence trends

Figure 2 Chronic myeloid leukaemia: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Table 2 Chronic myeloid leukaemia: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	2.2	[-1.5; 6.1]	2004-2018	-0.2	[-5.3; 5.2]	2004-2018
30 - 44 yrs	-0.1	[-1.6; 1.4]	2004-2018	2.0	[-3.1; 7.4]	2004-2018
	4.7	[2.9; 6.6]	2004-2015			
	-16.0	[-22.2; -9.3]	2015-2018			
45 - 59 yrs	2.7	[-1.5; 7.2]	2004-2018	2.3	[-2.4; 7.3]	2004-2018
60 - 69 yrs	0.4	[-3.1; 3.9]	2004-2018	0.6	[-3.1; 4.4]	2004-2018
				2.0	[-4.0; 8.4]	2004-2013
				-1.9	[-12.8; 10.4]	2013-2018
70 - 79 yrs	0.9	[-1.7; 3.7]	2004-2018	1.3	[-1.9; 4.5]	2004-2018
80+	-1.6	[-6.0; 3.0]	2004-2018	0.9	[-4.5; 6.5]	2004-2018

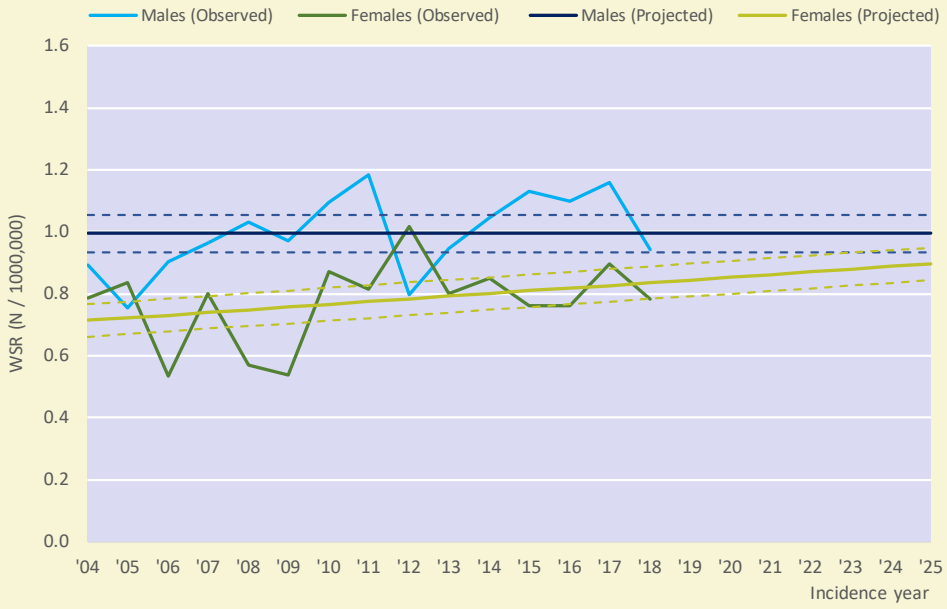
Source: Belgian Cancer Registry

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.

Incidence projections

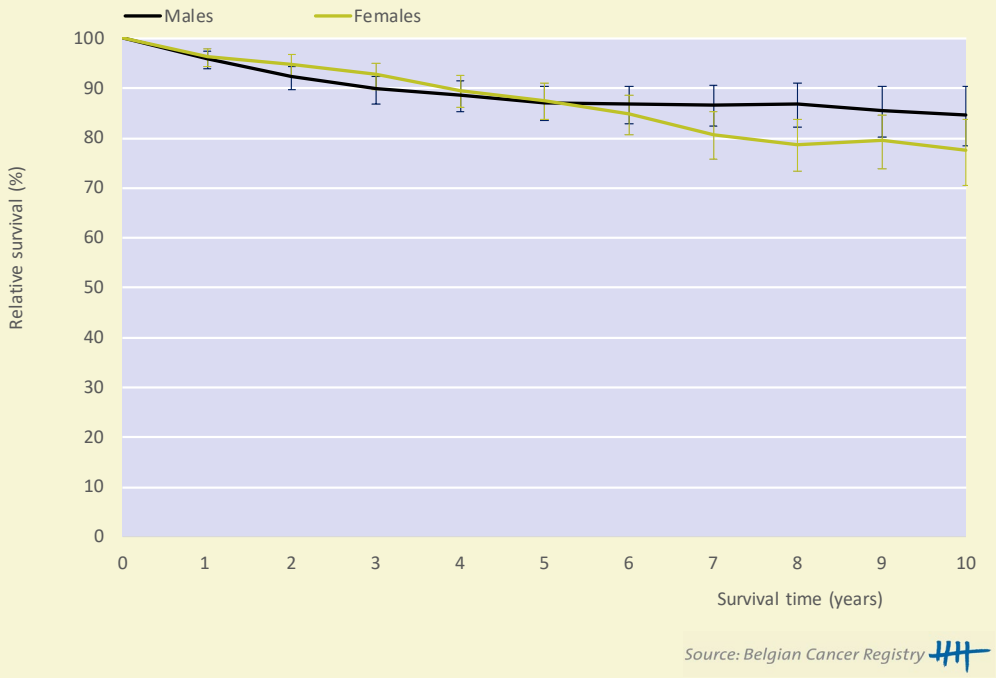
Figure 3 Chronic myeloid leukaemia: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

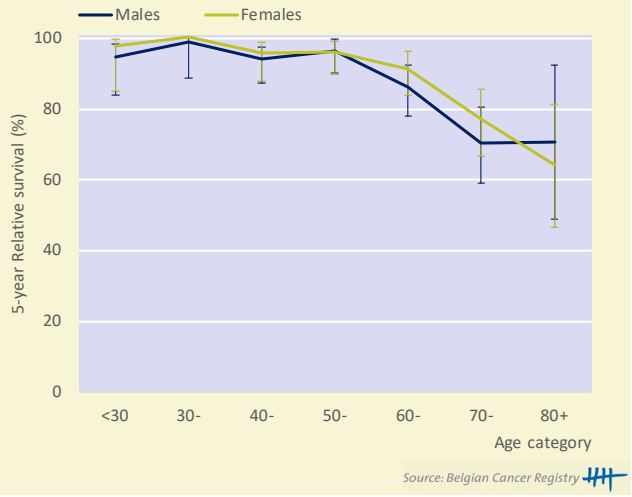
Survival

Figure 4 Chronic myeloid leukaemia: Relative survival* by sex, Belgium 2009-2018



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

Figure 5 Chronic myeloid leukaemia: Age-specific 5-year relative survival* by sex, Belgium 2009-2018



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

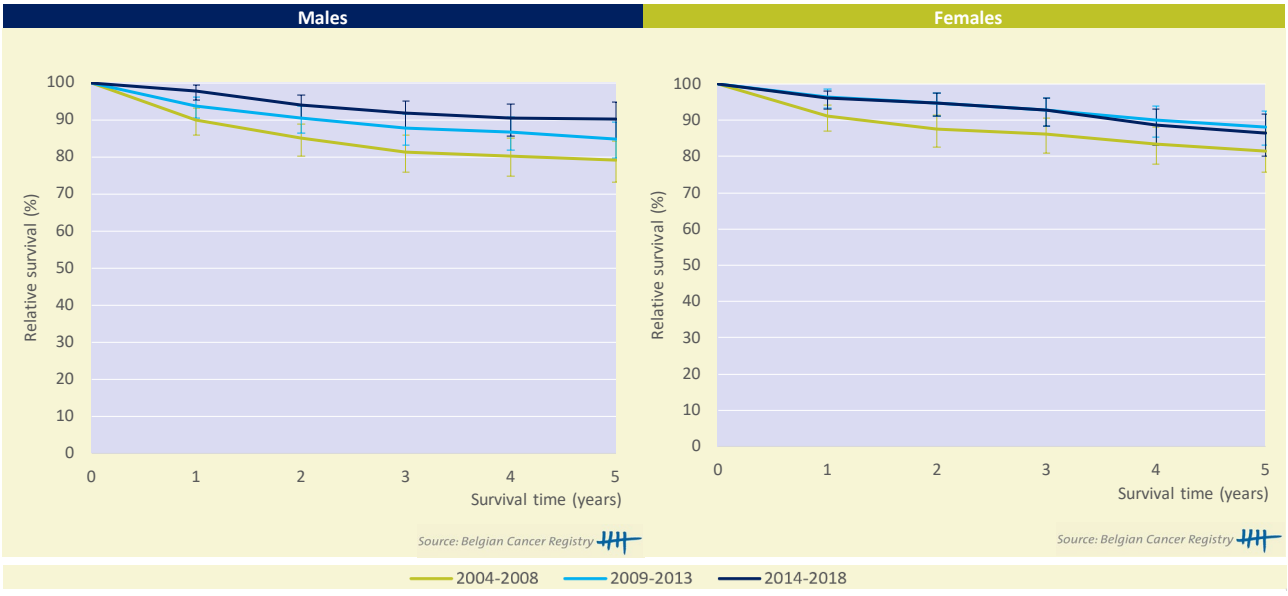
Table 3 Chronic myeloid leukaemia: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

Males		
X years since diagnosis	N at risk	%
1 year	792	90.6
2 year	688	93.9
3 year	574	96.7
Females		
X years since diagnosis	N at risk	%
1 year	675	88.2
2 year	602	85.1
3 year	506	85.0

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 6 Chronic myeloid leukaemia: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.3.1.2 MYELOPROLIFERATIVE NEOPLASMS *BCR-ABL1* NEGATIVE AND RELATED NEOPLASMS

MAIN SUBTYPES:

- *Polycythaemia vera*
- *Primary myelofibrosis*
- *Essential thrombocythaemia*
- *Other MPN and related neoplasms*

KEYNOTES

Incidence (Table 1-2; Figure 1-4)

- The age-specific incidence rates are very similar in males and females.
- The incidence increases between 2004 and 2018 in both sexes and in all age categories.
- This increasing trend is seen in the three main subtypes:
  - polycythaemia vera (AAPC: 6.3% in males and 7.0% in females),
  - essential thrombocythaemia (AAPC: 4.8% in males and 7.0% in females) and
  - primary myelofibrosis (AAPC: 6.8% in males and 4.8% in females).

  This observation may be partly explained by a better diagnosis with the discovery of specific molecular biomarkers for *BCR-ABL1* negative myeloproliferative neoplasms.

Survival (Table 3; Figure 5-8)

- The 10-year relative survival is considerably higher in females (82%) than in males (70%).
- The difference of the relative survival between both sexes is most pronounced in patients older than 60.
- In both sexes, the relative survival shows a slow, yet progressive decrease over time.
- The 5-year relative survival is comparable in all age groups for polycythaemia vera and essential thrombocythaemia, but drops with age for primary myelofibrosis and other myeloproliferative neoplasms and related neoplasms.
- No clear improvement of the 5-year relative survival is observed in the period 2004-2018.

Table 1 Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	383	6.8	3.5
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	1,482	26.3	13.3
Prevalence (10 years), 2009-2018	2,212	39.3	20.0
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	1,786	82.7	[79.1;86.1]
10-year Relative survival, 2009-2018	3,089	70.4	[66.0;74.7]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	402	7.0	3.3
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	1,644	28.3	12.5
Prevalence (10 years), 2009-2018	2,551	44.0	19.4
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	1,848	93.1	[90.0;95.9]
10-year Relative survival, 2009-2018	3,217	81.5	[77.0;85.8]
Median age at diagnosis, 2018	69		
M/F-ratio, 2018	1.1		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

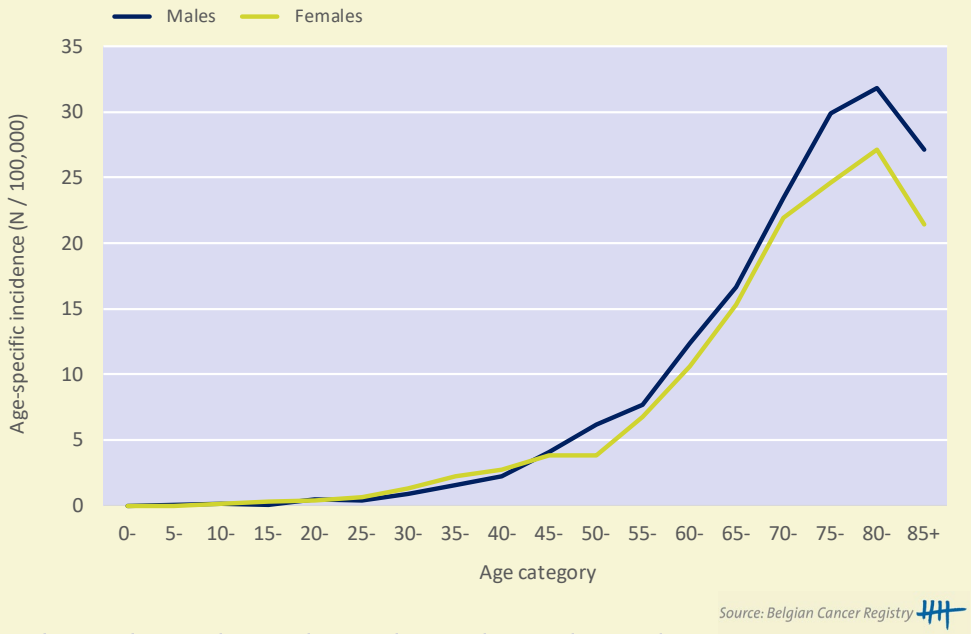


Figure 2 Myeloproliferative neoplasms BCR-ABL1 negative and related neoplasms: Incidence by subtype, Belgium 2013-2018

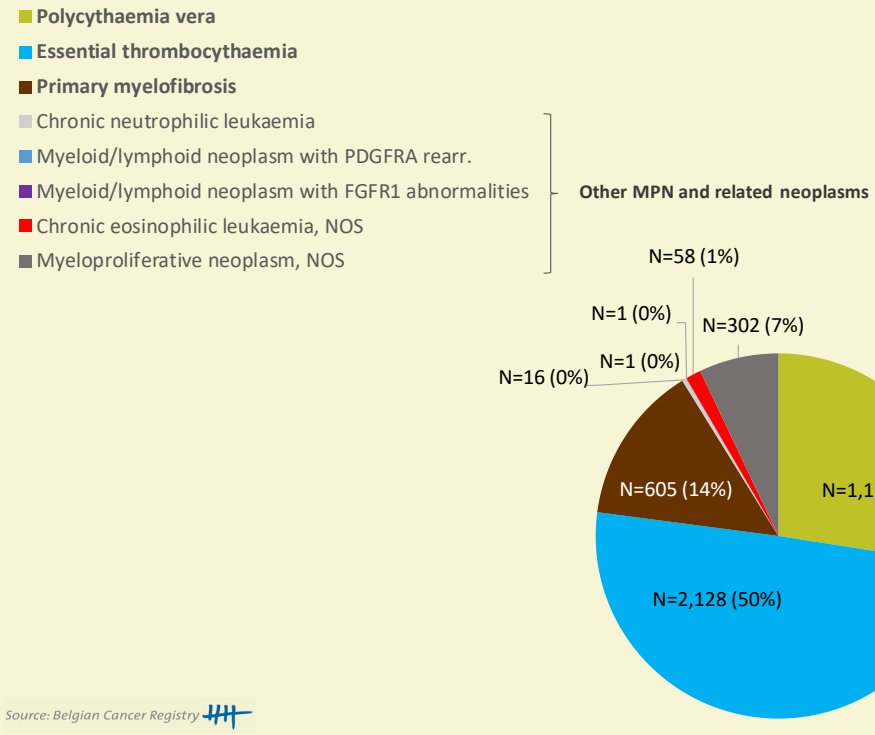
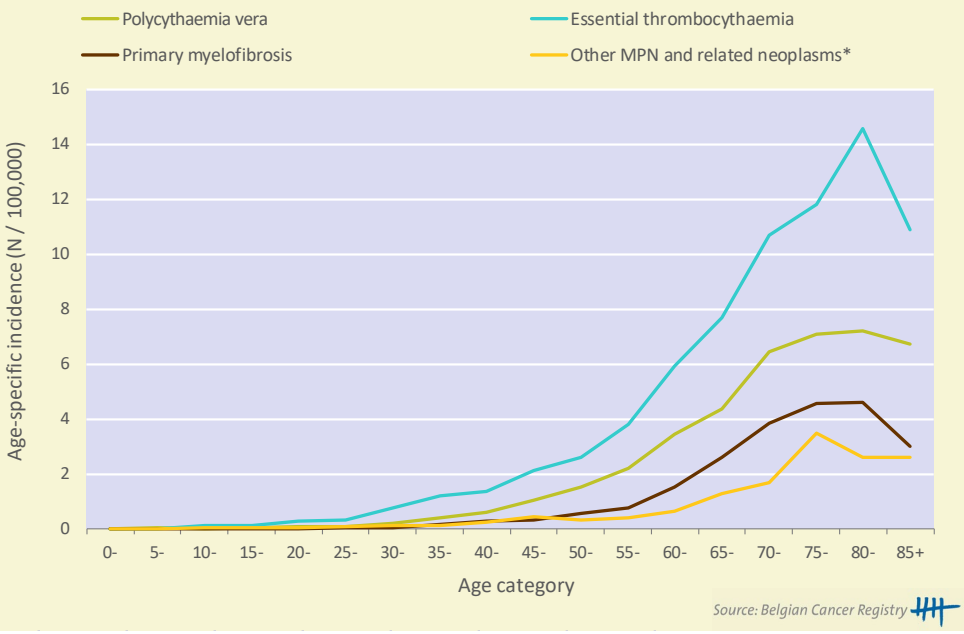
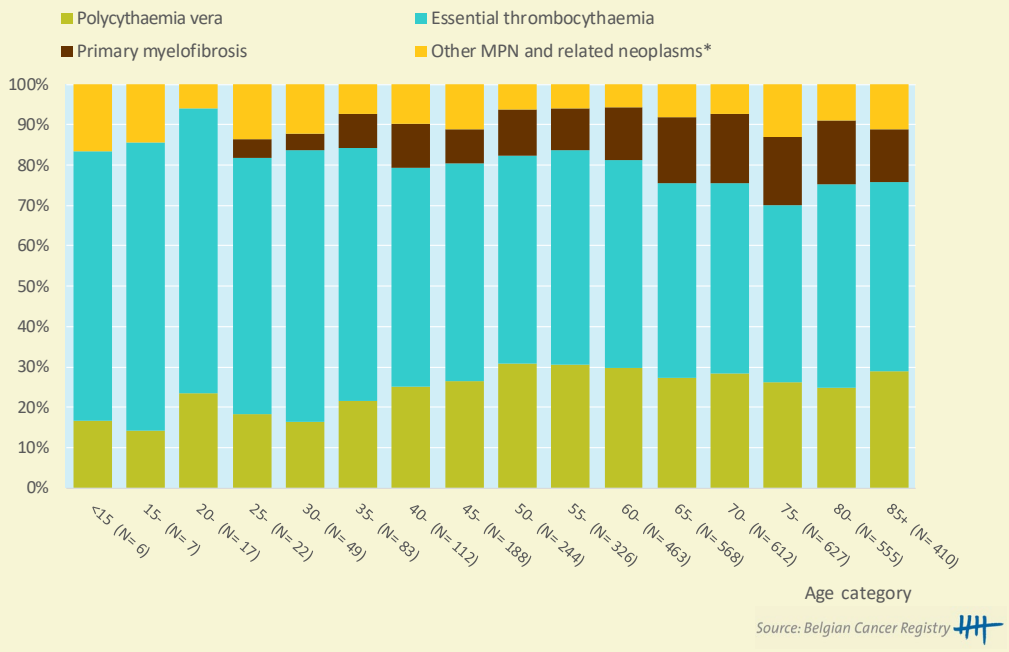


Figure 3 **Myeloproliferative neoplasms BCR-ABL1 negative and related neoplasms: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018**



"Other MPN and related neoplasms" includes the subtypes chronic neutrophilic leukaemia, myeloid/lymphoid neoplasm with PDGFRA rearr., myeloid neoplasm with PDGFRB rearrangement, myeloid/lymphoid neoplasm with FGFR1 abnormalities, chronic eosinophilic leukaemia, NOS and myeloproliferative neoplasm, NOS.

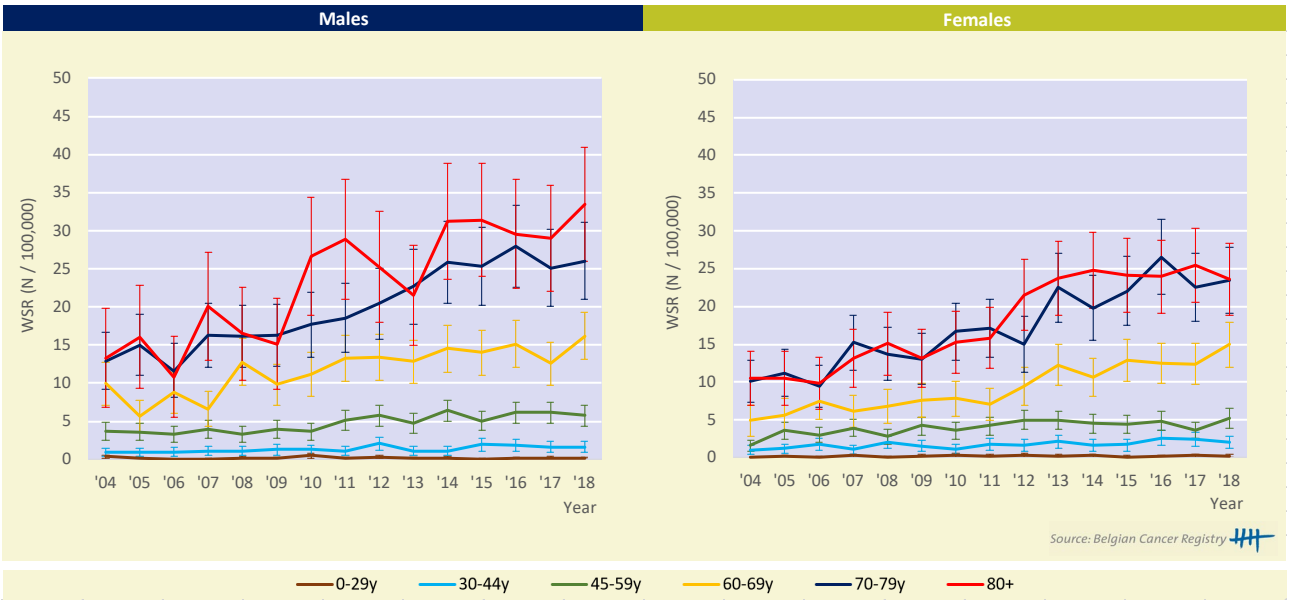
Figure 4 **Myeloproliferative neoplasms BCR-ABL1 negative and related neoplasms: Incidence by subtype and age group, Belgium 2013-2018**



"Other MPN and related neoplasms" includes the subtypes chronic neutrophilic leukaemia, myeloid/lymphoid neoplasm with PDGFRA rearr., myeloid neoplasm with PDGFRB rearrangement, myeloid/lymphoid neoplasm with FGFR1 abnormalities, chronic eosinophilic leukaemia, NOS and myeloproliferative neoplasm, NOS.

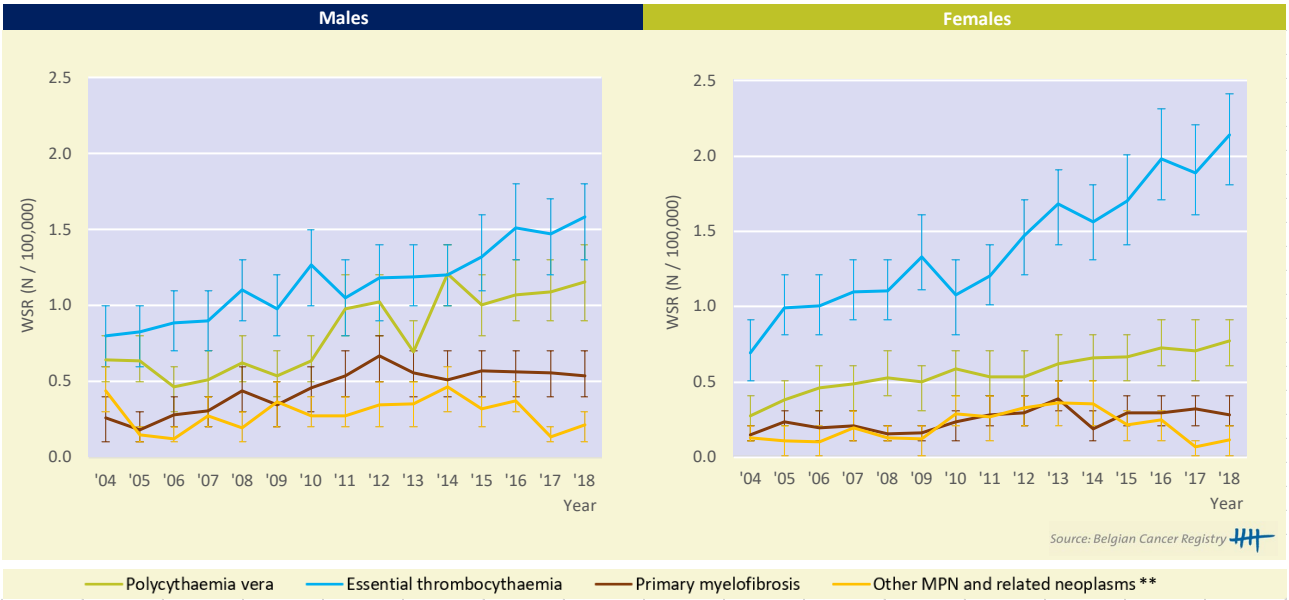
Incidence trends

Figure 5 Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

*** "Other MPN and related neoplasms" includes the subtypes chronic neutrophilic leukaemia, myeloid/lymphoid neoplasm with PDGFRA rearr., myeloid neoplasm with PDGFRB rearrangement, myeloid/lymphoid neoplasm with FGFR1 abnormalities, chronic eosinophilic leukaemia, NOS and myeloproliferative neoplasm, NOS.*

Table 2 Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 29 yrs	-	-	-	8.4	[2.2; 15.1]	2004-2018
				26.3	[8.0; 47.6]	2004-2010
				-3.2	[-13.6; 8.4]	2010-2018
30 - 44 yrs	4.8	[2.4; 7.3]	2004-2018	4.7	[1.9; 7.6]	2004-2018
45 - 59 yrs	4.8	[3.1; 6.4]	2004-2018	4.6	[1.8; 7.4]	2004-2018
				9.3	[4.0; 14.9]	2004-2012
				-1.5	[-8.1; 5.6]	2012-2018
60 - 69 yrs	5.5	[3.0; 8.1]	2004-2018	7.6	[6.1; 9.1]	2004-2018
70 - 79 yrs	6.0	[4.8; 7.3]	2004-2018	7.0	[5.2; 8.7]	2004-2018
80+	7.2	[4.6; 9.8]	2004-2018	8.0	[6.1; 9.8]	2004-2018
				10.1	[2.9; 17.7]	2004-2008
				7.1	[4.6; 9.7]	2008-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Polycythaemia vera	6.3	[3.8; 8.9]	2004-2018	7.0	[5.9; 8.1]	2004-2018
				19.0	[13.1; 25.3]	2004-2007
				3.9	[2.7; 5.2]	2007-2018
Essential thrombocythaemia	4.8	[3.8; 5.7]	2004-2018	7.0	[5.6; 8.3]	2004-2018
Primary myelofibrosis	6.8	[4.9; 8.7]	2004-2018	4.8	[1.7; 8.0]	2004-2018
	13.7	[9.9; 17.6]	2004-2012			
	-1.8	[-6.2; 2.9]	2012-2018			
Other MPN and related neoplasms	1.2	[-4.2; 7.0]	2004-2018	-1.2	[-5.7; 3.6]	2004-2018
				14.6	[7.3; 22.3]	2004-2014
				-31.7	[-43.1; -17.9]	2014-2018

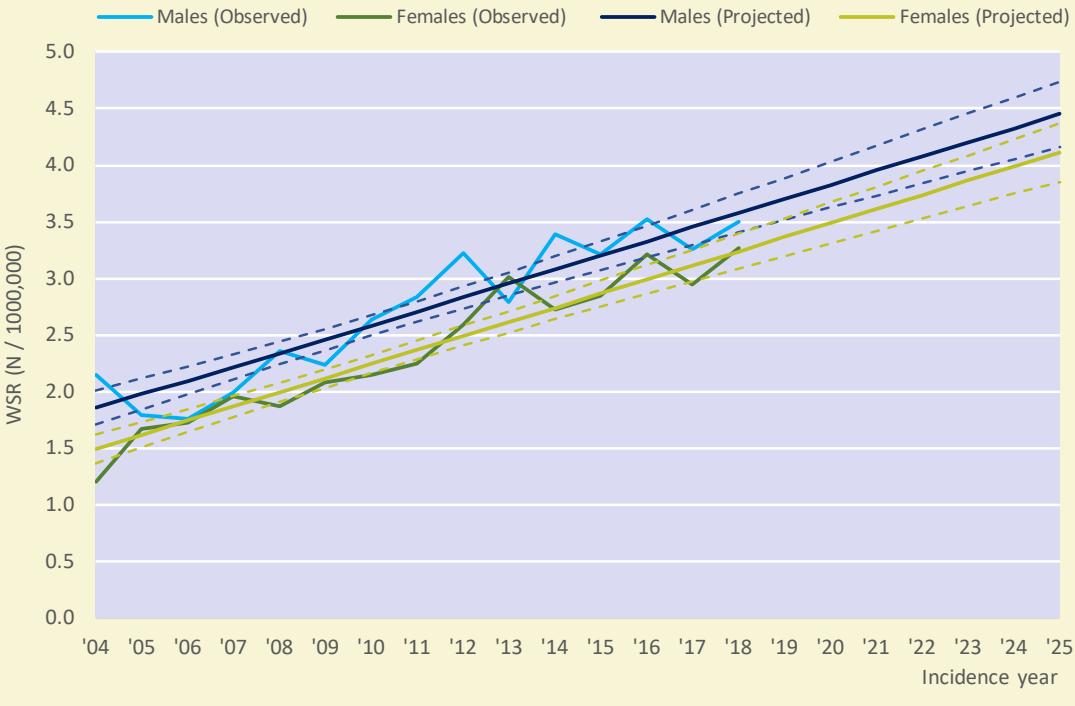
Source: Belgian Cancer Registry

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.

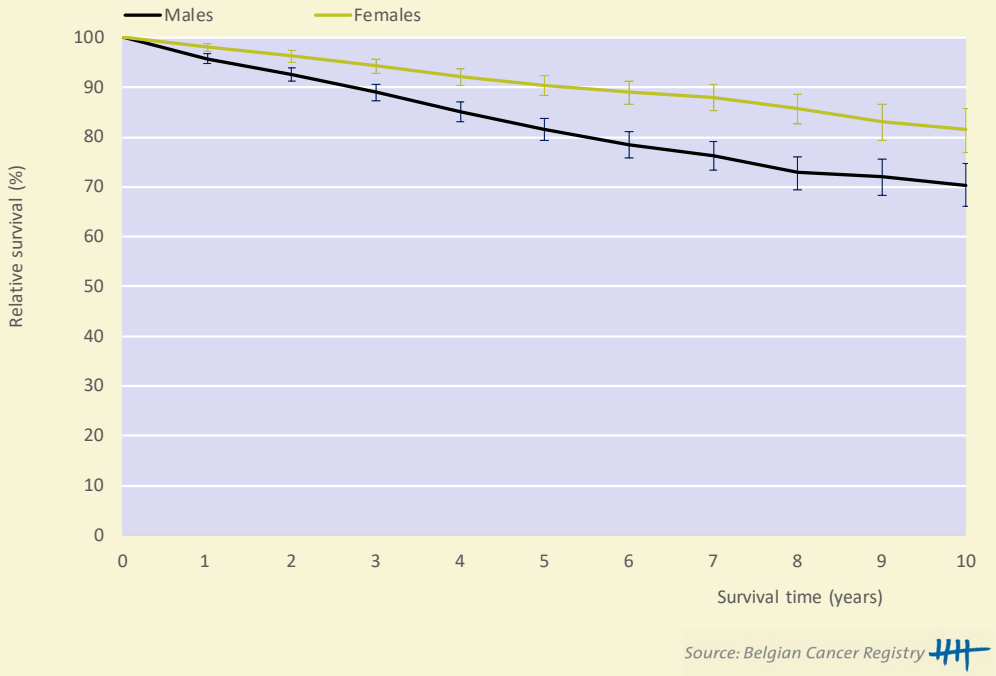
Incidence projections

Figure 7 Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Survival

Figure 8 Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Myeloproliferative neoplasms BCR-ABL1 negative and related neoplasms: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

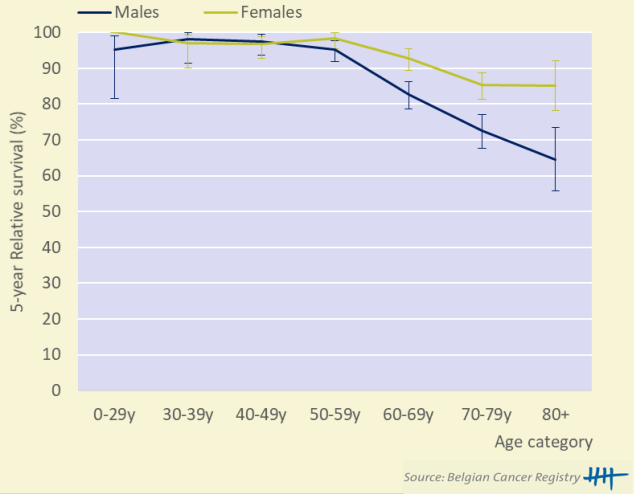
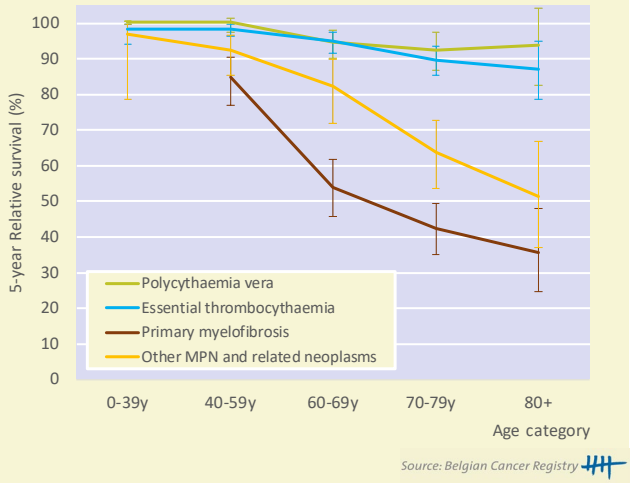


Figure 10 Myeloproliferative neoplasms BCR-ABL1 negative and related neoplasms: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



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

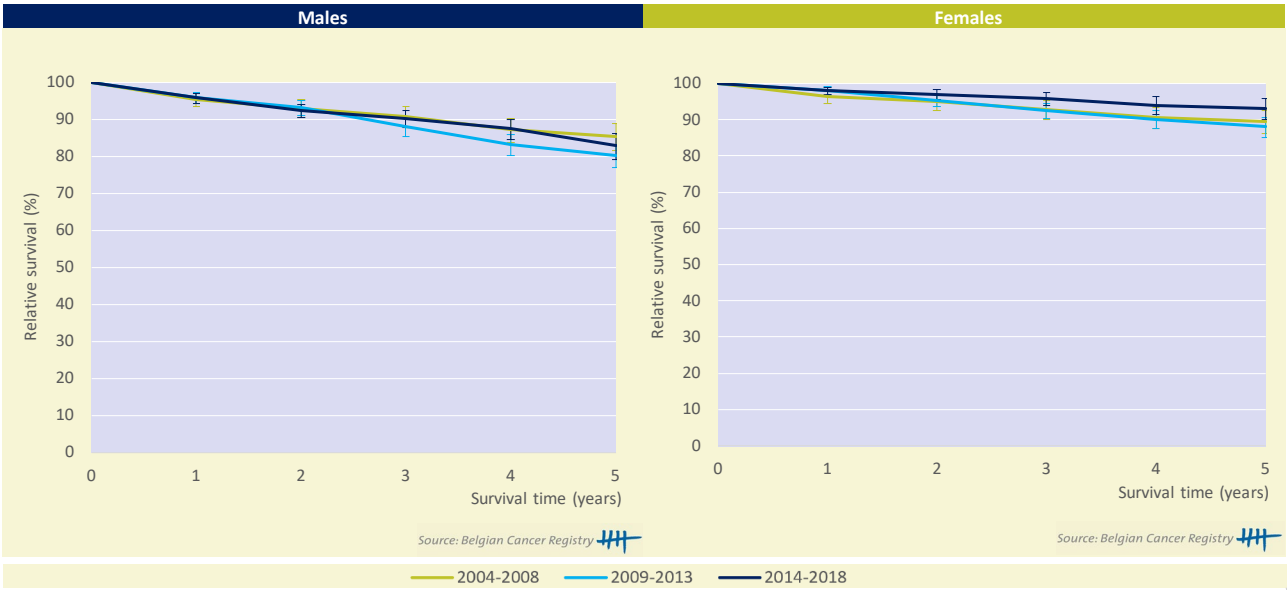
Table 3 Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

Males		
X years since diagnosis	N at risk	%
1 year	2,844	82.0
2 year	2,404	82.4
3 year	1,941	81.8
Females		
X years since diagnosis	N at risk	%
1 year	3,052	90.8
2 year	2,636	91.3
3 year	2,167	90.9

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.3.2 MAST CELL NEOPLASMS

KEYNOTES*

Incidence (Table 1-2; Figure 1-2)

- Mast cell neoplasms are more frequently diagnosed in females than in males (male/female ratio: 0.6) with a mild increased incidence with age.
- The incidence trends suggest an increase of mast cell neoplasms in Belgium between 2004 and 2018, mostly in females. This can be explained by an improved awareness and availability of specific molecular biomarkers in addition to changes in the WHO classification over time.

Survival (Table 3; Figure 3-5)

- Patients with mast cell neoplasms have a good prognosis with a 10-year relative survival of 86%.
- The 5-year relative survival is nearly 100% at ages younger than 50 and gradually drops to approximately 60% in the age groups 70+.
- There is no significant improvement of the 5-year relative survival between 2004-2008 and 2014-2018.

** All results presented for "Mast cell neoplasms" also include the subtypes "Mastocytoma, NOS" and "Indolent systemic mastocytosis", which are characterised by uncertain behaviour (see methodology).*

Table 1 Mast cell neoplasms: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	14	0.3	0.2
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	62	1.1	1.0
Prevalence (10 years), 2009-2018	99	1.8	1.6
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	56	89.2	[68.6;100.1]
10-year Relative survival, 2009-2018	93	84.1	[69.6;94.3]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	22	0.4	0.3
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	91	1.6	1.4
Prevalence (10 years), 2009-2018	134	2.3	2.0
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	88	97.5	[89.1;100.8]
10-year Relative survival, 2009-2018	132	87.8	[72.4;96.6]
Median age at diagnosis, 2018	49		
M/F-ratio, 2018	0.6		

Source: Belgian Cancer Registry

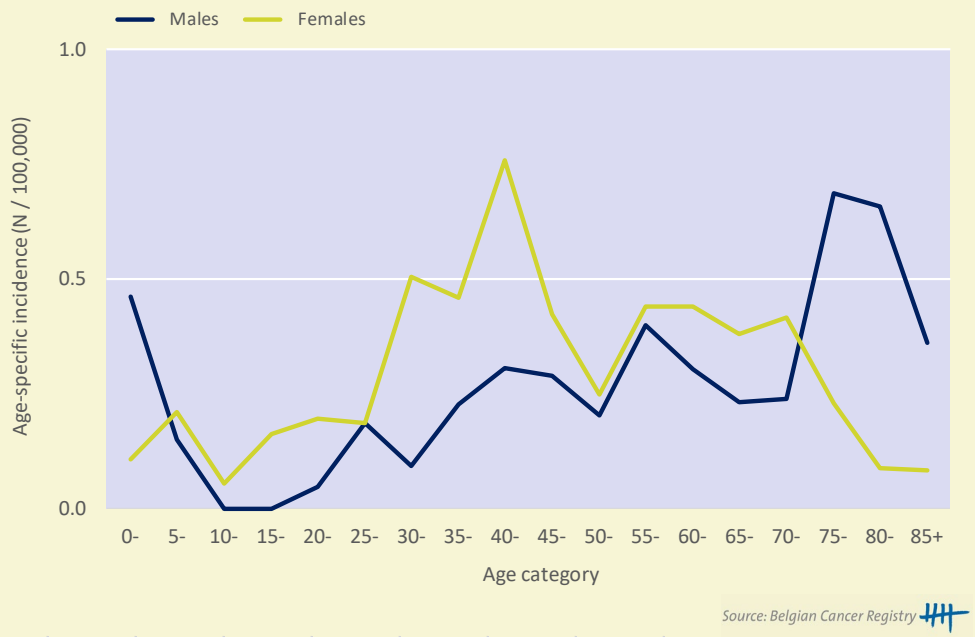
CR: crude (all ages) rate (N/100,000 person years)

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

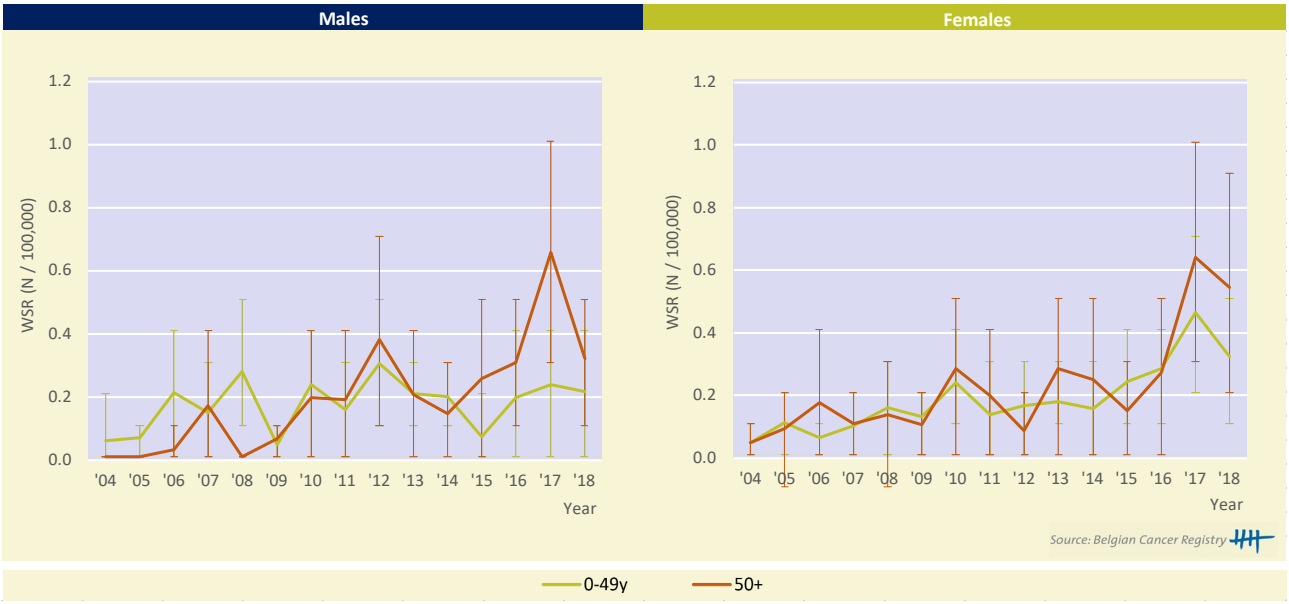
Incidence

Figure 1 Mast cell neoplasms: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018



Incidence trends

Figure 2 Mast cell neoplasms: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Table 2 Mast cell neoplasms: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 49 yrs	6.2	[-2.0; 15.1]	2004-2018	13.3	[8.8; 17.9]	2004-2018
50+	-	-	-	14.1	[7.3; 21.4]	2004-2018

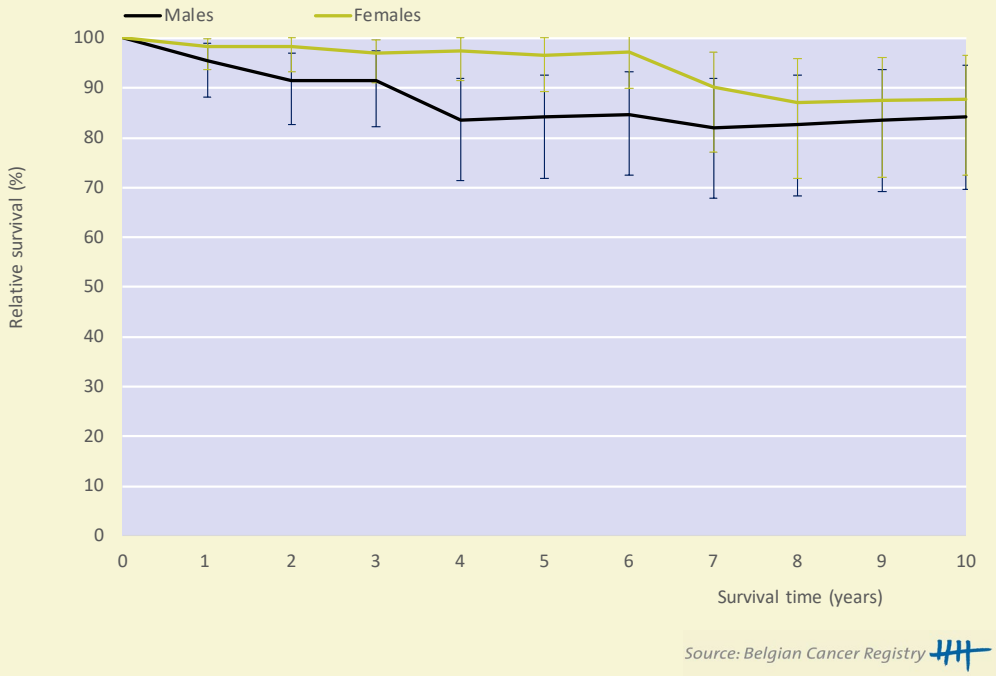
Source: Belgian Cancer Registry

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.

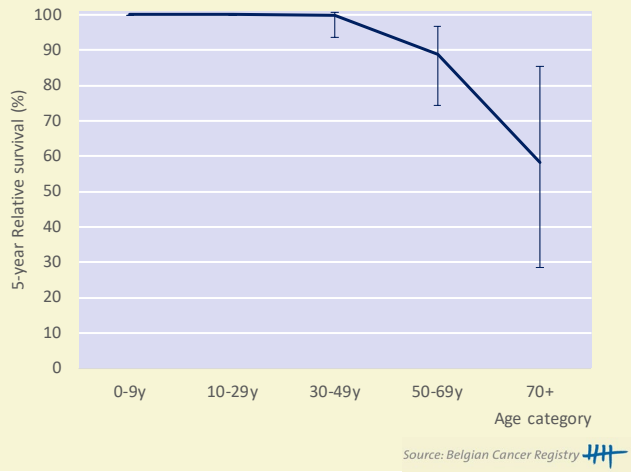
Survival

Figure 3 Mast cell neoplasms: Relative survival* by sex, Belgium 2009-2018



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

Figure 4 Mast cell neoplasms:
Age-specific 5-year relative survival*, Belgium 2009-2018



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

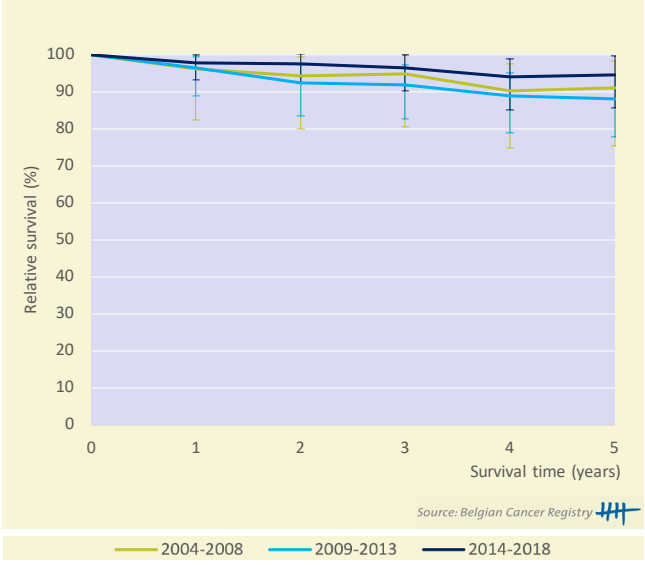
Table 3 Mast cell neoplasms: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

Males		
X years since diagnosis	N at risk	%
1 year	88	88.7
2 year	76	89.5
3 year	59	90.3
Females		
X years since diagnosis	N at risk	%
1 year	130	98.7
2 year	116	91.6
3 year	87	89.8

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 5 Mast cell neoplasms: Relative survival* by cohort, Belgium 2004-2018



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

3.3.3 MYELODYSPLASTIC SYNDROME

MAIN SUBTYPES:

- *MDS with single lineage dysplasia*
- *MDS with ring sideroblasts*
- *MDS with isolated del(5q)*
- *MDS with multilineage dysplasia*
- *MDS with excess blasts*
- *MDS, NOS*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- Myelodysplastic syndrome is more frequent in males than in females (male/female ratio: 1.5) and is mostly diagnosed in the older population (very rare below 50 years of age).
- Between 2004 and 2018 the incidence rates of myelodysplastic syndrome (MDS) increase in Belgium, mostly in the age group 60+.
- Potential underlying factors that could explain this increasing trend are better registration, earlier diagnosis and classification changes.
- However, the large group of MDS NOS (47%) illustrates that further improvement of correct registration is important.

Survival (Table 3; Figure 8-11)

- The relative survival decreases with age and is slightly higher in females than in males, with a 10-year relative survival of 35% and 28%, respectively.
- The highest 5-year relative survival is observed for MDS with ring sideroblasts and the lowest 5-year relative survival is observed for MDS with excess blasts.
- There is no significant improvement of the 5-year relative survival between 2004-2008 and 2014-2018.

Table 1 Myelodysplastic syndrome: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	486	8.7	3.5
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	1,385	24.6	10.3
Prevalence (10 years), 2009-2018	1,870	33.2	14.3
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	2,366	45.5	[42.2;48.8]
10-year Relative survival, 2009-2018	4,317	27.9	[24.6;31.4]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	362	6.3	2.3
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	1,062	18.3	6.7
Prevalence (10 years), 2009-2018	1,467	25.3	9.5
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	1,751	50.4	[46.7;54.2]
10-year Relative survival, 2009-2018	3,104	35.1	[31.0;39.3]
Median age at diagnosis, 2018	77		
M/F-ratio, 2018	1.5		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Myelodysplastic syndrome: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

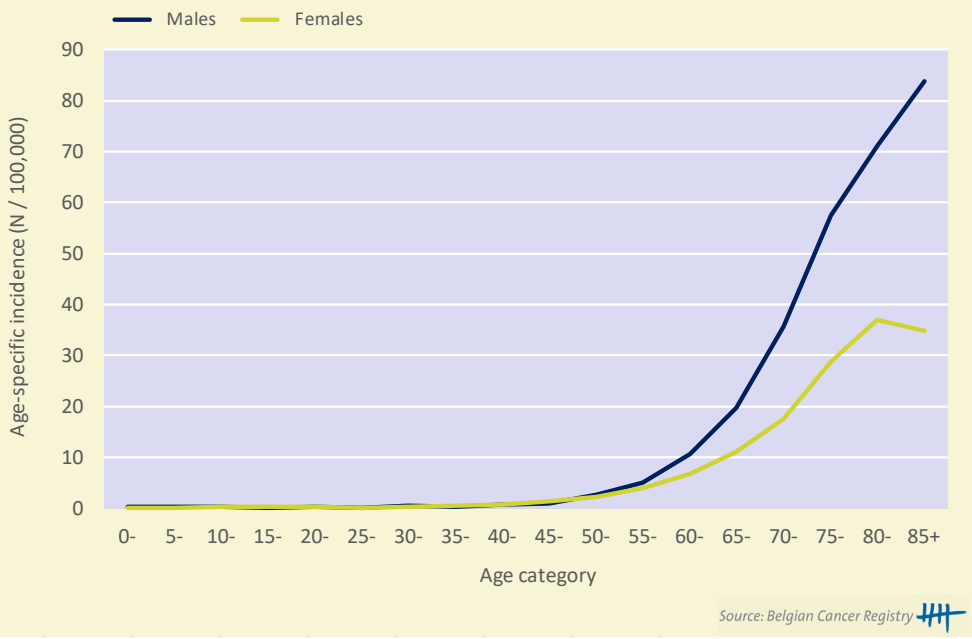


Figure 2 Myelodysplastic syndrome: Incidence by subtype, Belgium 2013-2018

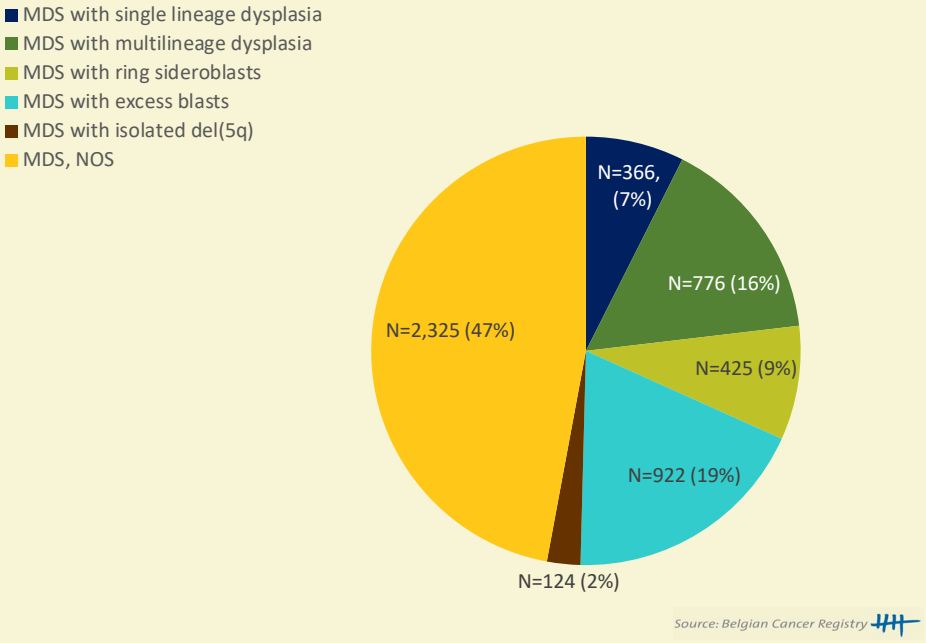


Figure 3 Myelodysplastic syndrome: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

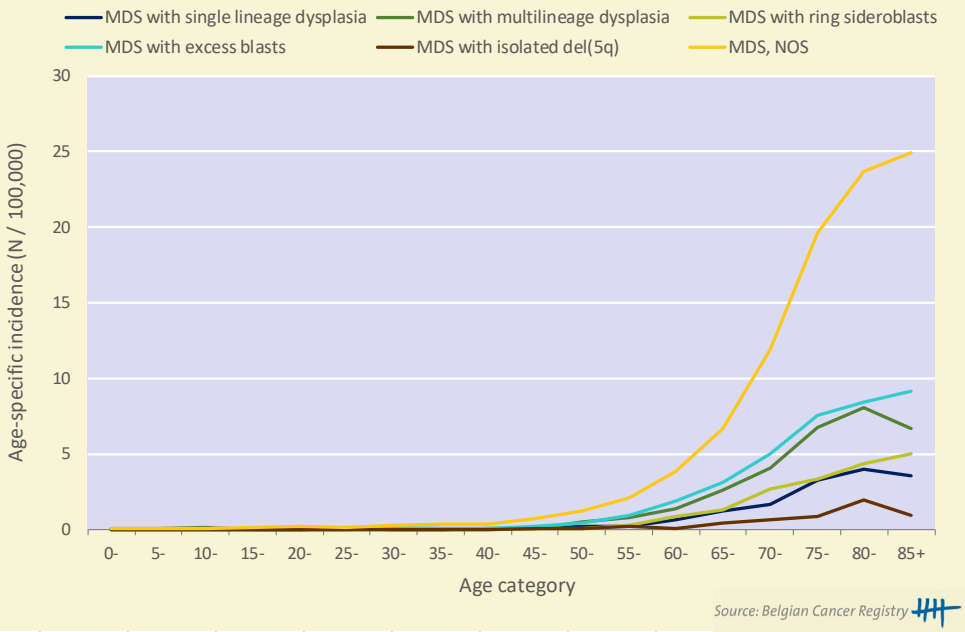
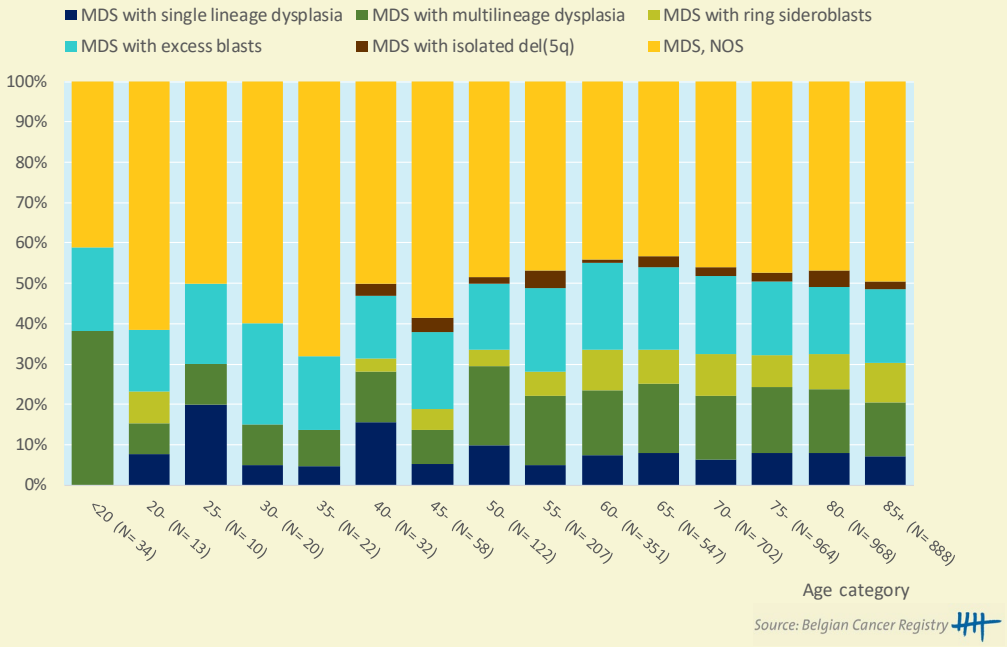
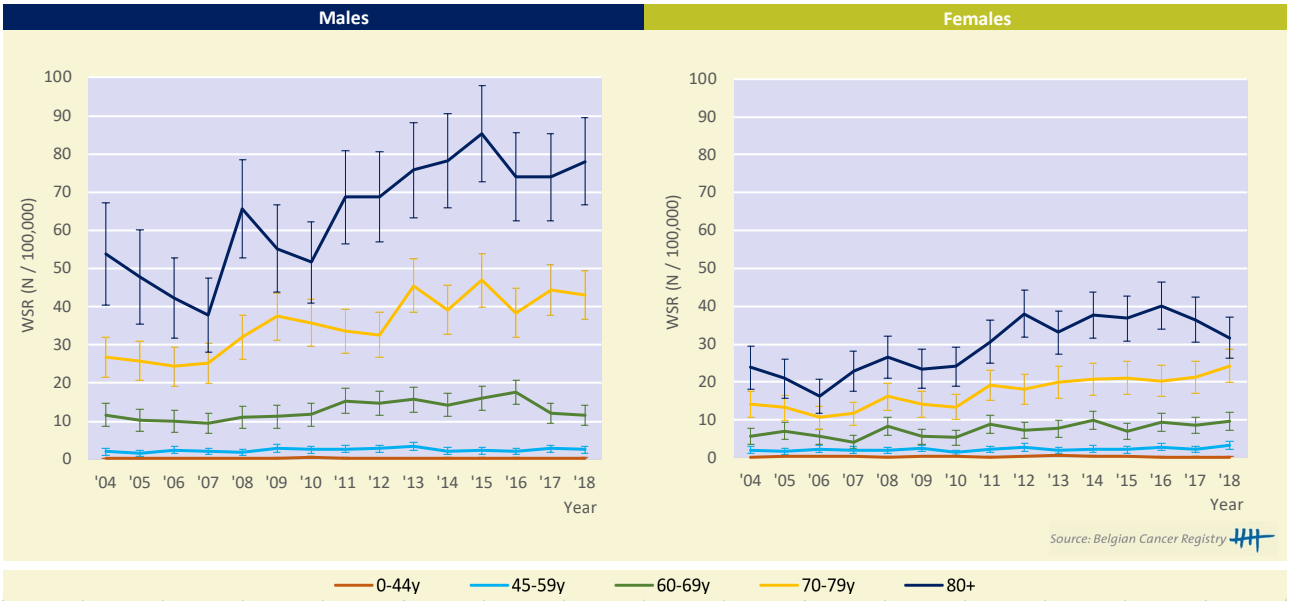


Figure 4 Myelodysplastic syndrome: Incidence by subtype and age group, Belgium 2013-2018



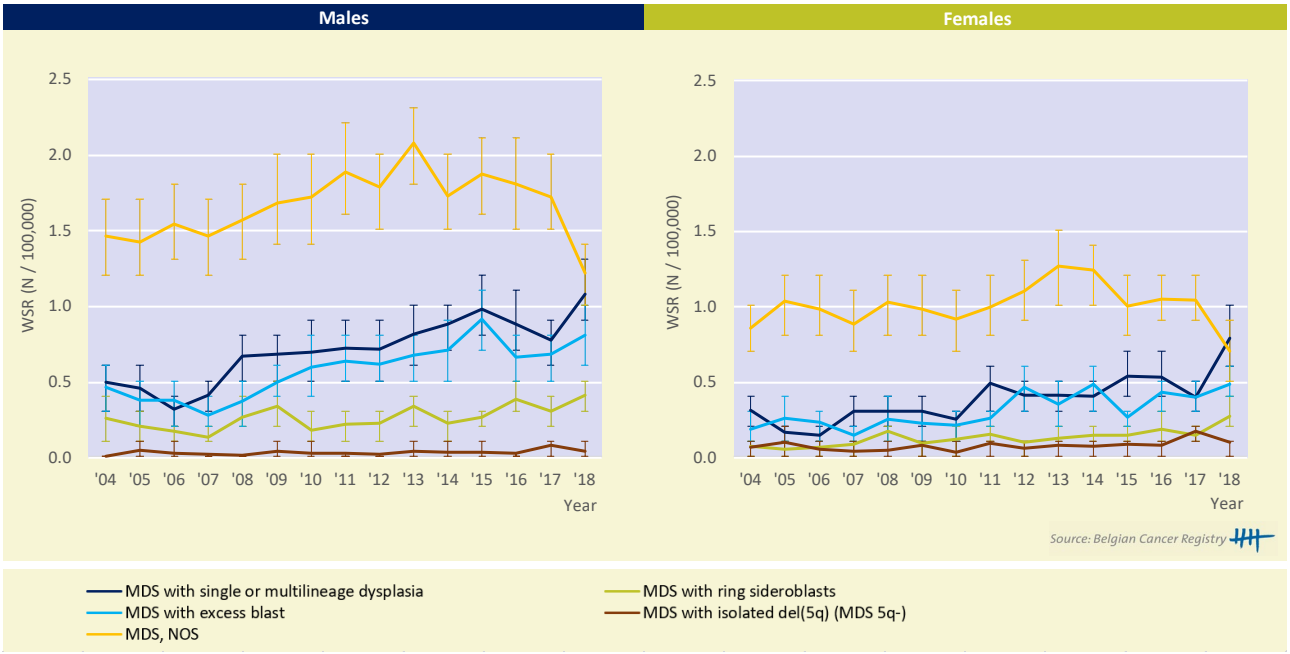
Incidence trends

Figure 5 Myelodysplastic syndrome: Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Myelodysplastic syndrome: Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Myelodysplastic syndrome: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 44 yrs	0.8	[-3.0; 4.9]	2004-2018	-0.8	[-4.9; 3.6]	2004-2018
	2.7	[-2.0; 7.6]	2004-2015	8.8	[1.4; 16.6]	2004-2013
	-5.6	[-22.7; 15.4]	2015-2018	-15.9	[-26.5; -3.7]	2013-2018
45 - 59 yrs	1.9	[-0.2; 4.1]	2004-2018	2.3	[-0.0; 4.6]	2004-2018
	6.0	[1.3; 11.0]	2004-2011			
	-2.0	[-6.4; 2.6]	2011-2018			
60 - 69 yrs	0.5	[-1.2; 2.3]	2004-2018	4.0	[1.5; 6.7]	2004-2018
	-4.7	[-12.1; 3.3]	2004-2007			
	8.3	[5.1; 11.5]	2007-2014			
	-8.1	[-13.3; -2.6]	2014-2018			
70 - 79 yrs	4.5	[3.0; 6.0]	2004-2018	5.1	[3.5; 6.7]	2004-2018
80+	4.6	[2.7; 6.6]	2004-2018	4.9	[2.4; 7.4]	2004-2018
				2.8	[-8.9; 16.0]	2004-2007
				5.5	[2.5; 8.4]	2007-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
MDS with single or multilineage dysplasia	6.9	[4.4; 9.4]	2004-2018	8.7	[4.9; 12.6]	2004-2018
MDS with ring sideroblasts	4.6	[1.1; 8.2]	2004-2018	9.1	[5.3; 13.1]	2004-2018
MDS with excess blast	3.6	[1.2; 6.2]	2004-2018	7.0	[3.7; 10.5]	2004-2018
	-8.7	[-18.3; 1.9]	2004-2007			
	13.4	[8.9; 18.1]	2007-2014			
	-2.6	[-10.0; 5.4]	2014-2018			
MDS with isolated del(5q) (MDS 5q-)	-	-	-	2.4	[-2.8; 8.0]	2004-2018
				-22.1	[-40.6; 2.1]	2004-2007
				10.4	[3.7; 17.5]	2007-2018
MDS, NOS	-0.4	[-1.5; 0.6]	2004-2018	-0.6	[-2.0; 0.8]	2004-2018
	3.1	[1.8; 4.4]	2004-2015	3.0	[1.0; 5.1]	2004-2014
	-12.5	[-17.2; -7.6]	2015-2018	-9.1	[-14.1; -3.9]	2014-2018

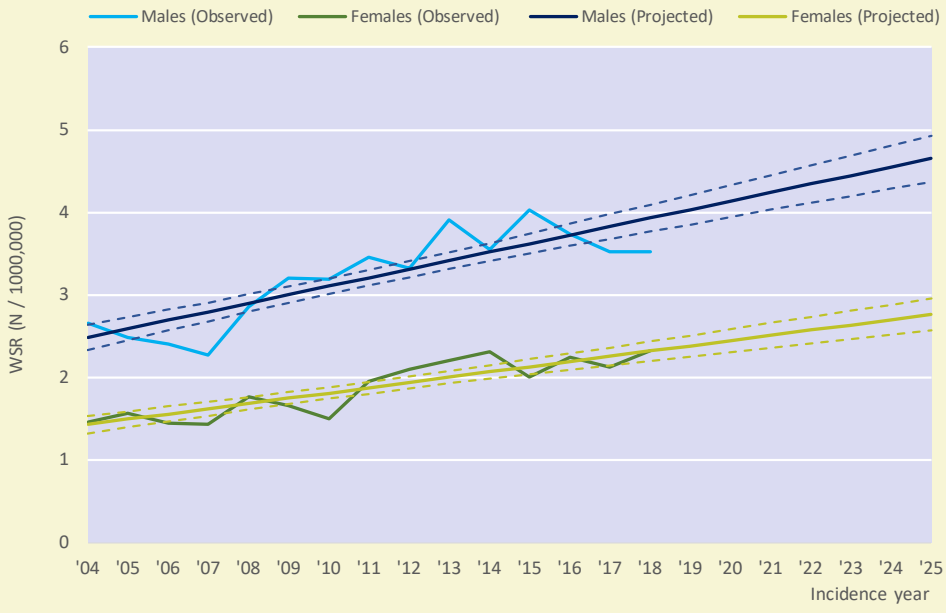
Source: Belgian Cancer Registry

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.

Incidence projections

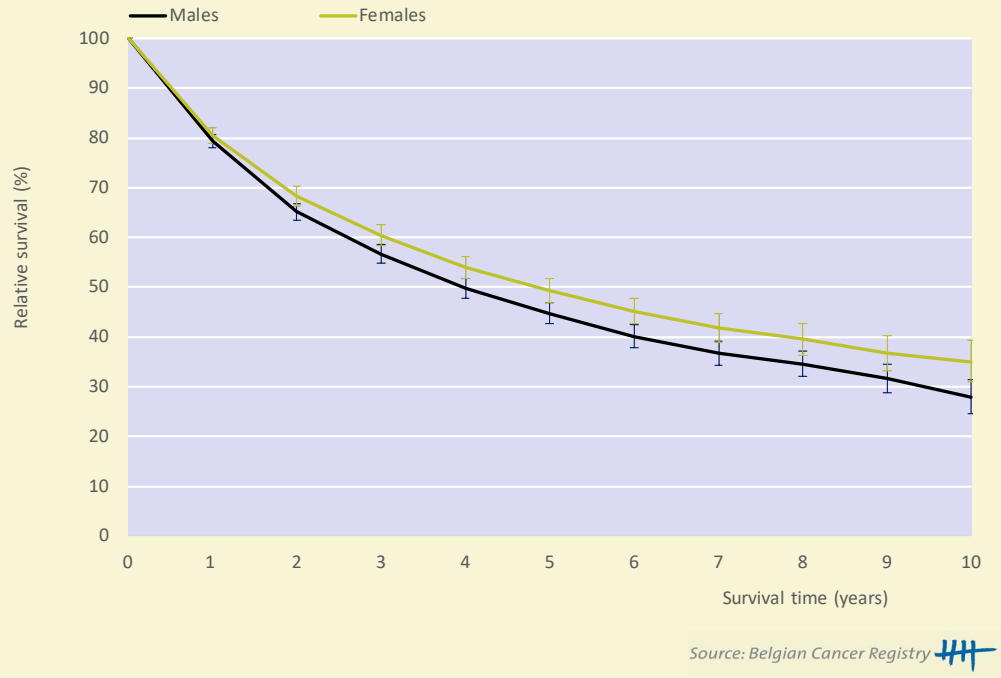
Figure 7 Myelodysplastic syndrome: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Myelodysplastic syndrome: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Myelodysplastic syndrome:
Age-specific 5-year relative survival* by sex, Belgium 2009-2018

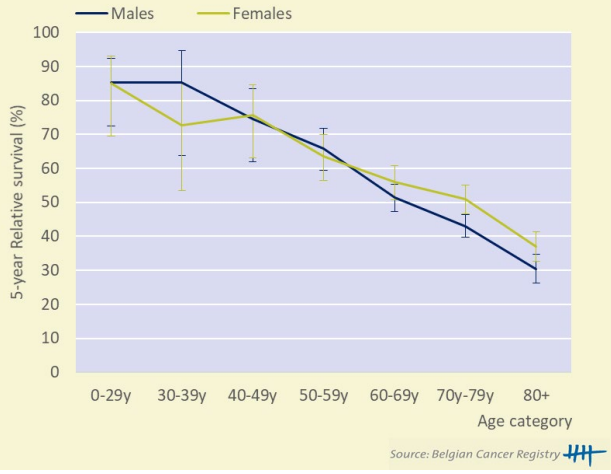
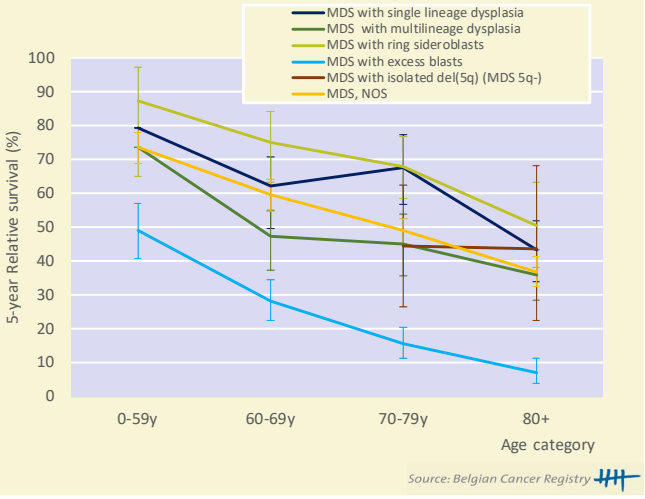


Figure 10 Myelodysplastic syndrome:
Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



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

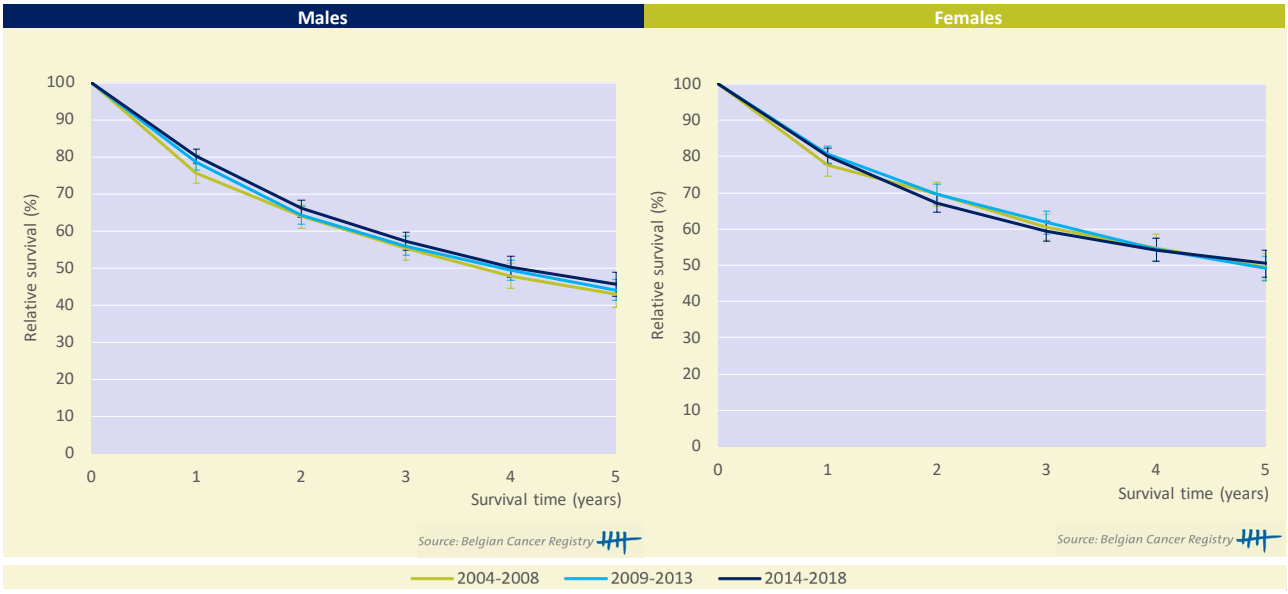
Table 3 Myelodysplastic syndrome: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)

Males		
X years since diagnosis	N at risk	%
1 year	3,228	50.6
2 year	2,293	56.4
3 year	1,649	61.0
Females		
X years since diagnosis	N at risk	%
1 year	2,383	56.2
2 year	1,768	61.1
3 year	1,302	65.3

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Myelodysplastic syndrome: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.3.4 MYELODYSPLASTIC/MYELOPROLIFERATIVE NEOPLASMS

MAIN SUBTYPES:

- *Chronic myelomonocytic leukaemia*
- *Other myelodysplastic/myeloproliferative neoplasm*

KEYNOTES

Incidence (Table 1-2; Figure 1-7)

- Myelodysplastic/myeloproliferative syndromes are more frequent in males than in females (male/female ratio: 1.5) and mostly diagnosed in the older population (very rare below 50 years of age).
- The incidence increases between 2004 and 2018, more prominently in males, in the age group 60+ and in chronic myelomonocytic leukaemia with an AAPC of 6% in males and 9.1% in females.

Survival (Table 3; Figure 8-11)

- The relative survival decreases with age and is slightly better in females than in males, with a 10-year relative survival of 34% and 27%, respectively.
- A higher 5-year relative survival is observed for other myelodysplastic/myeloproliferative neoplasms than for chronic myelomonocytic leukaemia.
- There is no significant improvement of the 5-year relative survival between 2004-2008 and 2014-2018.

Table 1 Myelodysplastic/myeloproliferative neoplasms: Overview of incidence, prevalence and survival by sex in Belgium

		Males	
Incidence	N	CR	WSR
Incidence, 2018	130	2.3	1.0
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	365	6.5	2.8
Prevalence (10 years), 2009-2018	469	8.3	3.7
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	592	41.5	[34.7;48.4]
10-year Relative survival, 2009-2018	1,054	27.0	[21.6;33.0]
		Females	
Incidence	N	CR	WSR
Incidence, 2018	105	1.8	0.7
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	242	4.2	1.5
Prevalence (10 years), 2009-2018	327	5.6	2.2
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	381	50.8	[42.7;58.8]
10-year Relative survival, 2009-2018	660	34.0	[26.7;42.0]
Median age at diagnosis, 2018	76		
M/F-ratio, 2018	1.5		

Source: Belgian Cancer Registry

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

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

M/F-ratio: Male/Female ratio based on the age-standardised rates

Incidence

Figure 1 Myelodysplastic/myeloproliferative neoplasms: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018

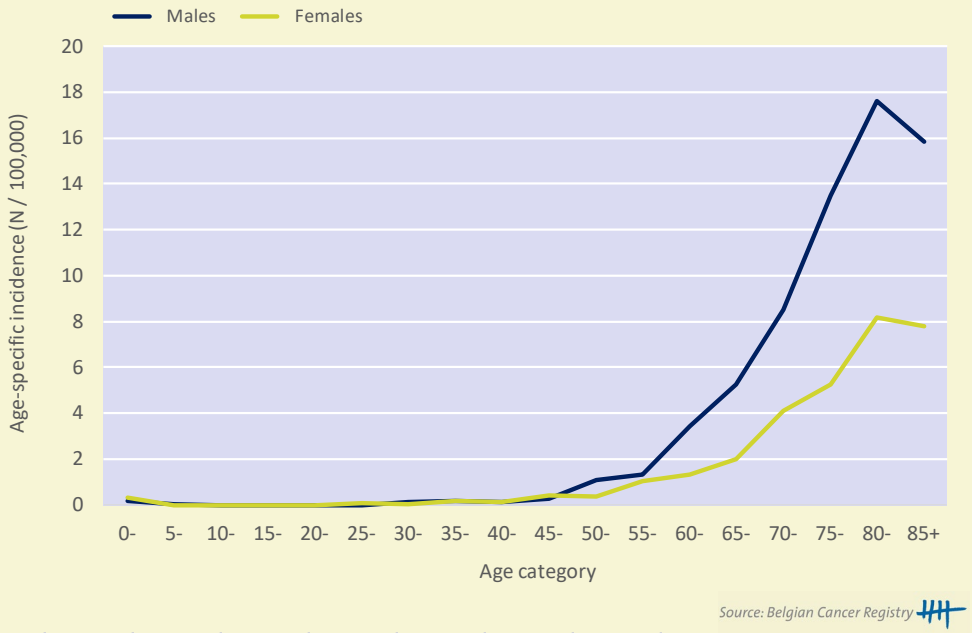


Figure 2 Myelodysplastic/myeloproliferative neoplasms: Incidence by subtype and age group, Belgium 2013-2018

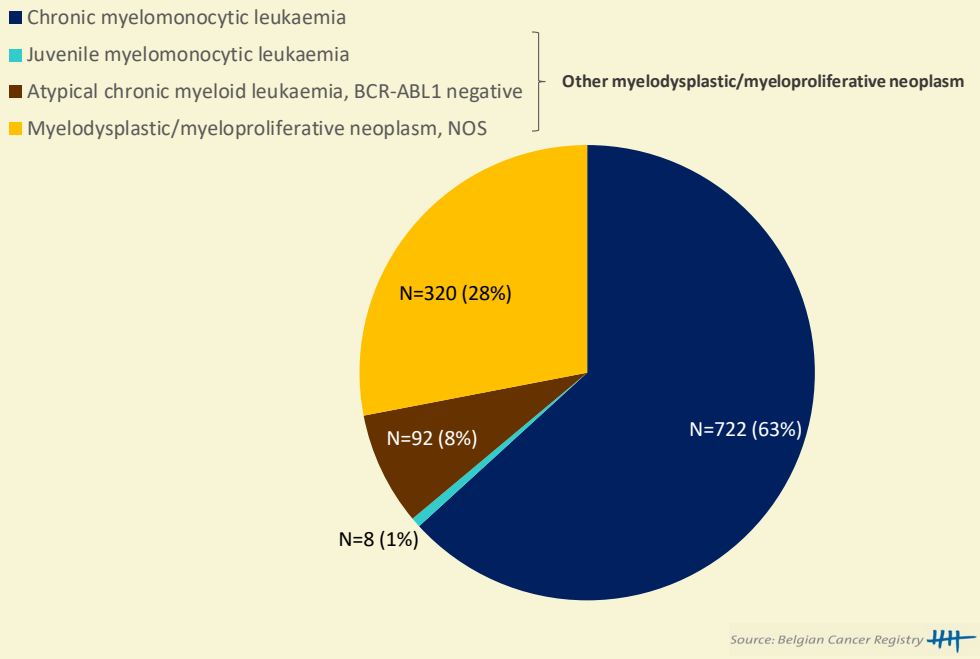


Figure 3 Myelodysplastic/myeloproliferative neoplasms: Age-specific incidence rates (N/100,000) by subtype, Belgium 2013-2018

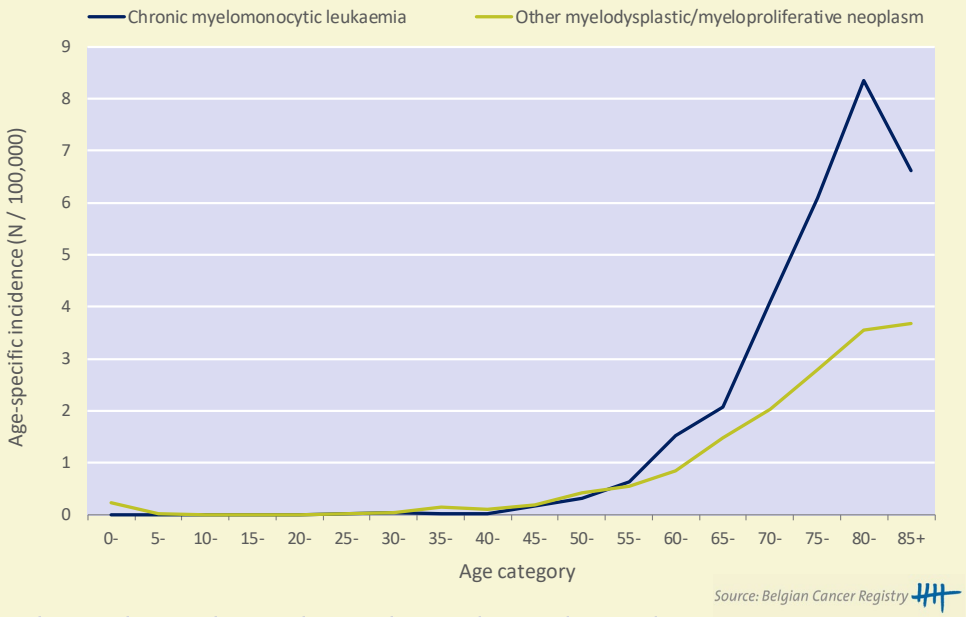
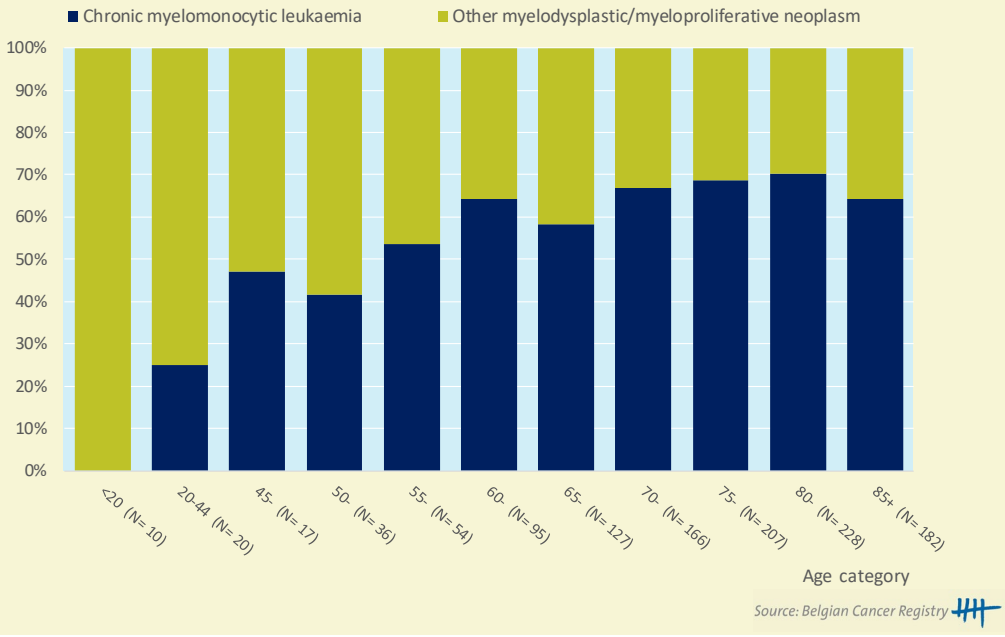
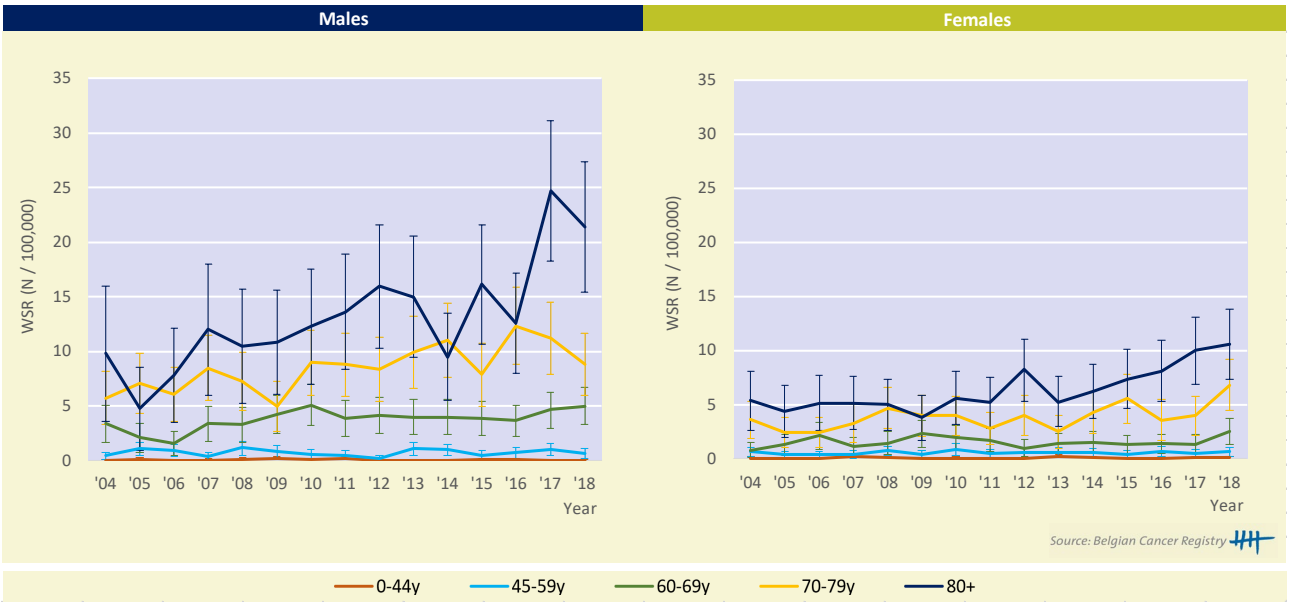


Figure 4 Myelodysplastic/myeloproliferative neoplasms: Incidence by subtype and age group, Belgium 2013-2018



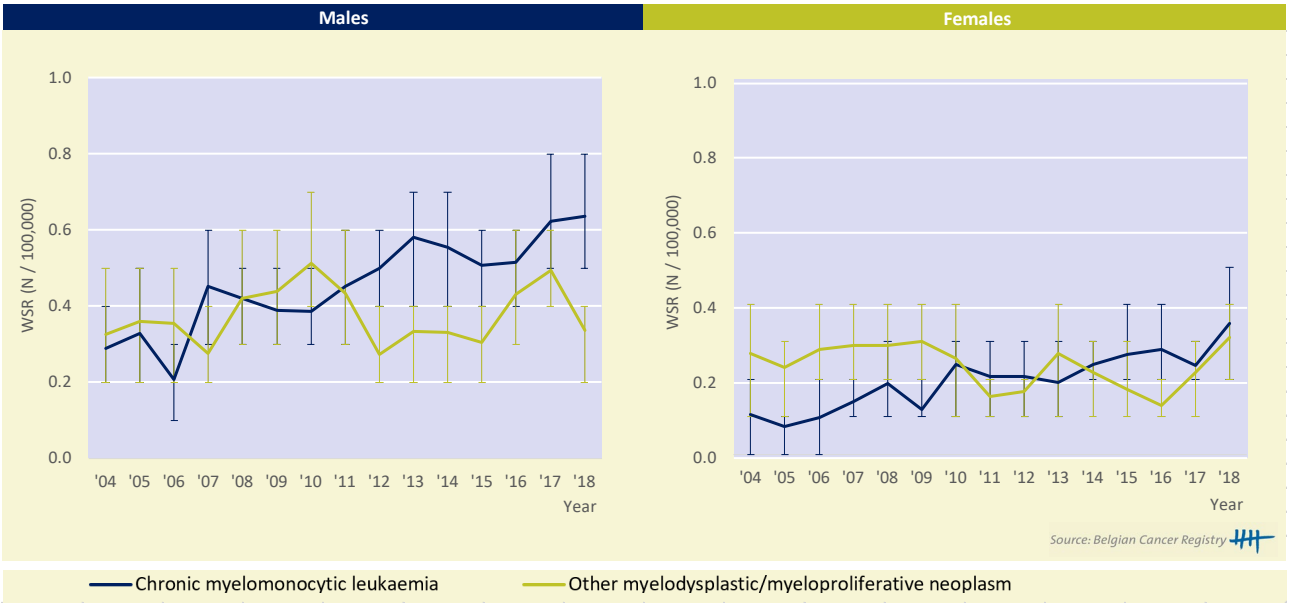
Incidence trends

Figure 5 Myelodysplastic/myeloproliferative neoplasms:
Age-standardised incidence rates* (WSR) by sex and age group, Belgium 2004-2018



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

Figure 6 Myelodysplastic/myeloproliferative neoplasms:
Age-standardised incidence rates* (WSR) by sex and subtype, Belgium 2004-2018



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

Table 2 Myelodysplastic/myeloproliferative neoplasms: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 44 yrs	-2.8	[-10.3; 5.2]	2004-2018	-1.4	[-9.5; 7.5]	2004-2018
45 - 59 yrs	0.2	[-5.8; 6.6]	2004-2018	1.6	[-1.8; 5.0]	2004-2018
60 - 69 yrs	4.5	[1.2; 7.9]	2004-2018	1.9	[-2.1; 6.0]	2004-2018
70 - 79 yrs	4.2	[1.8; 6.7]	2004-2018	3.7	[0.3; 7.2]	2004-2018
80+	7.2	[3.7; 10.9]	2004-2018	4.9	[2.8; 7.0]	2004-2018
				-2.5	[-8.4; 3.9]	2004-2009
				9.2	[5.7; 12.8]	2009-2018
Incidence by subtype	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
Chronic myelomonocytic leukaemia	6.0	[3.7; 8.3]	2004-2018	9.1	[6.2; 12.0]	2004-2018
Other myelodysplastic/myeloproliferative neoplasm	0.6	[-2.0; 3.3]	2004-2018	-2.4	[-5.6; 1.0]	2004-2018

Source: Belgian Cancer Registry

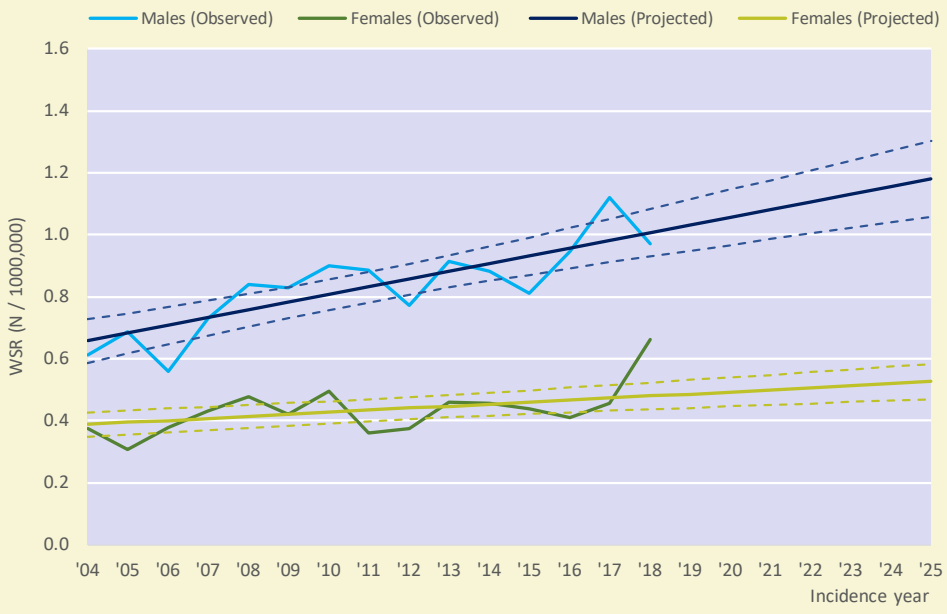
AAPC: average annual percentage change

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.

Incidence projections

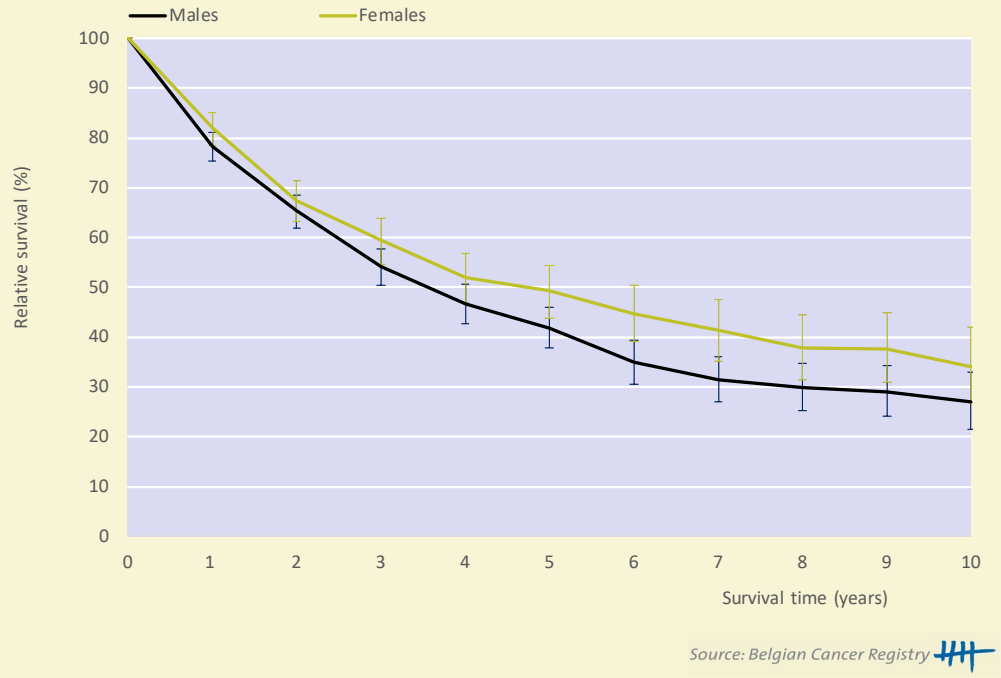
Figure 7 Myelodysplastic/myeloproliferative neoplasms: Observed and projected incidence (WSR) by sex, Belgium 2004-2025



Source: Belgian Cancer Registry

Survival

Figure 8 Myelodysplastic/myeloproliferative neoplasms: Relative survival* by sex, Belgium 2009-2018



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

Figure 9 Myelodysplastic/myeloproliferative neoplasms: Age-specific 5-year relative survival* by sex, Belgium 2009-2018

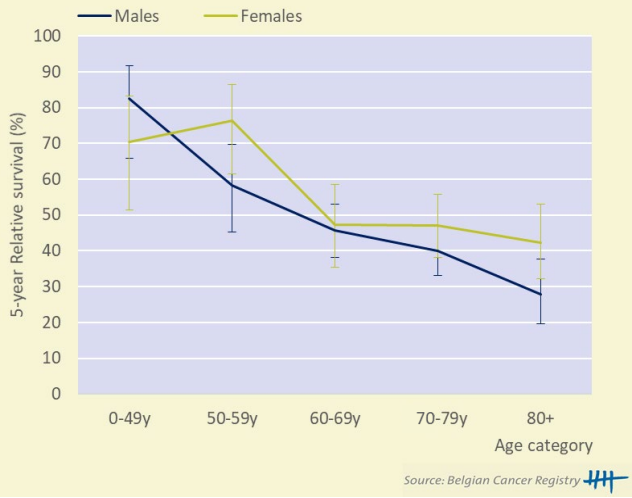
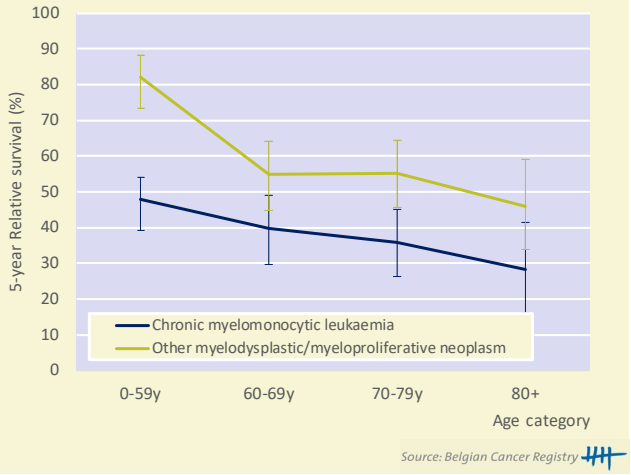


Figure 10 Myelodysplastic/myeloproliferative neoplasms: Age-specific 5-year relative survival* by subtype, Belgium 2009-2018



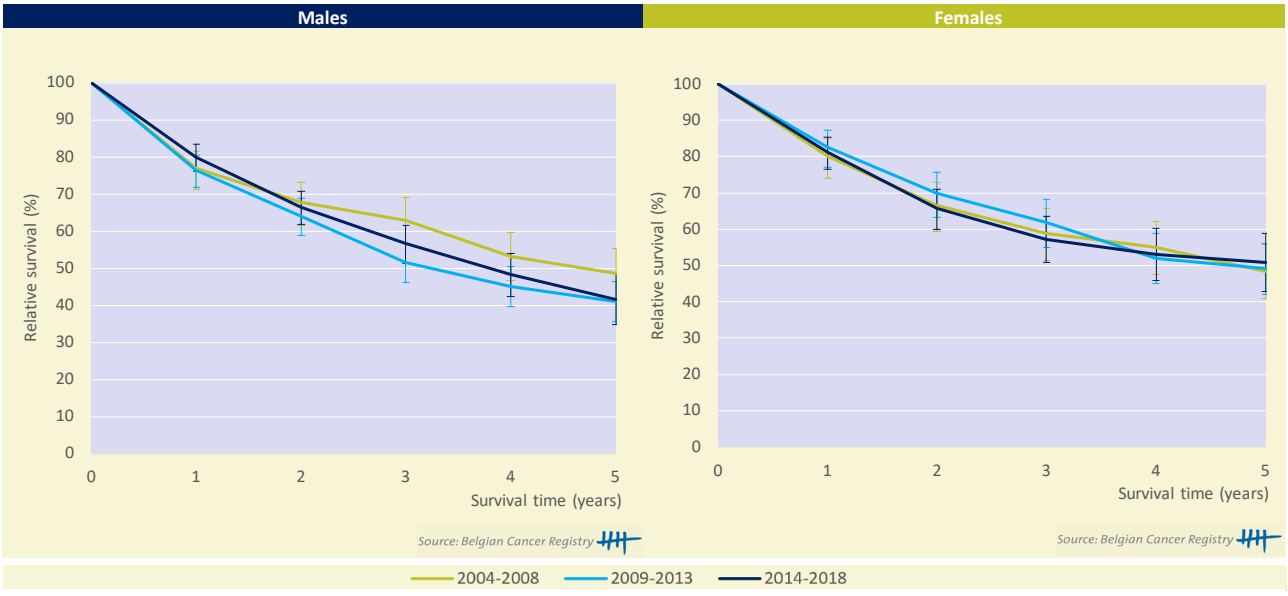
* The relative survival values are represented with 95% Confidence Intervals

Table 3 Myelodysplastic/myeloproliferative neoplasms: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)		
	Males	
X years since diagnosis	N at risk	%
1 year	782	44.5
2 year	568	48.1
3 year	369	55.1
	Females	
X years since diagnosis	N at risk	%
1 year	515	54.6
2 year	361	61.2
3 year	257	63.6

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

Survival trends

Figure 11 Myelodysplastic/myeloproliferative neoplasms: Relative survival* by cohort and sex, Belgium 2004-2018



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

3.4 HISTIOCYTIC AND DENDRITIC CELL NEOPLASMS

KEYNOTES

Incidence (Table 1-2; Figure 1-2)

- Histiocytic and dendritic cell neoplasms are considerably more frequent in males than in females (male/female ratio: 3.6) and occur most often in children below age 10.
- Between 2004 and 2018 the incidence rate of histiocytic and dendritic cell neoplasms increases in the age group 15+ with an AAPC of 9% in males and 5.9% in females.

Survival (Table 3; Figure 3-5)

- The 10-year relative survival is 74% in males and 77% in females.
- The 5-year relative survival varies with age and ranges from more than 90% in age groups below age 50 to approximately 35% in the age group 70+.
- Considering both sexes together, the trends of the 5-year relative survival suggest an improvement over time from 74% in 2004-2008 to 84% in 2014-2018.

** All results presented for " Histiocytic and dendritic cell neoplasms " also include the subtypes "Langerhans cell histiocytosis, polystotic and monostotic", which are characterised by uncertain behaviour (see methodology).*

Table 1 Histiocytic and dendritic cell neoplasms: Overview of incidence, prevalence and survival by sex in Belgium

	Males		
Incidence	N	CR	WSR
Incidence, 2018	29	0.5	0.6
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	113	2.0	2.5
Prevalence (10 years), 2009-2018	185	3.3	4.1
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	85	80.6	[66.3;90.2]
10-year Relative survival, 2009-2018	132	74.0	[59.4;85.4]
	Females		
Incidence	N	CR	WSR
Incidence, 2018	13	0.2	0.2
Prevalence	N	CR	WSR
Prevalence (5 years), 2014-2018	77	1.3	1.5
Prevalence (10 years), 2009-2018	147	2.5	3.0
Relative survival	N at risk	%	95%CI
5-year Relative survival, 2014-2018	65	88.2	[75.0;95.5]
10-year Relative survival, 2009-2018	114	76.7	[63.9;86.1]
Median age at diagnosis, 2018	40		
M/F-ratio, 2018	3.6		

Source: Belgian Cancer Registry

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

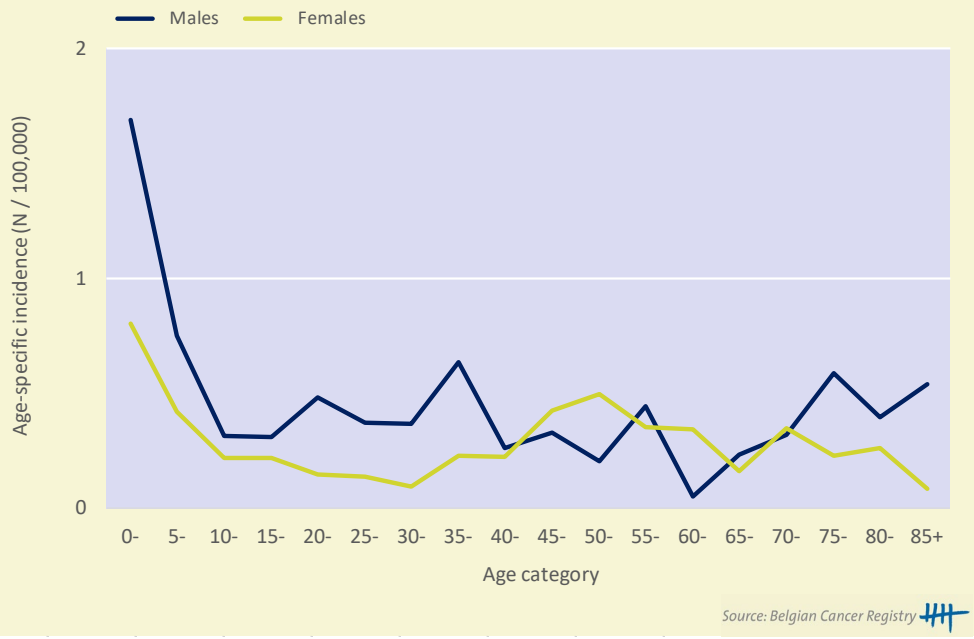
WSR: age-standardised rate using the World Standard Population (N/100,000 person years)

M/F-ratio: Male/Female ratio based on the age-standardised rates

Relative survival is calculated for the age group 15+ (see methodology).

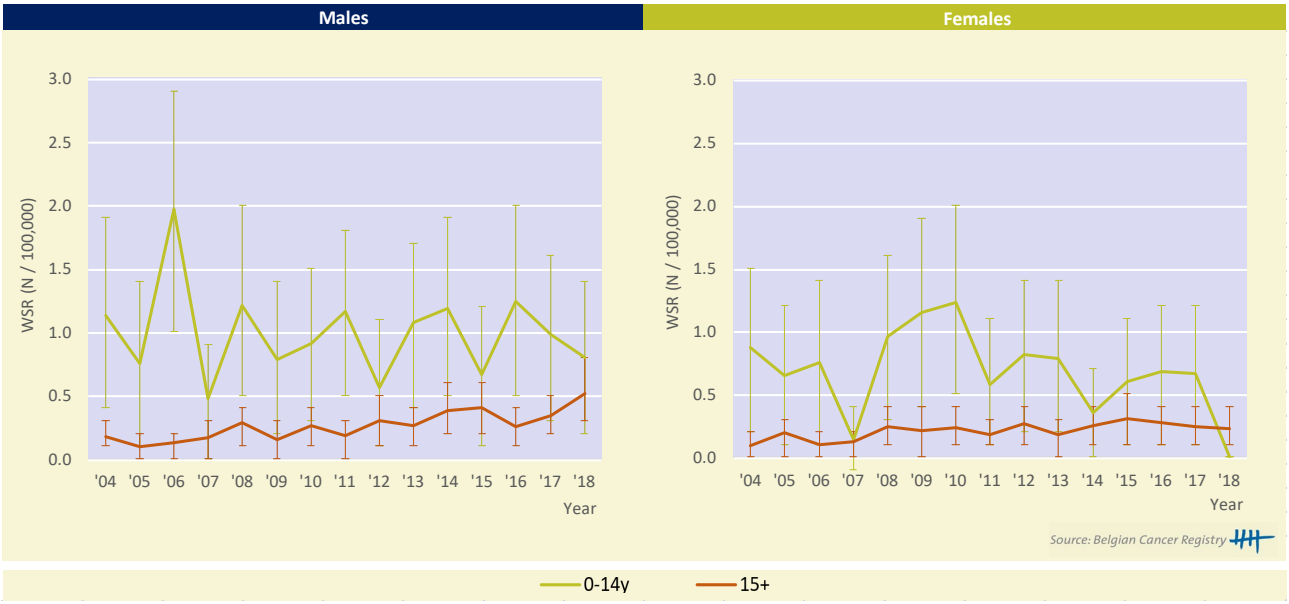
Incidence

Figure 1 Histiocytic and dendritic cell neoplasms: Age-specific incidence rates (N/100,000) by sex, Belgium 2013-2018



Incidence trends

Figure 2 Histiocytic and dendritic cell neoplasms: Age-standardised incidence rates*(WSR) by sex and age group, Belgium 2004-2018



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

Table 2 Histiocytic and dendritic cell neoplasms: AAPC(%) by sex, age group and subtype in Belgium

	Males			Females		
Incidence by age group	AAPC (%)	95%CI	Period	AAPC (%)	95%CI	Period
0 - 14 yrs	-0.6	[-5.2; 4.2]	2004-2018	-	-	-
15+	9.0	[5.2; 12.9]	2004-2018	5.9	[2.3; 9.6]	2004-2018

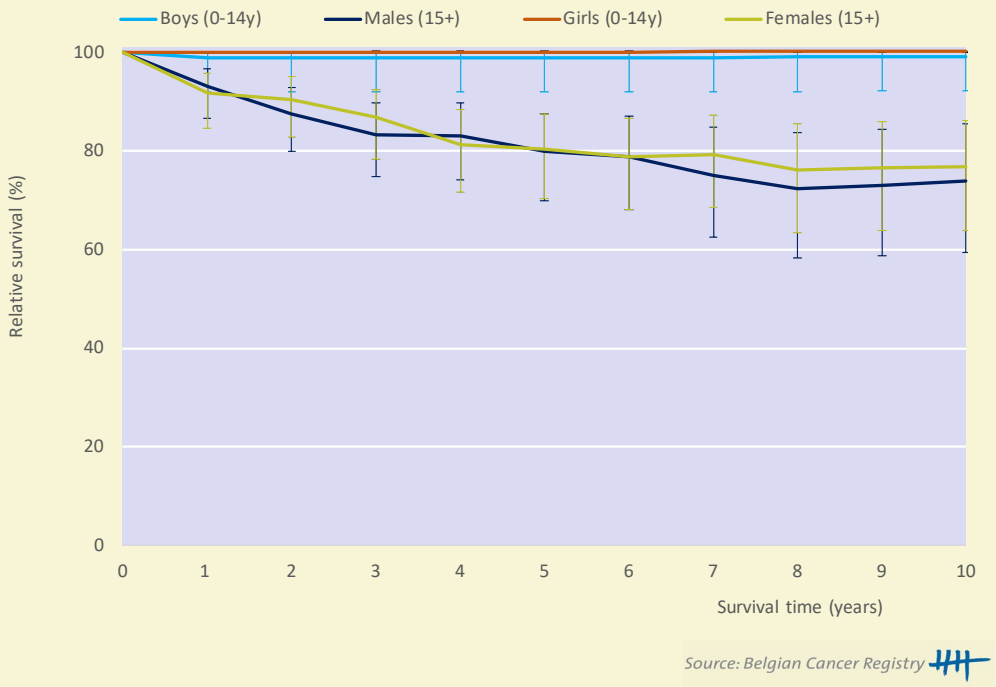
Source: Belgian Cancer Registry

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.

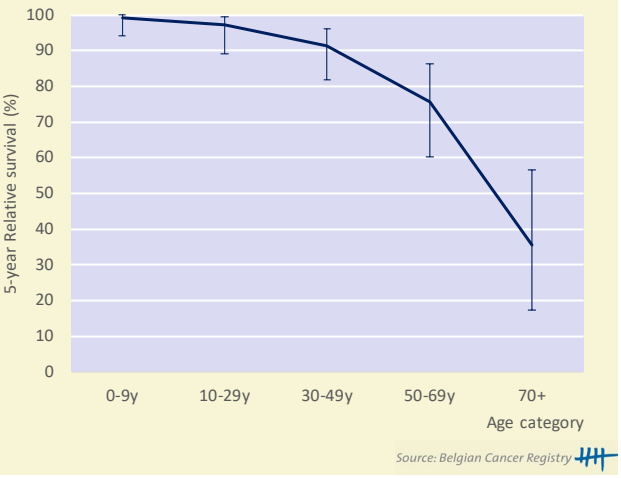
Survival

Figure 3 Histiocytic and dendritic cell neoplasms: Relative survival* by sex and age group, Belgium 2009-2018



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

Figure 4 Histiocytic and dendritic cell neoplasms: Age-specific 5-year relative survival* , Belgium 2009-2018



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

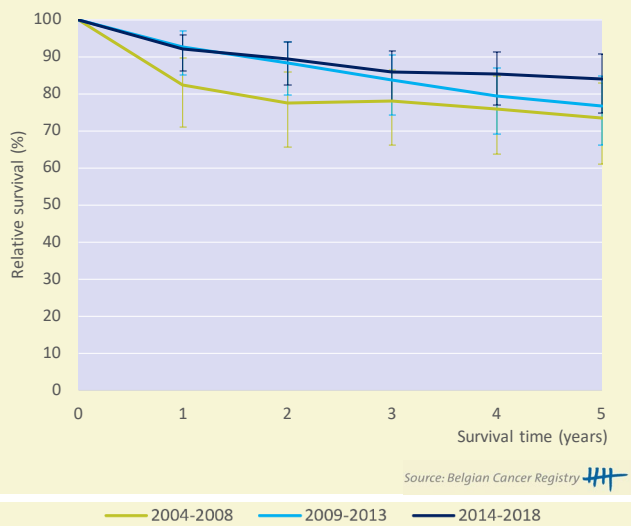
Table 3 Histiocytic and dendritic cell neoplasms: Conditional 5-year relative survival* by sex (Belgium, 2009-2018)		
	Males	
X years since diagnosis	N at risk	%
1 year	120	84.8
2 year	96	85.8
3 year	75	86.8
	Females	
X years since diagnosis	N at risk	%
1 year	103	85.9
2 year	92	87.6
3 year	77	87.8

** Unadjusted 5-yr relative survival probability conditional on surviving the first X years since diagnosis, %*
** Interpretation in lay-man's terms: Given that a patient has already survived X years, what is the relative survival probability 5 years later.*

** Relative survival is calculated for the age group 15+ (see methodology).*

Survival trends

Figure 5 Histiocytic and dendritic cell neoplasms: Relative survival* by cohort, Belgium 2004-2018



** The relative survival values are represented with 95% Confidence Intervals.*
** Relative survival is calculated for the age group 15+ (see methodology).*

REFERENCE LIST

REFERENCE LIST

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APPENDIX I

PROSPECTIVE CLASSIFICATION OF HAEMATOLOGICAL MALIGNANCIES TO BE USED FROM 2020

APPENDIX I

Classification of haematological malignancies based on ICD-O-3.2 (to be used for new registrations from 2020)

Haematological malignancies with malignant behaviour /3	Classification ICD-O-3.2	Topography and grade
Mature lymphoid neoplasms		
Hodgkin lymphomas		
Hodgkin lymphoma, nodular lymphocyte predominant	9659/3	
Classical Hodgkin lymphoma		
Hodgkin lymphoma, nodular sclerosis, NOS	9663/3	
Hodgkin lymphoma, nodular sclerosis, cellular phase	9664/3	
Hodgkin lymphoma, nodular sclerosis, grade 1	9665/3	
Hodgkin lymphoma, nodular sclerosis, grade 2	9667/3	
Hodgkin lymphoma, mixed cellularity	9652/3	
Hodgkin lymphoma, lymphocyte-rich	9651/3	
Hodgkin lymphoma, lymphocyte depletion	9653/3	
Hodgkin lymphoma, NOS	9650/3 *(This code should be avoided)*	
Mature non-Hodgkin B-cell neoplasms		
Mature B-cell leukaemias and related lymphomas		
B-cell chronic lymphocytic leukaemia / small lymphocytic lymphoma	9823/3	Distinction between leukaemia and lymphoma with topography.[i]
Other mature B-cell leukaemias		
B-cell prolymphocytic leukaemia	9833/3	
Hairy cell leukaemia	9940/3	
Immunoproliferative diseases		
Waldenström macroglobulinemia	9761/3	C42.0
Lymphoplasmacytic lymphoma	9671/3	
Heavy chain disease, NOS *(This code also includes Mu or Gamma or Alpha heavy chain disease)*	9762/3	
Immunoproliferative small intestinal disease	9764/3	
Immunoproliferative disease, NOS	9760/3 *(This code should be avoided)*	
Plasma cell neoplasms		
Plasma cell myeloma	9732/3	
Plasma cell leukaemia	9733/3	
Plasmacytoma, NOS *(This code also includes Solitary plasmacytoma of bone)*	9731/3	C40._-C41._
Plasmacytoma, extramedullary	9734/3	
Marginal zone lymphomas		
Splenic marginal zone lymphoma *(This code also includes splenic lymphoma with villous lymphocytes)*	9689/3	C42.2
Other marginal zone lymphoma (nodal / extranodal) *(This code also includes Mucosal-associated lymphoid tissue (MALT) lymphoma* *Broncus-associated lymphoid tissue (BALT) lymphoma* *Skin-associated lymphoid tissue (SALT) lymphoma* *Extranodal marginal zone lymphoma* *Nodal marginal zone lymphoma* *Primary choroidal lymphoma)*	9699/3	C69.3 for primary choroidal lymphoma
Follicular lymphoma and related lymphoma		
Follicular lymphoma		
Follicular lymphoma, NOS *(This code also includes Follicular lymphoma, paediatric type and* *Follicular lymphoma, testicular type)*	9690/3	C62.9 for follicular lymphoma, testicular type
Follicular lymphoma, grade 1 *(This code also includes Follicular lymphoma, duodenal type)*	9695/3	C17.0 for Follicular lymphoma, duodenal type
Follicular lymphoma, grade 2	9691/3	
Follicular lymphoma, grade 3A or Follicular lymphoma, grade 3B *(This code also includes Large B-cell lymphoma with IRF4 rearrangement)*	9698/3	
Primary cutaneous follicle centre lymphoma	9597/3	C44._
Mantle cell lymphoma	9673/3	
Diffuse large B-cell lymphoma and related large B-cell lymphomas		
Diffuse large B-cell lymphoma (DLBCL), NOS *(This code also includes DLBCL germinal centre B-cell (GCB) subtype,* *DLBCL activated B-cell (ABC) subtype,* *Primary DLBCL of CNS,* *Primary cutaneous DLBCL, leg type,* *Vitroretinal lymphoma,* *EBV-positive DLBCL,* *DLBCL associated with chronic inflammation* *High grade B-cell lymphoma with MYC and BCL2 and/or BCL6 rearrangements* *High grade B-cell lymphoma, NOS)*	9680/3	C70._-C71._-C72._ for primary DLBCL of CNS Primary cutaneous DLBCL, leg type can have another location than the leg (C44.7) C69 for vitroretinal lymphoma
Other related large B-cell lymphomas		
T-cell/histiocyte rich large B-cell lymphoma	9688/3	
Primary mediastinal large B-cell lymphoma	9679/3	C38.3
ALK-positive large B-cell lymphoma	9737/3	
Lymphomatoid granulomatosis, grade 3	9766/3	
Intravascular large B-cell lymphoma	9712/3	C49._
Primary effusion lymphoma	9678/3	
Plasmablastic lymphoma	9735/3	
HHV8-positive diffuse large B-cell lymphoma	9738/3	
Burkitt lymphoma / leukaemia *(This code also includes Burkitt-like lymphoma with 11q aberration)*	9687/3	Distinction between leukaemia and lymphoma with topography.[i]
Mature T-cell and NK-cell neoplasms		
Primary cutaneous T-cell lymphomas		
Mycosis fungoïdes / Sézary syndrome		
Mycosis fungoides	9700/3	
Sézary syndrome	9701/3	
Other primary cutaneous T-cell lymphoma		
Primary cutaneous anaplastic large cell lymphoma	9718/3	C44._
Primary cutaneous γδ T-cell lymphoma	9726/3	C44._
Cutaneous T-cell lymphoma, NOS *(This code also includes* *Primary cutaneous CD8 - positive aggressive epidermotropic cytotoxic T-cell lymphoma and* *Primary cutaneous acral CD8 - positive T-cell lymphoma)*	9709/3	C44._

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Classification of haematological malignancies based on ICD-O-3.2 (to be used for new registrations from 2020)

Haematological malignancies with malignant behaviour /3	Classification ICD-O-3.2	Topography and grade
Mature T-cell and NK-cell neoplasms *(continued)*		
Peripheral NK/T-cell lymphomas		
Nodal PNK/TCL		
Peripheral NK/T-cell lymphoma, NOS *(This code also includes Follicular T-cell lymphoma, Nodal peripheral T-cell lymphoma with T follicular helper phenotype, lymphoepithelioid lymphoma, Peripheral T-cell lymphoma, NOS or Mature T-cell lymphoma, NOS)*	9702/3	
Anaplastic large cell lymphoma, ALK-positive *(This code also includes ALCL, NOS (ALK not tested))*	9714/3	
Anaplastic large cell lymphoma, ALK-negative *(This code also includes Breast implant-associated anaplastic large cell lymphoma)*	9715/3	C50._ for Breast implant-associated anaplastic large cell lymphoma
Angioimmunoblastic T-cell lymphoma	9705/3	
Leukaemic PNK/TCL		
T-cell prolymphocytic leukaemia	9834/3	
Adult T-cell leukaemia / lymphoma (HTLV1 positive)	9827/3	
T-cell large granular lymphocytic leukaemia *(This code also includes chronic lymphoproliferative disorder of NK cells)*	9831/3	
Systemic EBV-positive T-cell lymphoproliferative disease of childhood	9724/3	
Aggressive NK-cell leukaemia	9948/3	
Extra-nodal PNK/TCL		
Hepatosplenic T-cell lymphoma	9716/3	
Intestinal T-cell lymphoma *(This code also includes Enteropathy-associated T-cell lymphoma (EATCL) and Monomorphic epitheliotropic intestinal T-cell lymphoma (MEITCL))*	9717/3	
Extranodal NK/T-cell lymphoma, nasal and nasal-type	9719/3	
Subcutaneous panniculitis-like T-cell lymphoma	9708/3	
Other lymphoid neoplasms		
B-cell lymphoma, unclassifiable, with features intermediate between DLBCL and classical Hodgkin lymphoma	9596/3	
Lymphoid neoplasms, NOS		
Malignant lymphoma, NOS	9590/3 *(This code should be avoided)*	Grade and topography should be specified.
Malignant lymphoma, non-Hodgkin, NOS *(This code also includes Hairy cell leukaemia variant, Splenic B-cell lymphoma/leukaemia, unclassifiable and Splenic diffuse red pulp small B-cell lymphoma)*	9591/3 *(This code should be avoided)*	Grade and topography should be specified.
Lymphoid leukaemia, NOS	9820/3 *(This code should be avoided)*	Grade should be specified.
Prolymphocytic leukaemia, NOS	9832/3 (*This code should be avoided)*	Grade should be specified.
Precursor neoplasms		
Precursor lymphoid neoplasms (PLN) or lymphoblastic leukaemia / lymphoma		
B-cell PLN or lymphoblastic leukaemia / lymphoma		
B-cell PLN with recurrent genetic abnormalities		
B-cell PLN with t(9;22)(q34.1;q11.2); *BCR-ABL1*	9812/3	Distinction between leukaemia and lymphoma with topography.
B-cell PLN with t(v;11q23.3); *KMT2A* rearranged	9813/3	Distinction between leukaemia and lymphoma with topography.
B-cell PLN with t(12;21)(p13.2;q22.1); *ETV6-RUNX1*	9814/3	Distinction between leukaemia and lymphoma with topography.
B-cell PLN with Hyperdiploidy	9815/3	Distinction between leukaemia and lymphoma with topography.
B-cell PLN with Hypodiploidy	9816/3	Distinction between leukaemia and lymphoma with topography.
B-cell PLN with t(5;14)(q31.1;q32.1); *IGH-IL3*	9817/3	Distinction between leukaemia and lymphoma with topography.
B-cell PLN with t(1;19)(q23;p13.3); *TCF3-PBX1*	9818/3	Distinction between leukaemia and lymphoma with topography.
B-cell PLN, BCR-ABL1-like	9819/3	Distinction between leukaemia and lymphoma with topography.
B-cell PLN or lymphoblastic leukaemia / lymphoma, NOS *(This code also includes B lymphoblastic leukaemia/lymphoma with iAMP21)*	9811/3	Distinction between leukaemia and lymphoma with topography.
T-cell and NK-cell PLN or lymphoblastic leukaemia / lymphoma	9837/3	Distinction between leukaemia and lymphoma with topography.
PLN or lymphoblastic leukaemia / lymphoma, NOS and related neoplasms		Distinction between leukaemia and lymphoma with topography.
Blastic plasmacytoid dendritic cell neoplasm *(This code also includes Precursor cell lymphoblastic lymphoma, NOS)*	9727/3	Grade and topography should be specified.
Precursor cell lymphoblastic leukaemia, NOS	9835/3 *(This code should be avoided)*	*Grade should be specified.*
Acute myeloid leukaemias and related precursor neoplasms		
Acute myeloid leukaemias with recurrent genetic abnormalities		
AML with t(8;21)(q22;q22.1); *RUNX1-RUNX1T1*	9896/3	
AML with inv/t(16;16)(p13.1;q22); *CBFB-MYH11*	9871/3	
Acute promyelocytic leukaemia with t(15;17)(q22;q11-q12) or variant *RARA* translocation	9866/3	
AML with t(v;11q23.3); *KMT2A* rearranged	9897/3	
AML with t(6;9)(p23;q34.1); *DEK-NUP214*	9865/3	
AML with inv/t(3;3)(q21.3;q26.2); *GATA2, MECOM*	9869/3	
AML with t(1;22)(p13.3;q13.1); *RBM15-MKL1*	9911/3	
AML with with t(9;22)(q34.1;q11.2); *BCR-ABL1*	9912/3	
AML with mutated *NPM1*	9877/3	
AML with biallelic mutation of *CEBPA*	9878/3	
AML with mutated *RUNX1*	9879/3	
Acute myeloid leukaemias with specific conditions		
AML with myelodysplasia-related changes	9895/3	
Therapy-related myeloid neoplasm	9920/3	
Myeloid leukaemia associated with Down syndrome	9898/3	
Other AML and related precursor neoplasms		
Other AML according to the FAB classification		
AML with minimal differentiation (FAB M0)	9872/3	
AML without maturation (FAB M1)	9873/3	
AML with maturation (FAB M2)	9874/3	
Acute myelomonocytic leukaemia (FAB M4)	9867/3	
Acute monocytic leukaemia (FAB M5)	9891/3	
Acute erythroid leukaemia (FAB M6)	9840/3	
Acute megakaryoblastic leukaemia (FAB M7)	9910/3	
Acute basophilic leukaemia	9870/3	
Other related myeloid precursor neoplasms		
Acute panmyelosis with myelofibrosis	9931/3	
Myeloid sarcoma	9930/3	Topography should be specified (Never use C42.1).
Acute myeloid leukaemias, NOS	9861/3 *(This code should be avoided)*	

Appendix I

Classification of haematological malignancies based on ICD-O-3.2 (to be used for new registrations from 2020)

Haematological malignancies with malignant behaviour /3	Classification ICD-O-3.2	Topography and grade
Precursor neoplasms *(continued)*		
Acute leukaemias of ambiguous lineage		
Acute undifferentiated leukaemia *(This code also includes Acute leukaemia, NOS)*	9801/3	
Mixed phenotype acute leukaemia with t(9;22)(q34.1;q11.2); *BCR-ABL1*	9806/3	
Mixed phenotype acute leukaemia with t(v;11q23.3); *KMT2A* rearranged	9807/3	
Mixed phenotype acute leukaemia B/myeloid, NOS	9808/3	
Mixed phenotype acute leukaemia T/myeloid, NOS	9809/3	
Acute biphenotypic leukaemia, NOS	9805/3 *(This code should be avoided)*	
Chronic myeloid neoplasms		
Myeloproliferative neoplasms		
Chronic myeloid leukaemia		
Chronic myeloid leukaemia; t(9;22)(q34;q11); *BCR-ABL1* positive	9875/3	
Chronic myeloid leukaemia, NOS	9863/3 *(This code should be avoided)*	
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms		
Polycythaemia vera	9950/3	
Essential thrombocythaemia	9962/3	
Primary myelofibrosis	9961/3	
Other MPN and related neoplasms		
Chronic neutrophilic leukaemia	9963/3	
Myeloid/lymphoid neoplasm with *PDGFRA* rearrangement	9965/3	
Myeloid neoplasm with *PDGFRB* rearrangement	9966/3	
Myeloid/lymphoid neoplasm with *FGFR1* abnormalities	9967/3	
Myeloid/lymphoid neoplasm with *PCM1-JAK2*	9968/3	
Chronic eosinophilic leukaemia, NOS	9964/3	
Myeloproliferative neoplasm, NOS	9960/3 *(This code should be avoided)*	
Mast cell neoplasms		
Malignant mastocytosis *(This code also includes Systemic mastocytosis with an associated haematological neoplasm Aggressive systemic mastocytosis)*	9741/3	
Mast cell leukaemia	9742/3	
Mast cell sarcoma	9740/3	
Myelodysplastic syndrome		
Myelodysplastic syndrome (MDS) with single or multilineage dysplasia		
MDS with single lineage dysplasia *(This code also includes Refractory anaemia -without sideroblasts-, Refractory neutropenia, Refractory thrombocytopenia)*	9980/3	
MDS with multilineage dysplasia *(This code also includes Refractory cytopenia of childhood)*	9985/3	
MDS with ring sideroblasts		
MDS with ring sideroblasts and single lineage dysplasia *(This code also includes Refractory anemia with ring sideroblasts associated with marked thrombocytosis Myelodysplastic/myeloproliferative neoplasm with ring sideroblasts and thrombocytosis MDS with ring sideroblasts, NOS)*	9982/3	
MDS with ring sideroblasts and multilineage dysplasia	9993/3	
MDS with excess blasts	9983/3	
MDS with isolated del(5q)	9986/3	
MDS, NOS	9989/3	
Myelodysplastic/myeloproliferative neoplasms		
Chronic myelomonocytic leukaemia	9945/3	
Other myelodysplastic/myeloproliferative neoplasm		
Juvenile myelomonocytic leukaemia	9946/3	
Atypical chronic myeloid leukaemia, *BCR-ABL1* negative	9876/3	
Myelodysplastic/myeloproliferative neoplasm, unclassifiable *(This code also includes Myeloproliferative neoplasm, unclassifiable)*	9975/3 *(This code should be avoided)*	
Other leukaemias, NOS		
Myeloid leukaemia, NOS	9860/3 *(This code should be avoided)*	
Leukaemia, NOS	9800/3 *(This code should be avoided)*	
Histiocytic and dendritic cell neoplasms		
Langerhans cell histiocytosis, disseminated	9751/3	
Langerhans cell sarcoma	9756/3	
Histiocytic sarcoma	9755/3	
Dendritic cell tumour *(This code also includes Indeterminate dendritic cell tumour and Interdigitating dendritic cell sarcoma)*	9757/3	
Follicular dendritic cell sarcoma	9758/3	
Fibroblastic reticular cell tumour	9759/3	
Erdheim-Chester disease	9749/3	
Malignant histiocytosis, NOS	9750/3 *(This code should be avoided)*	

APPENDIX I

Classification of haematological malignancies based on ICD-O-3.2 (to be used for new registrations from 2020)

Haematological malignancies with associated conditions	Classification ICD-O-3.2
Myeloid neoplasms with germline predisposition	To be classified according to the neoplasm to which they correspond with the respective ICD-O-3 code
Myeloid neoplasms with germline predisposition without a pre-existing disorder or organ dysfunction	
AML with germline *CEBPA* mutation	
Myeloid neoplasms with germline *DDX41* mutation	
Myeloid neoplasms with germline predisposition and pre-existing platelet disorders	
Myeloid neoplasms with germline *RUNX1* mutation	
Myeloid neoplasms with germline *ANKRD26* mutation	
Myeloid neoplasms with germline ETV6 mutation	
Myeloid neoplasms with germline predisposition associated with other organ dysfunction	
Myeloid neoplasms with germline GATA2 mutation	
Myeloid neoplasms with germline predisposition associated with inherited bone marrow failure syndromes and telomere biology disorders	
Immunodeficiency-associated lymphoproliferative disorders	
Lymphoproliferative diseases associated with primary immune disorders (PID)	
Lymphomas associated with HIV infection	
Post-transplant lymphoproliferative disorders (PTLD), Monomorphic	
Other iatrogenic immunodeficiency-associated lymphoproliferative disorders	

Haematological disorders with uncertain behaviour /1	Classification ICD-O-3.2	Topography
Mature lymphoid disorders		
Mature B-cell disorders		
Monoclonal B-cell lymphocytosis, CLL type	9823/1	
Monoclonal B-cell lymphocytosis, NOS / non-CLL-type	9591/1	
Non-IgM monoclonal gammopathy of undetermined significance *(This code also includes monoclonal gammopathy of undetermined significance, NOS)*	9765/1	
IgM monoclonal gammopathy of undetermined significance	9761/1	
Immunoglobulin deposition disease / Primary amyloidosis / Systemic light chain disease	9769/1	
In situ follicular neoplasia	9695/1	
In situ mantle cell neoplasia	9673/1	
EBV positive mucocutaneous ulcer	9680/1	
Angiocentric immunoproliferative lesion / Lymphomatoid granulomatosis, NOS (grade 1 or grade 2)	9766/1	
Polymorphic post-transplant lymphoproliferative disorder, NOS	9971/1	
Lymphoproliferative disorder, NOS	9970/1	
Mature T-cell and NK-cell disorders		
Hydroa vacciniforme-like lymphoproliferative disorder	9725/1	
Angioimmunoblastic lymphadenopathy	9767/1	
Indolent T-cell lymphoproliferative disorder of gastrointestinal tract	9702/1	
Primary cutaneous CD30 positive T-cell lymphoproliferative disorder/ Lymphomatoid papulosis	9718/1	(C44._)
Primary cutaneous CD4 positive small/medium T-cell lymphoproliferative disorder	9709/1	(C44._)
T-gamma lymphoproliferative disease	9768/1	
Chronic myeloid disorders		
Transient abnormal myelopoiesis associated with Down syndrome	9898/1	
Mastocytoma, NOS	9740/1	
Indolent systemic mastocytosis	9741/1	
Histiocytic and dendritic cell disorders		
Langerhans cell histiocytosis, NOS / monostotic / polystotic	9751/1	

[i] *For the correct classification of the following malignancies, additional inclusion criteria are applied based on topography:*

- *The ICD-O-3 histology codes corresponding with "B-cell chronic lymphocytic leukaemia", "Burkitt leukaemia" and "lymphoblastic leukaemia" are combined with topography code C42.1.*
- *The ICD-O-3 histology codes corresponding with "Small lymphocytic lymphoma", "Burkitt lymphoma" and "lymphoblastic lymphoma" are combined with all topography codes other than C42.0-C42.1.*

Codes and / or names in grey correspond with entities to be avoided in favour of a more specific code.

The other ICD-O-3 codes which are not mentioned in this list should not be used for registration of new diagnoses of haematological malignancies.

Appendix II

Number of new diagnoses (n), age-specific and age-standardised incidence (n/100,000) of haematological malignancies in 2018 by sex, histological subtype and region

Belgium: Number of new diagnoses (N), age-specific and age-standardised incidence (N/100,000) of haematological malignancies in males in 2018 by histological subtype

	Number of new diagnoses (N)							Age-specific incidence (N/100,000)						CR	ESR	WSR	CRi
	Total	0-14y	15-29y	30-44y	45-59y	60-74y	75+	0-14y	15-29y	30-44y	45-59y	60-74y	75+				
Mature lymphoid neoplasms	2,640	32	71	151	444	1,093	849	3.2	6.9	13.7	37.1	124.3	213.7	47.2	35.4	25.4	2.82
Hodgkin lymphomas	202	16	55	43	35	34	19	1.6	5.3	3.9	2.9	3.9	4.8	3.6	3.5	3.4	0.26
Hodgkin lymphoma, nodular lymphocyte predominant	14	1	6	2	4	-	1	0.1	0.6	0.2	0.3	-	0.3	0.3	0.3	0.3	0.02
Classical Hodgkin lymphoma	170	14	47	38	27	30	14	1.4	4.6	3.4	2.3	3.4	3.5	3.0	3.0	2.8	0.23
Hodgkin lymphoma, nodular sclerosis	117	10	42	30	13	14	8	1.0	4.1	2.7	1.1	1.6	2.0	2.1	2.1	2.1	0.16
Hodgkin lymphoma, mixed cellularity	38	4	2	6	8	13	5	0.4	0.2	0.5	0.7	1.5	1.3	0.7	0.6	0.5	0.05
Hodgkin lymphoma, lymphocyte-rich	13	-	3	2	5	3	-	-	0.3	0.2	0.4	0.3	-	0.2	0.2	0.2	0.02
Hodgkin lymphoma, lymphocyte depletion	2	-	-	-	1	-	1	-	-	-	0.1	-	0.3	0.0	0.0	0.0	0.00
Hodgkin lymphoma, NOS & varia	18	1	2	3	4	4	4	0.1	0.2	0.3	0.3	0.5	1.0	0.3	0.3	0.2	0.02
Mature non-Hodgkin B-cell neoplasms	2,201	12	12	87	370	968	752	1.2	1.2	7.9	30.9	110.1	189.3	39.3	28.6	19.7	2.32
Mature B-cell leukaemias and related lymphomas	521	-	-	15	90	250	166	-	-	1.4	7.5	28.4	41.8	9.3	6.8	4.6	0.57
B-cell chronic lymphocytic leukaemia / small lymphocytic lymphoma	462	-	-	8	79	229	146	-	-	0.7	6.6	26.0	36.8	8.3	6.0	4.1	0.51
B-cell chronic lymphocytic leukaemia	404	-	-	7	69	198	130	-	-	0.6	5.8	22.5	32.7	7.2	5.2	3.5	0.44
Small lymphocytic lymphoma	58	-	-	1	10	31	16	-	-	0.1	0.8	3.5	4.0	1.0	0.8	0.5	0.07
Other mature B-cell leukaemias	59	-	-	7	11	21	20	-	-	0.6	0.9	2.4	5.0	1.1	0.8	0.6	0.06
B-cell prolymphocytic leukaemia	1	-	-	-	-	1	-	-	-	-	-	0.1	-	0.0	0.0	0.0	0.00
Hairy cell leukaemia	46	-	-	7	11	18	10	-	-	0.6	0.9	2.0	2.5	0.8	0.7	0.5	0.05
Mature B-cell leukaemia, NOS	12	-	-	-	-	2	10	-	-	-	-	0.2	2.5	0.2	0.1	0.1	0.00
Immunoproliferative diseases	123	-	-	2	17	54	50	-	-	0.2	1.4	6.1	12.6	2.2	1.5	1.0	0.12
Waldenström macroglobulinemia	87	-	-	2	10	39	36	-	-	0.2	0.8	4.4	9.1	1.6	1.1	0.7	0.08
Lymphoplasmacytic lymphoma	36	-	-	-	7	15	14	-	-	-	0.6	1.7	3.5	0.6	0.5	0.3	0.03
Other Immunoproliferative diseases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plasma cell neoplasms	567	-	-	15	78	249	225	-	-	1.4	6.5	28.3	56.6	10.1	7.1	4.7	0.57
Plasma cell myeloma	531	-	-	11	70	237	213	-	-	1.0	5.8	27.0	53.6	9.5	6.6	4.3	0.53
Plasmacytoma	36	-	-	4	8	12	12	-	-	0.4	0.7	1.4	3.0	0.6	0.5	0.3	0.04
Marginal zone lymphomas	175	-	3	9	31	71	61	-	0.3	0.8	2.6	8.1	15.4	3.1	2.3	1.6	0.18
Splenic marginal zone lymphoma	24	-	-	-	1	13	10	-	-	-	0.1	1.5	2.5	0.4	0.3	0.2	0.03
Other marginal zone lymphoma (nodal / extranodal)	151	-	3	9	30	58	51	-	0.3	0.8	2.5	6.6	12.8	2.7	2.0	1.4	0.16
Follicular lymphoma and related lymphoma	202	-	1	16	49	92	44	-	0.1	1.4	4.1	10.5	11.1	3.6	2.8	2.0	0.24
Follicular lymphoma	195	-	1	15	47	90	42	-	0.1	1.4	3.9	10.2	10.6	3.5	2.7	2.0	0.24
Primary cutaneous follicle centre lymphoma	7	-	-	1	2	2	2	-	-	0.1	0.2	0.2	0.5	0.1	0.1	0.1	0.01
Mantle cell lymphoma	111	-	-	2	18	50	41	-	-	0.2	1.5	5.7	10.3	2.0	1.4	0.9	0.12
Diffuse large B-cell lymphoma and related large B-cell lymphomas	466	1	5	27	79	194	160	0.1	0.5	2.4	6.6	22.1	40.3	8.3	6.1	4.2	0.49
DLBCL	435	-	4	22	73	182	154	-	0.4	2.0	6.1	20.7	38.8	7.8	5.6	3.8	0.45
Other related large B-cell lymphomas	31	1	1	5	6	12	6	0.1	0.1	0.5	0.5	1.4	1.5	0.6	0.4	0.3	0.04
T-cell/histiocyte rich large B-cell lymphoma	13	-	-	2	3	5	3	-	-	0.2	0.3	0.6	0.8	0.2	0.2	0.1	0.02
Mediastinal large B-cell lymphoma	7	1	1	3	1	1	-	0.1	0.1	0.3	0.1	0.1	-	0.1	0.1	0.1	0.01
ALK-positive large B-cell lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lymphomatoid granulomatosis, grade 3	1	-	-	-	1	-	-	-	-	-	0.1	-	-	0.0	0.0	0.0	0.00
Intravascular large B-cell lymphoma	2	-	-	-	1	-	1	-	-	-	0.1	-	0.3	0.0	0.0	0.0	0.00
Primary effusion lymphoma	1	-	-	-	-	-	1	-	-	-	-	-	0.3	0.0	0.0	0.0	-
Plasmablastic lymphoma	6	-	-	-	-	5	1	-	-	-	-	0.6	0.3	0.1	0.1	0.1	0.01
HHV8-positive diffuse large B-cell lymphoma	1	-	-	-	-	1	-	-	-	-	-	0.1	-	0.0	0.0	0.0	0.00
Other diffuse mixed small & large cell lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Burkitt lymphoma / leukaemia	36	11	3	1	8	8	5	1.1	0.3	0.1	0.7	0.9	1.3	0.6	0.6	0.6	0.05
Burkitt lymphoma	32	10	3	1	8	6	4	1.0	0.3	0.1	0.7	0.7	1.0	0.6	0.6	0.6	0.04
Burkitt leukaemia	4	1	-	-	-	2	1	0.1	-	-	-	0.2	0.3	0.1	0.1	0.1	0.01
Mature T-cell and NK-cell neoplasms	174	4	4	19	31	66	50	0.4	0.4	1.7	2.6	7.5	12.6	3.1	2.4	1.8	0.19
Primary cutaneous T-cell lymphomas	75	2	1	8	15	30	19	0.2	0.1	0.7	1.3	3.4	4.8	1.3	1.1	0.8	0.09
Mycosis fungoïdes / Sezary syndrome	64	2	1	8	15	21	17	0.2	0.1	0.7	1.3	2.4	4.3	1.1	0.9	0.7	0.07
Mycosis fungoides	60	2	1	8	15	18	16	0.2	0.1	0.7	1.3	2.0	4.0	1.1	0.9	0.7	0.07
Sézary syndrome	4	-	-	-	-	3	1	-	-	-	-	0.3	0.3	0.1	0.1	0.0	0.00
Other primary cutaneous T-cell lymphoma	11	-	-	-	-	9	2	-	-	-	-	1.0	0.5	0.2	0.1	0.1	0.02
Primary cutaneous anaplastic large cell lymphoma	9	-	-	-	-	7	2	-	-	-	-	0.8	0.5	0.2	0.1	0.1	0.01
Primary cutaneous γδ T-cell lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cutaneous T-cell lymphoma, NOS	2	-	-	-	-	2	-	-	-	-	-	0.2	-	0.0	0.0	0.0	0.00
Peripheral NK/T-cell lymphomas	99	2	3	11	16	36	31	0.2	0.3	1.0	1.3	4.1	7.8	1.8	1.4	1.0	0.10
Nodal PNK/TCL	66	1	-	9	11	26	19	0.1	-	0.8	0.9	3.0	4.8	1.2	0.9	0.7	0.07
Peripheral NK/T-cell lymphoma, NOS	27	-	-	5	5	9	8	-	-	0.5	0.4	1.0	2.0	0.5	0.4	0.3	0.03
Anaplastic large cell lymphoma	20	1	-	3	4	8	4	0.1	-	0.3	0.3	0.9	1.0	0.4	0.3	0.2	0.02
Angioimmunoblastic T-cell lymphoma	19	-	-	1	2	9	7	-	-	0.1	0.2	1.0	1.8	0.3	0.2	0.2	0.02
Leukaemic PNK/TCL	23	-	-	-	4	8	11	-	-	-	0.3	0.9	2.8	0.4	0.3	0.2	0.02
T-cell prolymphocytic leukaemia	5	-	-	-	1	2	2	-	-	-	0.1	0.2	0.5	0.1	0.1	0.0	0.00
Adult T-cell leukaemia / lymphoma (HTLV1 pos.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T-cell large granular lymphocytic leukaemia	18	-	-	-	3	6	9	-	-	-	0.3	0.7	2.3	0.3	0.2	0.1	0.01
Systemic EBV-positive T-cell lymphoproliferative disease of childhood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aggressive NK-cell leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Extra-nodal PNK/TCL	10	1	3	2	1	2	1	0.1	0.3	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.01
Hepatosplenic T-cell lymphoma	2	-	-	1	1	-	-	-	-	0.1	0.1	-	-	0.0	0.0	0.0	0.00
Intestinal T-cell lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Extranodal NK/T-cell lymphoma, nasal and nasal-type	7	-	3	1	-	2	1	-	0.3	0.1	-	0.2	0.3	0.1	0.1	0.1	0.01
Subcutaneous panniculitis-like T-cell lymphoma	1	1	-	-	-	-	-	0.1	-	-	-	-	-	0.0	0.0	0.0	0.00

Belgium: Number of new diagnoses (N), age-specific and age-standardised incidence (N/100,000) of haematological malignancies in males in 2018 by histological subtype

	Number of new diagnoses (N)							Age-specific incidence (N/100,000)						CR	ESR	WSR	CRi
	Total	0-14y	15-29y	30-44y	45-59y	60-74y	75+	0-14y	15-29y	30-44y	45-59y	60-74y	75+				
Other lymphoid neoplasms	63	-	-	2	8	25	28	-	-	0.2	0.7	2.8	7.0	1.1	0.8	0.5	0.06
B-cell lymphoma, unclassifiable, with features intermediate between DLBCL and classical Hodgkin lymphoma	5	-	-	1	-	2	2	-	-	0.1	-	0.2	0.5	0.1	0.1	0.0	0.01
Lymphoid neoplasms, NOS	58	-	-	1	8	23	26	-	-	0.1	0.7	2.6	6.5	1.0	0.7	0.5	0.05
Lymphoma, NOS	41	-	-	-	6	17	18	-	-	-	0.5	1.9	4.5	0.7	0.5	0.3	0.04
Leukaemia, NOS	17	-	-	1	2	6	8	-	-	0.1	0.2	0.7	2.0	0.3	0.2	0.1	0.01
Precursor neoplasms	396	37	26	18	63	135	117	3.8	2.5	1.6	5.3	15.4	29.5	7.1	5.7	4.8	0.44
Precursor lymphoid neoplasms (PLN) or lymphoblastic leukaemia / lymphoma	85	31	15	7	10	12	10	3.1	1.5	0.6	0.8	1.4	2.5	1.5	1.6	1.8	0.11
B-cell PLN or lymphoblastic leukaemia / lymphoma	49	21	7	1	6	8	6	2.1	0.7	0.1	0.5	0.9	1.5	0.9	0.9	1.1	0.06
B-cell PLN with recurrent cytogenetic abnormalities	14	10	2	-	1	-	1	1.0	0.2	-	0.1	-	0.3	0.3	0.3	0.4	0.02
B-cell PLN with t(9;22)(q34.1;q11.2); *BCR-ABL1*	2	-	1	-	1	-	-	-	0.1	-	0.1	-	-	0.0	0.0	0.0	0.00
B-cell PLN with t(v;11q23.3); *KMT2A* rearranged	1	1	-	-	-	-	-	0.1	-	-	-	-	-	0.0	0.0	0.0	0.00
B-cell PLN with t(12;21)(p13.2;q22.1); *ETV6-RUNX1*	2	2	-	-	-	-	-	0.2	-	-	-	-	-	0.0	0.1	0.1	0.00
B-cell PLN with Hyperdiploidy	5	4	1	-	-	-	-	0.4	0.1	-	-	-	-	0.1	0.1	0.2	0.01
B-cell PLN with Hypodiploidy	3	2	-	-	-	-	1	0.2	-	-	-	-	0.3	0.1	0.1	0.1	0.00
B-cell PLN with t(5;14)(q31.1;q32.1); *IGH-IL3*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-cell PLN with t(1;19)(q23;p13.3); *TCF3-PBX1*	1	1	-	-	-	-	-	0.1	-	-	-	-	-	0.0	0.0	0.0	0.00
B-cell PLN or lymphoblastic leukaemia / lymphoma, NOS	35	11	5	1	5	8	5	1.1	0.5	0.1	0.4	0.9	1.3	0.6	0.6	0.7	0.05
T-cell and NK-cell PLN or lymphoblastic leukaemia / lymphoma	32	9	7	6	4	4	2	0.9	0.7	0.5	0.3	0.5	0.5	0.6	0.6	0.6	0.04
PLN or lymphoblastic leukaemia / lymphoma, NOS and related neoplasms	4	1	1	-	-	-	2	0.1	0.1	-	-	-	0.5	0.1	0.1	0.1	0.00
Acute myeloid leukaemias and related precursor neoplasms	301	5	10	10	52	120	104	0.5	1.0	0.9	4.3	13.6	26.2	5.4	4.0	2.9	0.31
Acute myeloid leukaemias with recurrent cytogenetic abnormalities	22	2	3	3	7	6	1	0.2	0.3	0.3	0.6	0.7	0.3	0.4	0.4	0.3	0.03
AML with t(8;21)(q22;q22.1); *RUNX1-RUNX1T1*	1	-	1	-	-	-	-	-	0.1	-	-	-	-	0.0	0.0	0.0	0.00
AML with inv/t(16;16)(p13.1;q22); *CBFB-MYH11*	2	-	-	-	1	1	-	-	-	-	0.1	0.1	-	0.0	0.0	0.0	0.00
Acute promyelocytic leukaemia with t(15;17)(q22;q11-q12) and variant *RARA* transloc.	15	-	2	3	4	5	1	-	0.2	0.3	0.3	0.6	0.3	0.3	0.2	0.2	0.02
AML with t(v;11q23.3); *KMT2A* rearranged	4	2	-	-	2	-	-	0.2	-	-	0.2	-	-	0.1	0.1	0.1	0.01
AML with t(6;9)(p23;q34.1); *DEK-NUP214*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AML with inv/t(3;3)(q21.3;q26.2); *GATA2* , *MECOM*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AML with t(1;22)(p13.3;q13.1); *RBM15-MKL1*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute myeloid leukaemias with specific conditions	87	-	3	-	10	41	33	-	0.3	-	0.8	4.7	8.3	1.6	1.1	0.8	0.09
AML with myelodysplasia-related changes	59	-	-	-	6	26	27	-	-	-	0.5	3.0	6.8	1.1	0.7	0.5	0.06
Therapy-related myeloid neoplasm	28	-	3	-	4	15	6	-	0.3	-	0.3	1.7	1.5	0.5	0.4	0.3	0.04
Myeloid leukaemia associated with Down syndrome	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other AML and related precursor neoplasms	192	3	4	7	35	73	70	0.3	0.4	0.6	2.9	8.3	17.6	3.4	2.5	1.8	0.19
Other AML according to the FAB classification	72	2	1	3	15	26	25	0.2	0.1	0.3	1.3	3.0	6.3	1.3	1.0	0.7	0.07
AML with minimal differentiation (FAB M0)	12	-	-	1	2	5	4	-	-	0.1	0.2	0.6	1.0	0.2	0.2	0.1	0.01
AML without maturation (FAB M1)	7	-	1	-	-	4	2	-	0.1	-	-	0.5	0.5	0.1	0.1	0.1	0.01
AML with maturation (FAB M2)	17	-	-	2	1	6	8	-	-	0.2	0.1	0.7	2.0	0.3	0.2	0.1	0.01
Acute myelomonocytic leukaemia (FAB M4)	14	-	-	-	5	5	4	-	-	-	0.4	0.6	1.0	0.3	0.2	0.1	0.01
Acute monocytic leukaemia (FAB M5)	17	2	-	-	5	4	6	0.2	-	-	0.4	0.5	1.5	0.3	0.2	0.2	0.02
Acute erythroid leukaemia (FAB M6)	5	-	-	-	2	2	1	-	-	-	0.2	0.2	0.3	0.1	0.1	0.0	0.01
Acute megakaryoblastic leukaemia (FAB M7)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute basophilic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other related myeloid precursor neoplasms	9	-	1	-	3	3	2	-	0.1	-	0.3	0.3	0.5	0.2	0.1	0.1	0.01
Acute panmyelosis with myelofibrosis	6	-	-	-	2	2	2	-	-	-	0.2	0.2	0.5	0.1	0.1	0.1	0.01
Myeloid sarcoma	3	-	1	-	1	1	-	-	0.1	-	0.1	0.1	-	0.1	0.0	0.0	0.00
Acute myeloid leukaemias, NOS	111	1	2	4	17	44	43	0.1	0.2	0.4	1.4	5.0	10.8	2.0	1.4	1.0	0.11
Acute leukaemias of ambiguous lineage	10	1	1	1	1	3	3	0.1	0.1	0.1	0.1	0.3	0.8	0.2	0.1	0.1	0.01
Acute leukaemia, NOS	4	-	-	1	-	1	2	-	-	0.1	-	0.1	0.5	0.1	0.0	0.0	0.00
Mixed phenotype acute leukaemia with t(9;22)(q34.1;q11.2); *BCR-ABL1*	1	-	-	-	-	1	-	-	-	-	-	0.1	-	0.0	0.0	0.0	0.00
Mixed phenotype acute leukaemia with t(v;11q23.3); *KMT2A* rearranged	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mixed phenotype acute leukaemia B/myeloid, NOS	1	-	-	-	-	1	-	-	-	-	-	0.1	-	0.0	0.0	0.0	0.00
Mixed phenotype acute leukaemia T/myeloid, NOS	2	-	-	-	1	-	1	-	-	-	0.1	-	0.3	0.0	0.0	0.0	0.00
Acute biphenotypic leukaemia, NOS	2	1	1	-	-	-	-	0.1	0.1	-	-	-	-	0.0	0.0	0.1	0.00

APPENDIX II

Belgium: Number of new diagnoses (N), age-specific and age-standardised incidence (N/100,000) of haematological malignancies in males in 2018 by histological subtype

	Number of new diagnoses (N)							Age-specific incidence (N/100,000)						CR	ESR	WSR	CRi
	Total	0-14y	15-29y	30-44y	45-59y	60-74y	75+	0-14y	15-29y	30-44y	45-59y	60-74y	75+				
Chronic myeloid neoplasms	1,100	6	12	39	145	396	502	0.6	1.2	3.5	12.1	45.0	126.4	19.7	13.8	9.2	0.97
Myeloproliferative neoplasms	469	1	9	26	98	193	142	0.1	0.9	2.4	8.2	22.0	35.7	8.4	6.3	4.4	0.51
Chronic myeloid leukaemia	86	1	5	8	25	28	19	0.1	0.5	0.7	2.1	3.2	4.8	1.5	1.3	0.9	0.10
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms	383	-	4	18	73	165	123	-	0.4	1.6	6.1	18.8	31.0	6.8	5.1	3.5	0.41
Polycythaemia vera	125	-	1	3	30	61	30	-	0.1	0.3	2.5	6.9	7.6	2.2	1.7	1.2	0.15
Essential thrombocythaemia	167	-	3	12	34	65	53	-	0.3	1.1	2.8	7.4	13.3	3.0	2.3	1.6	0.18
Primary myelofibrosis	67	-	-	1	4	32	30	-	-	0.1	0.3	3.6	7.6	1.2	0.8	0.5	0.06
Other MPN and related neoplasms	24	-	-	2	5	7	10	-	-	0.2	0.4	0.8	2.5	0.4	0.3	0.2	0.02
Chronic neutrophilic leukaemia	2	-	-	-	-	1	1	-	-	-	-	0.1	0.3	0.0	0.0	0.0	0.00
Myeloid/lymphoid neoplasm with *PDGFRA* rearr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myeloid neoplasm with *PDGFRB* rearrangement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myeloid/lymphoid neoplasm with *FGFR1* abn.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chronic eosinophilic leukaemia, NOS	4	-	-	1	2	-	1	-	-	0.1	0.2	-	0.3	0.1	0.1	0.1	0.00
Myeloproliferative neoplasm, NOS	18	-	-	1	3	6	8	-	-	0.1	0.3	0.7	2.0	0.3	0.2	0.2	0.02
Mast cell neoplasms	14	2	2	2	4	1	3	0.2	0.2	0.2	0.3	0.1	0.8	0.3	0.2	0.2	0.02
Mastocytoma, NOS	3	1	1	-	-	-	1	0.1	0.1	-	-	-	0.3	0.1	0.1	0.1	0.00
Indolent systemic mastocytosis	8	1	1	1	3	-	2	0.1	0.1	0.1	0.3	-	0.5	0.1	0.1	0.1	0.01
Malignant mastocytosis	3	-	-	1	1	1	-	-	-	0.1	0.1	0.1	-	0.1	0.0	0.0	0.00
Mast cell leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mast cell sarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myelodysplastic syndrome	486	3	1	8	35	155	284	0.3	0.1	0.7	2.9	17.6	71.5	8.7	5.7	3.5	0.35
Myelodysplastic syndrome (MDS) with single lineage dysplasia	146	1	1	2	12	47	83	0.1	0.1	0.2	1.0	5.3	20.9	2.6	1.7	1.1	0.11
MDS with single lineage dysplasia	38	-	1	2	1	12	22	-	0.1	0.2	0.1	1.4	5.5	0.7	0.5	0.3	0.03
MDS with multilineage dysplasia	108	1	-	-	11	35	61	0.1	-	-	0.9	4.0	15.4	1.9	1.3	0.8	0.08
MDS with ring sideroblasts	54	-	-	-	3	23	28	-	-	-	0.3	2.6	7.0	1.0	0.6	0.4	0.04
MDS with excess blasts	110	1	-	2	8	34	65	0.1	-	0.2	0.7	3.9	16.4	2.0	1.3	0.8	0.08
MDS with isolated del(5q)	6	-	-	-	-	-	6	-	-	-	-	-	1.5	0.1	0.1	0.0	-
MDS, NOS	170	1	-	4	12	51	102	0.1	-	0.4	1.0	5.8	25.7	3.0	2.0	1.2	0.12
Myelodysplastic/myeloproliferative neoplasms	130	-	-	3	8	47	72	-	-	0.3	0.7	5.3	18.1	2.3	1.5	1.0	0.10
Chronic myelomonocytic leukaemia	87	-	-	2	6	27	52	-	-	0.2	0.5	3.1	13.1	1.6	1.0	0.6	0.06
Other myelodysplastic/myeloproliferative neoplasm	43	-	-	1	2	20	20	-	-	0.1	0.2	2.3	5.0	0.8	0.5	0.3	0.04
Juvenile myelomonocytic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atypical chronic myeloid leukaemia, *BCR-ABL1* negative	5	-	-	-	1	3	1	-	-	-	0.1	0.3	0.3	0.1	0.1	0.0	0.01
Myelodysplastic/myeloproliferative neoplasm, NOS	38	-	-	1	1	17	19	-	-	0.1	0.1	1.9	4.8	0.7	0.4	0.3	0.03
Other leukaemias, NOS	1	-	-	-	-	-	1	-	-	-	-	-	0.3	0.0	0.0	0.0	-
Histiocytic and dendritic cell neoplasms	29	7	7	7	5	-	3	0.7	0.7	0.6	0.4	-	0.8	0.5	0.6	0.6	0.04
Langerhans cell histiocytosis	26	7	7	6	5	-	1	0.7	0.7	0.5	0.4	-	0.3	0.5	0.5	0.6	0.04
Langerhans cell sarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Histiocytic sarcoma	1	-	-	-	-	-	1	-	-	-	-	-	0.3	0.0	0.0	0.0	-
Dendritic cell tumour	1	-	-	1	-	-	-	-	-	0.1	-	-	-	0.0	0.0	0.0	0.00
Follicular dendritic cell sarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fibroblastic reticular cell tumour	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malignant histiocytosis, NOS	1	-	-	-	-	-	1	-	-	-	-	-	0.3	0.0	0.0	0.0	-
All haematological malignancies	4,165	82	116	215	657	1,624	1,471	8.3	11.2	19.4	54.9	184.7	370.3	74.4	55.4	39.9	4.21

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

Belgium: Number of new diagnoses (N), age-specific and age-standardised incidence (N/100,000) of haematological malignancies in females in 2018 by histological subtype

	Number of new diagnoses (N)							Age-specific incidence (N/100,000)						CR	ESR	WSR	CRi
	Total	0-14y	15-29y	30-44y	45-59y	60-74y	75+	0-14y	15-29y	30-44y	45-59y	60-74y	75+				
Mature lymphoid neoplasms	2,040	13	76	101	329	753	768	1.4	7.5	9.2	27.9	80.1	125.7	35.3	23.8	17.4	1.91
Hodgkin lymphomas	162	7	45	31	28	35	16	0.7	4.5	2.8	2.4	3.7	2.6	2.8	2.7	2.6	0.21
Hodgkin lymphoma, nodular lymphocyte predominant	8	1	1	-	2	4	-	0.1	0.1	-	0.2	0.4	-	0.1	0.1	0.1	0.01
Classical Hodgkin lymphoma	141	6	41	30	26	27	11	0.6	4.1	2.7	2.2	2.9	1.8	2.4	2.4	2.3	0.19
Hodgkin lymphoma, nodular sclerosis	106	6	35	26	18	14	7	0.6	3.5	2.4	1.5	1.5	1.1	1.8	1.9	1.9	0.14
Hodgkin lymphoma, mixed cellularity	27	-	5	3	5	12	2	-	0.5	0.3	0.4	1.3	0.3	0.5	0.4	0.4	0.04
Hodgkin lymphoma, lymphocyte-rich	7	-	1	1	3	1	1	-	0.1	0.1	0.3	0.1	0.2	0.1	0.1	0.1	0.01
Hodgkin lymphoma, lymphocyte depletion	1	-	-	-	-	-	1	-	-	-	-	-	0.2	0.0	0.0	0.0	-
Hodgkin lymphoma, NOS & varia	13	-	3	1	-	4	5	-	0.3	0.1	-	0.4	0.8	0.2	0.2	0.1	0.01
Mature non-Hodgkin B-cell neoplasms	1,700	5	22	59	277	655	682	0.5	2.2	5.4	23.5	69.7	111.6	29.4	18.9	13.2	1.54
Mature B-cell leukaemias and related lymphomas	351	-	-	9	66	141	135	-	-	0.8	5.6	15.0	22.1	6.1	3.9	2.6	0.33
B-cell chronic lymphocytic leukaemia / small lymphocytic lymphoma	337	-	-	9	64	137	127	-	-	0.8	5.4	14.6	20.8	5.8	3.7	2.5	0.32
B-cell chronic lymphocytic leukaemia	305	-	-	7	58	124	116	-	-	0.6	4.9	13.2	19.0	5.3	3.4	2.3	0.29
Small lymphocytic lymphoma	32	-	-	2	6	13	11	-	-	0.2	0.5	1.4	1.8	0.6	0.4	0.3	0.03
Other mature B-cell leukaemias	14	-	-	-	2	4	8	-	-	-	0.2	0.4	1.3	0.2	0.1	0.1	0.01
B-cell prolymphocytic leukaemia	1	-	-	-	-	-	1	-	-	-	-	-	0.2	0.0	0.0	0.0	-
Hairy cell leukaemia	9	-	-	-	2	2	5	-	-	-	0.2	0.2	0.8	0.2	0.1	0.1	0.01
Mature B-cell leukaemia, NOS	4	-	-	-	-	2	2	-	-	-	-	0.2	0.3	0.1	0.0	0.0	0.00
Immunoproliferative diseases	69	-	-	1	14	21	33	-	-	0.1	1.2	2.2	5.4	1.2	0.7	0.5	0.05
Waldenström macroglobulinemia	56	-	-	1	10	15	30	-	-	0.1	0.8	1.6	4.9	1.0	0.6	0.4	0.04
Lymphoplasmacytic lymphoma	13	-	-	-	4	6	3	-	-	-	0.3	0.6	0.5	0.2	0.2	0.1	0.01
Other Immunoproliferative diseases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plasma cell neoplasms	442	-	-	9	58	176	199	-	-	0.8	4.9	18.7	32.6	7.6	4.6	3.1	0.37
Plasma cell myeloma	428	-	-	9	54	168	197	-	-	0.8	4.6	17.9	32.2	7.4	4.5	3.0	0.36
Plasmacytoma	14	-	-	-	4	8	2	-	-	-	0.3	0.9	0.3	0.2	0.2	0.1	0.02
Marginal zone lymphomas	162	-	-	10	31	65	56	-	-	0.9	2.6	6.9	9.2	2.8	1.9	1.3	0.16
Splenic marginal zone lymphoma	23	-	-	-	6	7	10	-	-	-	0.5	0.7	1.6	0.4	0.2	0.2	0.02
Other marginal zone lymphoma (nodal / extranodal)	139	-	-	10	25	58	46	-	-	0.9	2.1	6.2	7.5	2.4	1.6	1.1	0.14
Follicular lymphoma and related lymphoma	211	-	-	10	49	96	56	-	-	0.9	4.2	10.2	9.2	3.7	2.6	1.8	0.23
Follicular lymphoma	205	-	-	10	46	95	54	-	-	0.9	3.9	10.1	8.8	3.5	2.5	1.8	0.22
Primary cutaneous follicle centre lymphoma	6	-	-	-	3	1	2	-	-	-	0.3	0.1	0.3	0.1	0.1	0.1	0.01
Mantle cell lymphoma	36	-	-	-	-	18	18	-	-	-	-	1.9	2.9	0.6	0.3	0.2	0.03
Diffuse large B-cell lymphoma and related large B-cell lymphomas	409	2	17	18	55	136	181	0.2	1.7	1.6	4.7	14.5	29.6	7.1	4.5	3.3	0.35
DLBCL	388	2	13	10	53	133	177	0.2	1.3	0.9	4.5	14.1	29.0	6.7	4.1	2.9	0.33
Other related large B-cell lymphomas	21	-	4	8	2	3	4	-	0.4	0.7	0.2	0.3	0.7	0.4	0.3	0.3	0.02
T-cell/histiocyte rich large B-cell lymphoma	2	-	-	-	-	1	1	-	-	-	-	0.1	0.2	0.0	0.0	0.0	0.00
Mediastinal large B-cell lymphoma	13	-	4	8	1	-	-	-	0.4	0.7	0.1	-	-	0.2	0.3	0.2	0.02
ALK-positive large B-cell lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lymphomatoid granulomatosis, grade 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Intravascular large B-cell lymphoma	4	-	-	-	1	2	1	-	-	-	0.1	0.2	0.2	0.1	0.1	0.0	0.00
Primary effusion lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plasmablastic lymphoma	1	-	-	-	-	-	1	-	-	-	-	-	0.2	0.0	0.0	0.0	-
HHV8-positive diffuse large B-cell lymphoma	1	-	-	-	-	-	1	-	-	-	-	-	0.2	0.0	0.0	0.0	-
Other diffuse mixed small & large cell lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Burkitt lymphoma / leukaemia	20	3	5	2	4	2	4	0.3	0.5	0.2	0.3	0.2	0.7	0.3	0.3	0.4	0.02
Burkitt lymphoma	16	2	4	2	3	1	4	0.2	0.4	0.2	0.3	0.1	0.7	0.3	0.3	0.3	0.02
Burkitt leukaemia	4	1	1	-	1	1	-	0.1	0.1	-	0.1	0.1	-	0.1	0.1	0.1	0.01
Mature T-cell and NK-cell neoplasms	128	1	6	10	21	49	41	0.1	0.6	0.9	1.8	5.2	6.7	2.2	1.6	1.2	0.13
Primary cutaneous T-cell lymphomas	33	-	1	3	3	16	10	-	0.1	0.3	0.3	1.7	1.6	0.6	0.4	0.3	0.03
Mycosis fungoïdes / Sezary syndrome	28	-	-	3	3	13	9	-	-	0.3	0.3	1.4	1.5	0.5	0.3	0.3	0.03
Mycosis fungoides	25	-	-	3	3	11	8	-	-	0.3	0.3	1.2	1.3	0.4	0.3	0.2	0.03
Sézary syndrome	3	-	-	-	-	2	1	-	-	-	-	0.2	0.2	0.1	0.0	0.0	0.00
Other primary cutaneous T-cell lymphoma	5	-	1	-	-	3	1	-	0.1	-	-	0.3	0.2	0.1	0.1	0.1	0.01
Primary cutaneous anaplastic large cell lymphoma	4	-	1	-	-	2	1	-	0.1	-	-	0.2	0.2	0.1	0.1	0.1	0.00
Primary cutaneous γδ T-cell lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cutaneous T-cell lymphoma, NOS	1	-	-	-	-	1	-	-	-	-	-	0.1	-	0.0	0.0	0.0	0.00
Peripheral NK/T-cell lymphomas	95	1	5	7	18	33	31	0.1	0.5	0.6	1.5	3.5	5.1	1.6	1.2	0.9	0.10
Nodal PNK/TCL	65	1	3	3	11	24	23	0.1	0.3	0.3	0.9	2.6	3.8	1.1	0.8	0.6	0.06
Peripheral NK/T-cell lymphoma, NOS	24	-	-	2	2	11	9	-	-	0.2	0.2	1.2	1.5	0.4	0.3	0.2	0.02
Anaplastic large cell lymphoma	20	1	3	1	8	3	4	0.1	0.3	0.1	0.7	0.3	0.7	0.3	0.3	0.3	0.02
Angioimmunoblastic T-cell lymphoma	21	-	-	-	1	10	10	-	-	-	0.1	1.1	1.6	0.4	0.2	0.1	0.02
Leukaemic PNK/TCL	23	-	1	3	4	9	6	-	0.1	0.3	0.3	1.0	1.0	0.4	0.3	0.2	0.03
T-cell prolymphocytic leukaemia	4	-	1	-	-	2	1	-	0.1	-	-	0.2	0.2	0.1	0.1	0.0	0.01
Adult T-cell leukaemia / lymphoma (HTLV1 pos.)	2	-	-	-	1	1	-	-	-	-	0.1	0.1	-	0.0	0.0	0.0	0.00
T-cell large granular lymphocytic leukaemia	17	-	-	3	3	6	5	-	-	0.3	0.3	0.6	0.8	0.3	0.2	0.2	0.02
Systemic EBV-positive T-cell lymphoproliferative disease of childhood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aggressive NK-cell leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Extra-nodal PNK/TCL	7	-	1	1	3	-	2	-	0.1	0.1	0.3	-	0.3	0.1	0.1	0.1	0.01
Hepatosplenic T-cell lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Intestinal T-cell lymphoma	3	-	-	-	2	-	1	-	-	-	0.2	-	0.2	0.1	0.0	0.0	0.00
Extranodal NK/T-cell lymphoma, nasal and nasal-type	4	-	1	1	1	-	1	-	0.1	0.1	0.1	-	0.2	0.1	0.1	0.1	0.00
Subcutaneous panniculitis-like T-cell lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Belgium: Number of new diagnoses (N), age-specific and age-standardised incidence (N/100,000) of haematological malignancies in females in 2018 by histological subtype

	Number of new diagnoses (N)							Age-specific incidence (N/100,000)						CR	ESR	WSR	CRi
	Total	0-14y	15-29y	30-44y	45-59y	60-74y	75+	0-14y	15-29y	30-44y	45-59y	60-74y	75+				
Other lymphoid neoplasms	50	-	3	1	3	14	29	-	0.3	0.1	0.3	1.5	4.7	0.9	0.5	0.4	0.03
B-cell lymphoma, unclassifiable, with features intermediate between DLBCL and classical Hodgkin lymphoma	6	-	3	1	1	1	-	-	0.3	0.1	0.1	0.1	-	0.1	0.1	0.1	0.01
Lymphoid neoplasms, NOS	44	-	-	-	2	13	29	-	-	-	0.2	1.4	4.7	0.8	0.4	0.2	0.02
Lymphoma, NOS	35	-	-	-	2	10	23	-	-	-	0.2	1.1	3.8	0.6	0.3	0.2	0.02
Leukaemia, NOS	9	-	-	-	-	3	6	-	-	-	-	0.3	1.0	0.2	0.1	0.1	0.00
Precursor neoplasms	380	38	23	27	62	110	120	4.0	2.3	2.5	5.3	11.7	19.6	6.6	5.1	4.5	0.39
Precursor lymphoid neoplasms (PLN) or lymphoblastic leukaemia / lymphoma	80	33	8	7	10	12	10	3.5	0.8	0.6	0.8	1.3	1.6	1.4	1.5	1.7	0.11
B-cell PLN or lymphoblastic leukaemia / lymphoma	70	28	6	7	9	11	9	3.0	0.6	0.6	0.8	1.2	1.5	1.2	1.3	1.5	0.09
B-cell PLN with recurrent cytogenetic abnormalities	38	21	2	3	5	4	3	2.2	0.2	0.3	0.4	0.4	0.5	0.7	0.8	1.0	0.05
B-cell PLN with t(9;22)(q34.1;q11.2); *BCR-ABL1*	13	2	-	1	5	3	2	0.2	-	0.1	0.4	0.3	0.3	0.2	0.2	0.2	0.02
B-cell PLN with t(v;11q23.3); *KMT2A* rearranged	3	-	1	1	-	1	-	-	0.1	0.1	-	0.1	-	0.1	0.0	0.0	0.00
B-cell PLN with t(12;21)(p13.2;q22.1); *ETV6-RUNX1*	9	9	-	-	-	-	-	1.0	-	-	-	-	-	0.2	0.2	0.3	0.01
B-cell PLN with Hyperdiploidy	9	8	1	-	-	-	-	0.8	0.1	-	-	-	-	0.2	0.2	0.3	0.01
B-cell PLN with Hypodiploidy	3	2	-	1	-	-	-	0.2	-	0.1	-	-	-	0.1	0.1	0.1	0.00
B-cell PLN with t(5;14)(q31.1;q32.1); *IGH-IL3*	1	-	-	-	-	-	1	-	-	-	-	-	0.2	0.0	0.0	0.0	-
B-cell PLN with t(1;19)(q23;p13.3); *TCF3-PBX1*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-cell PLN or lymphoblastic leukaemia / lymphoma, NOS	32	7	4	4	4	7	6	0.7	0.4	0.4	0.3	0.7	1.0	0.6	0.5	0.5	0.04
T-cell and NK-cell PLN or lymphoblastic leukaemia / lymphoma	9	5	1	-	1	1	1	0.5	0.1	-	0.1	0.1	0.2	0.2	0.2	0.2	0.01
PLN or lymphoblastic leukaemia / lymphoma, NOS and related neoplasms	1	-	1	-	-	-	-	-	0.1	-	-	-	-	0.0	0.0	0.0	0.00
Acute myeloid leukaemias and related precursor neoplasms	294	5	14	20	52	96	107	0.5	1.4	1.8	4.4	10.2	17.5	5.1	3.5	2.7	0.28
Acute myeloid leukaemias with recurrent cytogenetic abnormalities	40	3	9	5	7	10	6	0.3	0.9	0.5	0.6	1.1	1.0	0.7	0.6	0.6	0.05
AML with t(8;21)(q22;q22.1); *RUNX1-RUNX1T1*	6	-	3	1	1	1	-	-	0.3	0.1	0.1	0.1	-	0.1	0.1	0.1	0.01
AML with inv/t(16;16)(p13.1;q22); *CBFB-MYH11*	4	-	2	-	1	1	-	-	0.2	-	0.1	0.1	-	0.1	0.1	0.1	0.01
Acute promyelocytic leukaemia with t(15;17)(q22;q11-q12) and variant *RARA* transloc.	20	-	3	4	4	5	4	-	0.3	0.4	0.3	0.5	0.7	0.3	0.3	0.3	0.02
AML with t(v;11q23.3); *KMT2A* rearranged	8	3	-	-	1	3	1	0.3	-	-	0.1	0.3	0.2	0.1	0.1	0.2	0.01
AML with t(6;9)(p23;q34.1); *DEK-NUP214*	1	-	-	-	-	-	1	-	-	-	-	-	0.2	0.0	0.0	0.0	-
AML with inv/t(3;3)(q21.3;q26.2); *GATA2* , *MECOM*	1	-	1	-	-	-	-	-	0.1	-	-	-	-	0.0	0.0	0.0	0.00
AML with t(1;22)(p13.3;q13.1); *RBM15-MKL1*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute myeloid leukaemias with specific conditions	92	1	1	2	17	40	31	0.1	0.1	0.2	1.4	4.3	5.1	1.6	1.1	0.8	0.09
AML with myelodysplasia-related changes	48	-	-	1	6	21	20	-	-	0.1	0.5	2.2	3.3	0.8	0.5	0.3	0.04
Therapy-related myeloid neoplasm	43	-	1	1	11	19	11	-	0.1	0.1	0.9	2.0	1.8	0.7	0.5	0.4	0.05
Myeloid leukaemia associated with Down syndrome	1	1	-	-	-	-	-	0.1	-	-	-	-	-	0.0	0.0	0.0	0.00
Other AML and related precursor neoplasms	162	1	4	13	28	46	70	0.1	0.4	1.2	2.4	4.9	11.5	2.8	1.8	1.3	0.13
Other AML according to the FAB classification	65	1	3	5	14	18	24	0.1	0.3	0.5	1.2	1.9	3.9	1.1	0.8	0.6	0.06
AML with minimal differentiation (FAB M0)	15	-	-	-	5	4	6	-	-	-	0.4	0.4	1.0	0.3	0.2	0.1	0.01
AML without maturation (FAB M1)	13	-	-	2	2	4	5	-	-	0.2	0.2	0.4	0.8	0.2	0.2	0.1	0.01
AML with maturation (FAB M2)	5	1	1	-	1	1	1	0.1	0.1	-	0.1	0.1	0.2	0.1	0.1	0.1	0.01
Acute myelomonocytic leukaemia (FAB M4)	12	-	-	1	3	4	4	-	-	0.1	0.3	0.4	0.7	0.2	0.1	0.1	0.01
Acute monocytic leukaemia (FAB M5)	16	-	2	2	2	5	5	-	0.2	0.2	0.2	0.5	0.8	0.3	0.2	0.2	0.02
Acute erythroid leukaemia (FAB M6)	4	-	-	-	1	-	3	-	-	-	0.1	-	0.5	0.1	0.0	0.0	0.00
Acute megakaryoblastic leukaemia (FAB M7)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute basophilic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other related myeloid precursor neoplasms	4	-	-	-	-	2	2	-	-	-	-	0.2	0.3	0.1	0.0	0.0	0.00
Acute panmyelosis with myelofibrosis	2	-	-	-	-	2	-	-	-	-	-	0.2	-	0.0	0.0	0.0	0.00
Myeloid sarcoma	2	-	-	-	-	-	2	-	-	-	-	-	0.3	0.0	0.0	0.0	-
Acute myeloid leukaemias, NOS	93	-	1	8	14	26	44	-	0.1	0.7	1.2	2.8	7.2	1.6	1.0	0.7	0.07
Acute leukaemias of ambiguous lineage	6	-	1	-	-	2	3	-	0.1	-	-	0.2	0.5	0.1	0.1	0.0	0.01
Acute leukaemia, NOS	3	-	-	-	-	-	3	-	-	-	-	-	0.5	0.1	0.0	0.0	-
Mixed phenotype acute leukaemia with t(9;22)(q34.1;q11.2); *BCR-ABL1*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mixed phenotype acute leukaemia with t(v;11q23.3); *KMT2A* rearranged	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mixed phenotype acute leukaemia B/myeloid, NOS	2	-	-	-	-	2	-	-	-	-	-	0.2	-	0.0	0.0	0.0	0.00
Mixed phenotype acute leukaemia T/myeloid, NOS	1	-	1	-	-	-	-	-	0.1	-	-	-	-	0.0	0.0	0.0	0.00
Acute biphenotypic leukaemia, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX II

Belgium: Number of new diagnoses (N), age-specific and age-standardised incidence (N/100,000) of haematological malignancies in females in 2018 by histological subtype

	Number of new diagnoses (N)							Age-specific incidence (N/100,000)						CR	ESR	WSR	CRi
	Total	0-14y	15-29y	30-44y	45-59y	60-74y	75+	0-14y	15-29y	30-44y	45-59y	60-74y	75+				
Chronic myeloid neoplasms	964	7	12	44	131	340	430	0.7	1.2	4.0	11.1	36.2	70.4	16.7	10.5	7.4	0.81
Myeloproliferative neoplasms	474	3	9	32	77	185	168	0.3	0.9	2.9	6.5	19.7	27.5	8.2	5.6	4.1	0.46
Chronic myeloid leukaemia	72	2	4	10	14	25	17	0.2	0.4	0.9	1.2	2.7	2.8	1.2	1.0	0.8	0.08
Myeloproliferative neoplasms *BCR-ABL1* negative	402	1	5	22	63	160	151	0.1	0.5	2.0	5.3	17.0	24.7	7.0	4.6	3.3	0.38
Polycythaemia vera	97	-	-	6	13	41	37	-	-	0.5	1.1	4.4	6.1	1.7	1.1	0.8	0.09
Essential thrombocythaemia	251	1	5	11	48	98	88	0.1	0.5	1.0	4.1	10.4	14.4	4.3	3.0	2.1	0.24
Primary myelofibrosis	37	-	-	4	2	14	17	-	-	0.4	0.2	1.5	2.8	0.6	0.4	0.3	0.03
Other MPN and related neoplasms	17	-	-	1	-	7	9	-	-	0.1	-	0.7	1.5	0.3	0.2	0.1	0.01
Chronic neutrophilic leukaemia	2	-	-	-	-	2	-	-	-	-	-	0.2	-	0.0	0.0	0.0	0.00
Myeloid/lymphoid neoplasm with *PDGFRA* rearr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myeloid neoplasm with *PDGFRB* rearrangement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myeloid/lymphoid neoplasm with *FGFR1* abn.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chronic eosinophilic leukaemia, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myeloproliferative neoplasm, NOS	15	-	-	1	-	5	9	-	-	0.1	-	0.5	1.5	0.3	0.1	0.1	0.01
Mast cell neoplasms	22	2	2	6	6	5	1	0.2	0.2	0.5	0.5	0.5	0.2	0.4	0.4	0.3	0.03
Mastocytoma, NOS	10	2	1	3	1	3	-	0.2	0.1	0.3	0.1	0.3	-	0.2	0.2	0.2	0.02
Indolent systemic mastocytosis	9	-	-	2	5	1	1	-	-	0.2	0.4	0.1	0.2	0.2	0.1	0.1	0.01
Malignant mastocytosis	3	-	1	1	-	1	-	-	0.1	0.1	-	0.1	-	0.1	0.1	0.1	0.00
Mast cell leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mast cell sarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myelodysplastic syndrome	362	1	1	4	40	117	199	0.1	0.1	0.4	3.4	12.4	32.6	6.3	3.5	2.3	0.25
Myelodysplastic syndrome (MDS) with single lineage dysplasia	111	1	1	1	17	36	55	0.1	0.1	0.1	1.4	3.8	9.0	1.9	1.2	0.8	0.08
MDS with single lineage dysplasia	30	-	-	-	6	11	13	-	-	-	0.5	1.2	2.1	0.5	0.3	0.2	0.03
MDS with multilineage dysplasia	81	1	1	1	11	25	42	0.1	0.1	0.1	0.9	2.7	6.9	1.4	0.8	0.6	0.06
MDS with ring sideroblasts	45	-	-	-	5	12	28	-	-	-	0.4	1.3	4.6	0.8	0.4	0.3	0.03
MDS with excess blasts	76	-	-	-	9	25	42	-	-	-	0.8	2.7	6.9	1.3	0.7	0.5	0.05
MDS with isolated del(5q)	18	-	-	-	-	6	12	-	-	-	-	0.6	2.0	0.3	0.2	0.1	0.01
MDS, NOS	112	-	-	3	9	38	62	-	-	0.3	0.8	4.0	10.1	1.9	1.1	0.7	0.08
Myelodysplastic/myeloproliferative neoplasms	105	1	-	2	8	33	61	0.1	-	0.2	0.7	3.5	10.0	1.8	1.0	0.7	0.07
Chronic myelomonocytic leukaemia	61	-	-	-	4	21	36	-	-	-	0.3	2.2	5.9	1.1	0.5	0.3	0.04
Other myelodysplastic/myeloproliferative neoplasm	44	1	-	2	4	12	25	0.1	-	0.2	0.3	1.3	4.1	0.8	0.4	0.3	0.03
Juvenile myelomonocytic leukaemia	2	1	-	1	-	-	-	0.1	-	0.1	-	-	-	0.0	0.0	0.1	0.00
Atypical chronic myeloid leukaemia, *BCR-ABL1* negative	7	-	-	1	-	2	4	-	-	0.1	-	0.2	0.7	0.1	0.1	0.0	0.01
Myelodysplastic/myeloproliferative neoplasm, NOS	35	-	-	-	4	10	21	-	-	-	0.3	1.1	3.4	0.6	0.3	0.2	0.02
Other leukaemias, NOS	1	-	-	-	-	-	1	-	-	-	-	-	0.2	0.0	0.0	0.0	-
Histiocytic and dendritic cell neoplasms	13	-	1	3	5	3	1	-	0.1	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.02
Langerhans cell histiocytosis	9	-	-	2	5	1	1	-	-	0.2	0.4	0.1	0.2	0.2	0.1	0.1	0.01
Langerhans cell sarcoma	1	-	-	-	-	1	-	-	-	-	-	0.1	-	0.0	0.0	0.0	0.00
Histiocytic sarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dendritic cell tumour	1	-	-	-	-	1	-	-	-	-	-	0.1	-	0.0	0.0	0.0	0.00
Follicular dendritic cell sarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fibroblastic reticular cell tumour	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malignant histiocytosis, NOS	2	-	1	1	-	-	-	-	0.1	0.1	-	-	-	0.0	0.0	0.0	0.00
All haematological malignancies	3,397	58	112	175	527	1,206	1,319	6.2	11.1	15.9	44.7	128.3	215.8	58.8	39.6	29.4	3.10

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

APPENDIX II

Flemish Region: Number of new diagnoses (N), age-specific and age-standardised incidence (N/100,000) of haematological malignancies in males in 2018 by histological subtype

	Number of new diagnoses (N)							Age-specific incidence (N/100,000)						CR	ESR	WSR	CRi
	Total	0-14y	15-29y	30-44y	45-59y	60-74y	75+	0-14y	15-29y	30-44y	45-59y	60-74y	75+				
Mature lymphoid neoplasms	1,573	14	41	71	240	643	564	2.6	7.2	11.5	33.9	119.6	218.8	48.5	33.7	24.0	2.65
Hodgkin lymphomas	105	8	31	20	18	20	8	1.5	5.4	3.2	2.5	3.7	3.1	3.2	3.2	3.1	0.24
Mature non-Hodgkin B-cell neoplasms	1,334	3	9	44	200	577	501	0.5	1.6	7.1	28.2	107.3	194.3	41.2	27.7	18.8	2.21
Mature B-cell leukaemias and related lymphomas	321	-	-	7	50	156	108	-	-	1.1	7.1	29.0	41.9	9.9	6.7	4.6	0.56
Immunoproliferative diseases	79	-	-	2	8	33	36	-	-	0.3	1.1	6.1	14.0	2.4	1.5	1.0	0.12
Plasma cell neoplasms	352	-	-	6	45	144	157	-	-	1.0	6.4	26.8	60.9	10.9	6.9	4.4	0.54
Marginal zone lymphomas	88	-	2	5	13	38	30	-	0.3	0.8	1.8	7.1	11.6	2.7	1.9	1.3	0.16
Follicular lymphoma and related lymphoma	122	-	1	9	24	57	31	-	0.2	1.5	3.4	10.6	12.0	3.8	2.8	2.0	0.24
Mantle cell lymphoma	68	-	-	2	9	29	28	-	-	0.3	1.3	5.4	10.9	2.1	1.4	0.9	0.11
Diffuse large B-cell lymphoma and related large B-cell lymphomas	283	-	4	12	43	115	109	-	0.7	1.9	6.1	21.4	42.3	8.7	5.9	4.0	0.47
Burkitt lymphoma / leukaemia	21	3	2	1	8	5	2	0.5	0.3	0.2	1.1	0.9	0.8	0.6	0.6	0.5	0.05
Mature T-cell and NK-cell neoplasms	100	3	1	7	18	33	38	0.5	0.2	1.1	2.5	6.1	14.7	3.1	2.2	1.6	0.16
Primary cutaneous T-cell lymphomas	38	1	1	2	7	12	15	0.2	0.2	0.3	1.0	2.2	5.8	1.2	0.8	0.6	0.06
Peripheral NK/T-cell lymphomas	62	2	-	5	11	21	23	0.4	-	0.8	1.6	3.9	8.9	1.9	1.4	1.0	0.10
Precursor neoplasms	229	20	18	12	39	74	66	3.7	3.1	1.9	5.5	13.8	25.6	7.1	5.6	4.8	0.43
Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma	47	16	10	5	6	8	2	2.9	1.7	0.8	0.8	1.5	0.8	1.5	1.6	1.8	0.12
Acute myeloid leukaemias and related precursor neoplasms	178	4	8	6	32	65	63	0.7	1.4	1.0	4.5	12.1	24.4	5.5	3.9	2.9	0.31
Chronic myeloid neoplasms	629	4	7	19	87	218	294	0.7	1.2	3.1	12.3	40.6	114.0	19.4	12.7	8.5	0.89
Myeloproliferative neoplasms	297	1	5	12	66	117	96	0.2	0.9	1.9	9.3	21.8	37.2	9.2	6.5	4.5	0.52
Chronic myeloid leukaemia	52	1	3	4	17	16	11	0.2	0.5	0.6	2.4	3.0	4.3	1.6	1.3	1.0	0.10
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms	245	-	2	8	49	101	85	-	0.3	1.3	6.9	18.8	33.0	7.6	5.2	3.6	0.42
Mast cell neoplasms	8	1	1	1	3	1	1	0.2	0.2	0.2	0.4	0.2	0.4	0.2	0.2	0.2	0.02
Myelodysplastic syndrome	251	2	1	5	16	73	154	0.4	0.2	0.8	2.3	13.6	59.7	7.7	4.6	2.9	0.27
Myelodysplastic/myeloproliferative neoplasms	72	-	-	1	2	27	42	-	-	0.2	0.3	5.0	16.3	2.2	1.3	0.8	0.08
Histiocytic and dendritic cell neoplasms	23	5	6	7	3	-	2	0.9	1.0	1.1	0.4	-	0.8	0.7	0.8	0.8	0.05
All haematological malignancies	2,454	43	72	109	369	935	926	7.9	12.6	17.6	52.1	173.9	359.2	75.7	52.8	38.1	3.98

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

Flemish Region: Number of new diagnoses (N), age-specific and age-standardised incidence (N/100,000) of haematological malignancies in females in 2018 by histological subtype

	Number of new diagnoses (N)							Age-specific incidence (N/100,000)						CR	ESR	WSR	CRi
	Total	0-14y	15-29y	30-44y	45-59y	60-74y	75+	0-14y	15-29y	30-44y	45-59y	60-74y	75+				
Mature lymphoid neoplasms	1,208	10	41	50	194	429	484	1.9	7.4	8.2	28.0	77.1	129.2	36.5	23.3	17.0	1.85
Hodgkin lymphomas	87	4	22	16	15	20	10	0.8	4.0	2.6	2.2	3.6	2.7	2.6	2.5	2.4	0.20
Mature non-Hodgkin B-cell neoplasms	1,001	5	11	29	165	369	422	1.0	2.0	4.7	23.8	66.3	112.6	30.2	18.4	12.8	1.48
Mature B-cell leukaemias and related lymphomas	206	-	-	5	40	76	85	-	-	0.8	5.8	13.7	22.7	6.2	3.7	2.5	0.31
Immunoproliferative diseases	42	-	-	-	9	12	21	-	-	-	1.3	2.2	5.6	1.3	0.7	0.5	0.05
Plasma cell neoplasms	250	-	-	5	30	96	119	-	-	0.8	4.3	17.2	31.8	7.5	4.3	2.9	0.34
Marginal zone lymphomas	74	-	-	2	16	25	31	-	-	0.3	2.3	4.5	8.3	2.2	1.3	0.9	0.11
Follicular lymphoma and related lymphoma	125	-	-	4	27	57	37	-	-	0.7	3.9	10.2	9.9	3.8	2.5	1.8	0.22
Mantle cell lymphoma	21	-	-	-	-	11	10	-	-	-	-	2.0	2.7	0.6	0.3	0.2	0.03
Diffuse large B-cell lymphoma and related large B-cell lymphomas	270	2	9	12	41	90	116	0.4	1.6	2.0	5.9	16.2	31.0	8.2	5.1	3.7	0.40
Burkitt lymphoma / leukaemia	13	3	2	1	2	2	3	0.6	0.4	0.2	0.3	0.4	0.8	0.4	0.4	0.4	0.03
Mature T-cell and NK-cell neoplasms	82	1	6	4	12	31	28	0.2	1.1	0.7	1.7	5.6	7.5	2.5	1.8	1.4	0.14
Primary cutaneous T-cell lymphomas	21	-	1	2	2	10	6	-	0.2	0.3	0.3	1.8	1.6	0.6	0.5	0.4	0.04
Peripheral NK/T-cell lymphomas	61	1	5	2	10	21	22	0.2	0.9	0.3	1.4	3.8	5.9	1.8	1.3	1.0	0.10
Precursor neoplasms	213	25	10	17	33	61	67	4.8	1.8	2.8	4.8	11.0	17.9	6.4	5.0	4.6	0.38
Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma	45	21	4	4	5	4	7	4.0	0.7	0.7	0.7	0.7	1.9	1.4	1.5	1.8	0.10
Acute myeloid leukaemias and related precursor neoplasms	167	4	6	13	28	57	59	0.8	1.1	2.1	4.0	10.2	15.7	5.0	3.5	2.7	0.27
Chronic myeloid neoplasms	505	6	6	21	69	169	234	1.2	1.1	3.4	10.0	30.4	62.5	15.2	9.2	6.5	0.70
Myeloproliferative neoplasms	260	3	5	16	44	92	100	0.6	0.9	2.6	6.4	16.5	26.7	7.9	5.1	3.7	0.41
Chronic myeloid leukaemia	34	2	2	6	4	11	9	0.4	0.4	1.0	0.6	2.0	2.4	1.0	0.8	0.7	0.06
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms	226	1	3	10	40	81	91	0.2	0.5	1.6	5.8	14.6	24.3	6.8	4.3	3.0	0.35
Mast cell neoplasms	14	2	1	3	4	3	1	0.4	0.2	0.5	0.6	0.5	0.3	0.4	0.4	0.4	0.03
Myelodysplastic syndrome	174	1	-	2	17	57	97	0.2	-	0.3	2.5	10.2	25.9	5.3	2.8	1.9	0.20
Myelodysplastic/myeloproliferative neoplasms	57	-	-	-	4	17	36	-	-	-	0.6	3.1	9.6	1.7	0.8	0.5	0.06
Histiocytic and dendritic cell neoplasms	9	-	-	3	4	2	-	-	-	0.5	0.6	0.4	-	0.3	0.3	0.2	0.02
All haematological malignancies	1,935	41	57	91	300	661	785	7.9	10.3	14.8	43.3	118.8	209.5	58.4	37.8	28.3	2.92

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

Walloon Region: Number of new diagnoses (N), age-specific and age-standardised incidence (N/100,000) of haematological malignancies in males in 2018 by histological subtype

	Number of new diagnoses (N)							Age-specific incidence (N/100,000)						CR	ESR	WSR	CRi
	Total	0-14y	15-29y	30-44y	45-59y	60-74y	75+	0-14y	15-29y	30-44y	45-59y	60-74y	75+				
Mature lymphoid neoplasms	850	12	22	60	163	366	227	3.8	6.5	17.5	43.4	130.6	203.0	48.0	37.8	27.3	3.07
Hodgkin lymphomas	75	6	18	17	14	12	8	1.9	5.3	5.0	3.7	4.3	7.2	4.2	4.1	3.8	0.30
Mature non-Hodgkin B-cell neoplasms	692	6	2	34	135	315	200	1.9	0.6	9.9	35.9	112.4	178.9	39.1	30.0	20.8	2.46
Mature B-cell leukaemias and related lymphomas	156	-	-	7	31	74	44	-	-	2.0	8.2	26.4	39.4	8.8	6.7	4.6	0.56
Immunoproliferative diseases	28	-	-	-	5	13	10	-	-	-	1.3	4.6	8.9	1.6	1.2	0.7	0.10
Plasma cell neoplasms	171	-	-	7	28	84	52	-	-	2.0	7.4	30.0	46.5	9.7	7.3	4.9	0.61
Marginal zone lymphomas	73	-	1	3	13	29	27	-	0.3	0.9	3.5	10.4	24.1	4.1	3.1	2.1	0.24
Follicular lymphoma and related lymphoma	64	-	-	6	19	28	11	-	-	1.8	5.1	10.0	9.8	3.6	2.9	2.1	0.25
Mantle cell lymphoma	38	-	-	-	9	16	13	-	-	-	2.4	5.7	11.6	2.1	1.6	1.1	0.13
Diffuse large B-cell lymphoma and related large B-cell lymphomas	151	-	1	11	30	68	41	-	0.3	3.2	8.0	24.3	36.7	8.5	6.6	4.6	0.55
Burkitt lymphoma / leukaemia	11	6	-	-	-	3	2	1.9	-	-	-	1.1	1.8	0.6	0.6	0.7	0.05
Mature T-cell and NK-cell neoplasms	61	-	2	8	10	30	11	-	0.6	2.3	2.7	10.7	9.8	3.4	2.8	2.1	0.25
Primary cutaneous T-cell lymphomas	31	-	-	4	7	16	4	-	-	1.2	1.9	5.7	3.6	1.8	1.4	1.1	0.14
Peripheral NK/T-cell lymphomas	30	-	2	4	3	14	7	-	0.6	1.2	0.8	5.0	6.3	1.7	1.3	1.0	0.12
Precursor neoplasms	140	15	4	6	18	54	43	4.7	1.2	1.8	4.8	19.3	38.5	7.9	6.5	5.3	0.48
Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma	32	13	3	2	4	4	6	4.1	0.9	0.6	1.1	1.4	5.4	1.8	1.9	2.0	0.12
Acute myeloid leukaemias and related precursor neoplasms	104	1	1	4	14	49	35	0.3	0.3	1.2	3.7	17.5	31.3	5.9	4.5	3.1	0.35
Chronic myeloid neoplasms	368	1	2	12	45	143	165	0.3	0.6	3.5	12.0	51.0	147.6	20.8	15.2	9.9	1.06
Myeloproliferative neoplasms	133	-	1	9	23	63	37	-	0.3	2.6	6.1	22.5	33.1	7.5	5.8	4.1	0.48
Chronic myeloid leukaemia	22	-	-	2	5	9	6	-	-	0.6	1.3	3.2	5.4	1.2	1.0	0.7	0.08
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms	111	-	1	7	18	54	31	-	0.3	2.0	4.8	19.3	27.7	6.3	4.8	3.4	0.41
Mast cell neoplasms	4	-	1	-	1	-	2	-	0.3	-	0.3	-	1.8	0.2	0.2	0.1	0.01
Myelodysplastic syndrome	187	1	-	2	17	66	101	0.3	-	0.6	4.5	23.6	90.3	10.6	7.4	4.6	0.48
Myelodysplastic/myeloproliferative neoplasms	44	-	-	1	4	14	25	-	-	0.3	1.1	5.0	22.4	2.5	1.8	1.1	0.09
Histiocytic and dendritic cell neoplasms	5	1	1	-	2	-	1	0.3	0.3	-	0.5	-	0.9	0.3	0.3	0.3	0.02
All haematological malignancies	1,363	29	29	78	228	563	436	9.1	8.5	22.8	60.6	201.0	389.9	77.0	59.7	42.7	4.57

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

Walloon Region: Number of new diagnoses (N), age-specific and age-standardised incidence (N/100,000) of haematological malignancies in females in 2018 by histological subtype

	Number of new diagnoses (N)							Age-specific incidence (N/100,000)						CR	ESR	WSR	CRi
	Total	0-14y	15-29y	30-44y	45-59y	60-74y	75+	0-14y	15-29y	30-44y	45-59y	60-74y	75+				
Mature lymphoid neoplasms	642	2	26	36	103	258	217	0.7	7.9	10.5	27.2	83.1	115.9	34.6	24.1	17.7	1.96
Hodgkin lymphomas	59	2	17	11	12	12	5	0.7	5.2	3.2	3.2	3.9	2.7	3.2	3.1	3.0	0.24
Mature non-Hodgkin B-cell neoplasms	539	-	8	21	85	229	196	-	2.4	6.1	22.4	73.8	104.7	29.1	19.3	13.5	1.59
Mature B-cell leukaemias and related lymphomas	111	-	-	3	20	46	42	-	-	0.9	5.3	14.8	22.4	6.0	3.9	2.6	0.32
Immunoproliferative diseases	20	-	-	-	4	7	9	-	-	-	1.1	2.3	4.8	1.1	0.7	0.4	0.05
Plasma cell neoplasms	143	-	-	2	21	69	51	-	-	0.6	5.5	22.2	27.2	7.7	5.0	3.5	0.43
Marginal zone lymphomas	71	-	-	6	11	31	23	-	-	1.8	2.9	10.0	12.3	3.8	2.7	1.9	0.22
Follicular lymphoma and related lymphoma	69	-	-	5	17	32	15	-	-	1.5	4.5	10.3	8.0	3.7	2.8	2.0	0.24
Mantle cell lymphoma	12	-	-	-	-	7	5	-	-	-	-	2.3	2.7	0.6	0.4	0.3	0.04
Diffuse large B-cell lymphoma and related large B-cell lymphomas	109	-	5	5	11	37	51	-	1.5	1.5	2.9	11.9	27.2	5.9	3.6	2.6	0.28
Burkitt lymphoma / leukaemia	4	-	3	-	1	-	-	-	0.9	-	0.3	-	-	0.2	0.2	0.3	0.02
Mature T-cell and NK-cell neoplasms	34	-	-	4	5	14	11	-	-	1.2	1.3	4.5	5.9	1.8	1.3	0.9	0.11
Primary cutaneous T-cell lymphomas	9	-	-	-	-	5	4	-	-	-	-	1.6	2.1	0.5	0.3	0.2	0.03
Peripheral NK/T-cell lymphomas	25	-	-	4	5	9	7	-	-	1.2	1.3	2.9	3.7	1.3	1.0	0.8	0.08
Precursor neoplasms	132	9	10	4	23	42	44	2.9	3.0	1.2	6.1	13.5	23.5	7.1	5.1	4.2	0.41
Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma	25	8	4	1	3	7	2	2.6	1.2	0.3	0.8	2.3	1.1	1.3	1.4	1.5	0.11
Acute myeloid leukaemias and related precursor neoplasms	103	1	6	3	20	33	40	0.3	1.8	0.9	5.3	10.6	21.4	5.6	3.6	2.7	0.29
Chronic myeloid neoplasms	359	1	4	19	48	138	149	0.3	1.2	5.5	12.7	44.5	79.6	19.4	12.5	8.8	0.98
Myeloproliferative neoplasms	170	-	3	13	26	74	54	-	0.9	3.8	6.9	23.8	28.8	9.2	6.4	4.7	0.53
Chronic myeloid leukaemia	30	-	2	3	8	12	5	-	0.6	0.9	2.1	3.9	2.7	1.6	1.3	1.0	0.11
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms	140	-	1	10	18	62	49	-	0.3	2.9	4.7	20.0	26.2	7.6	5.1	3.7	0.42
Mast cell neoplasms	8	-	1	3	2	2	-	-	0.3	0.9	0.5	0.6	-	0.4	0.4	0.3	0.04
Myelodysplastic syndrome	148	-	-	2	17	49	80	-	-	0.6	4.5	15.8	42.7	8.0	4.6	3.0	0.33
Myelodysplastic/myeloproliferative neoplasms	32	1	-	1	3	13	14	0.3	-	0.3	0.8	4.2	7.5	1.7	1.1	0.8	0.09
Histiocytic and dendritic cell neoplasms	3	-	-	-	1	1	1	-	-	-	0.3	0.3	0.5	0.2	0.1	0.1	0.01
All haematological malignancies	1,136	12	40	59	175	439	411	3.9	12.1	17.2	46.2	141.4	219.6	61.3	41.8	30.8	3.33

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

APPENDIX II

Brussels-Capital Region: Number of new diagnoses (N), age-specific and age-standardised incidence (N/100,000) of haematological malignancies in males in 2018 by histological subtype

	Number of new diagnoses (N)							Age-specific incidence (N/100,000)						CR	ESR	WSR	CRi
	Total	0-14y	15-29y	30-44y	45-59y	60-74y	75+	0-14y	15-29y	30-44y	45-59y	60-74y	75+				
Mature lymphoid neoplasms	217	6	8	20	41	84	58	5.0	6.7	13.8	36.5	136.4	210.0	37.0	37.9	27.5	3.08
Hodgkin lymphomas	22	2	6	6	3	2	3	1.7	5.0	4.2	2.7	3.2	10.9	3.8	3.8	3.5	0.25
Mature non-Hodgkin B-cell neoplasms	175	3	1	9	35	76	51	2.5	0.8	6.2	31.2	123.5	184.6	29.8	30.7	21.2	2.57
Mature B-cell leukaemias and related lymphomas	44	-	-	1	9	20	14	-	-	0.7	8.0	32.5	50.7	7.5	7.8	5.2	0.64
Immunoproliferative diseases	16	-	-	-	4	8	4	-	-	-	3.6	13.0	14.5	2.7	2.8	2.0	0.25
Plasma cell neoplasms	44	-	-	2	5	21	16	-	-	1.4	4.5	34.1	57.9	7.5	7.7	5.1	0.65
Marginal zone lymphomas	14	-	-	1	5	4	4	-	-	0.7	4.5	6.5	14.5	2.4	2.4	1.6	0.18
Follicular lymphoma and related lymphoma	16	-	-	1	6	7	2	-	-	0.7	5.3	11.4	7.2	2.7	2.9	2.1	0.27
Mantle cell lymphoma	5	-	-	-	-	5	-	-	-	-	-	8.1	-	0.9	1.0	0.7	0.13
Diffuse large B-cell lymphoma and related large B-cell lymphomas	32	1	-	4	6	11	10	0.8	-	2.8	5.3	17.9	36.2	5.5	5.4	3.8	0.43
Burkitt lymphoma / leukaemia	4	2	1	-	-	-	1	1.7	0.8	-	-	-	3.6	0.7	0.7	0.8	0.03
Mature T-cell and NK-cell neoplasms	13	1	1	4	3	3	1	0.8	0.8	2.8	2.7	4.9	3.6	2.2	2.3	2.0	0.18
Primary cutaneous T-cell lymphomas	6	1	-	2	1	2	-	0.8	-	1.4	0.9	3.2	-	1.0	1.0	0.9	0.10
Peripheral NK/T-cell lymphomas	7	-	1	2	2	1	1	-	0.8	1.4	1.8	1.6	3.6	1.2	1.2	1.0	0.08
Precursor neoplasms	27	2	4	-	6	7	8	1.7	3.3	-	5.3	11.4	29.0	4.6	4.7	3.9	0.34
Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma	6	2	2	-	-	-	2	1.7	1.7	-	-	-	7.2	1.0	1.1	1.2	0.05
Acute myeloid leukaemias and related precursor neoplasms	19	-	1	-	6	6	6	-	0.8	-	5.3	9.7	21.7	3.2	3.3	2.2	0.25
Chronic myeloid neoplasms	103	1	3	8	13	35	43	0.8	2.5	5.5	11.6	56.9	155.7	17.6	16.9	11.5	1.22
Myeloproliferative neoplasms	39	-	3	5	9	13	9	-	2.5	3.5	8.0	21.1	32.6	6.6	6.6	4.9	0.53
Chronic myeloid leukaemia	12	-	2	2	3	3	2	-	1.7	1.4	2.7	4.9	7.2	2.0	2.0	1.6	0.16
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms	27	-	1	3	6	10	7	-	0.8	2.1	5.3	16.2	25.3	4.6	4.6	3.3	0.37
Mast cell neoplasms	2	1	-	1	-	-	-	0.8	-	0.7	-	-	-	0.3	0.3	0.4	0.02
Myelodysplastic syndrome	48	-	-	1	2	16	29	-	-	0.7	1.8	26.0	105.0	8.2	7.6	4.6	0.48
Myelodysplastic/myeloproliferative neoplasms	14	-	-	1	2	6	5	-	-	0.7	1.8	9.7	18.1	2.4	2.4	1.6	0.19
Histiocytic and dendritic cell neoplasms	1	1	-	-	-	-	-	0.8	-	-	-	-	-	0.2	0.2	0.3	0.01
All haematological malignancies	348	10	15	28	60	126	109	8.3	12.6	19.4	53.5	204.7	394.6	59.3	59.7	43.1	4.59

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

Brussels-Capital Region: Number of new diagnoses (N), age-specific and age-standardised incidence (N/100,000) of haematological malignancies in females in 2018 by histological subtype

	Number of new diagnoses (N)							Age-specific incidence (N/100,000)						CR	ESR	WSR	CRi
	Total	0-14y	15-29y	30-44y	45-59y	60-74y	75+	0-14y	15-29y	30-44y	45-59y	60-74y	75+				
Mature lymphoid neoplasms	190	1	9	15	32	66	67	0.9	7.3	10.5	29.7	90.4	136.0	31.0	26.1	18.7	2.12
Hodgkin lymphomas	16	1	6	4	1	3	1	0.9	4.8	2.8	0.9	4.1	2.0	2.6	2.5	2.4	0.20
Mature non-Hodgkin B-cell neoplasms	160	-	3	9	27	57	64	-	2.4	6.3	25.0	78.0	129.9	26.1	21.4	14.7	1.74
Mature B-cell leukaemias and related lymphomas	34	-	-	1	6	19	8	-	-	0.7	5.6	26.0	16.2	5.6	5.0	3.5	0.51
Immunoproliferative diseases	7	-	-	1	1	2	3	-	-	0.7	0.9	2.7	6.1	1.1	1.0	0.6	0.07
Plasma cell neoplasms	49	-	-	2	7	11	29	-	-	1.4	6.5	15.1	58.9	8.0	5.5	3.5	0.37
Marginal zone lymphomas	17	-	-	2	4	9	2	-	-	1.4	3.7	12.3	4.1	2.8	2.7	2.0	0.27
Follicular lymphoma and related lymphoma	17	-	-	1	5	7	4	-	-	0.7	4.6	9.6	8.1	2.8	2.7	1.9	0.22
Mantle cell lymphoma	3	-	-	-	-	-	3	-	-	-	-	-	6.1	0.5	0.3	0.2	-
Diffuse large B-cell lymphoma and related large B-cell lymphomas	30	-	3	1	3	9	14	-	2.4	0.7	2.8	12.3	28.4	4.9	3.8	2.8	0.29
Burkitt lymphoma / leukaemia	3	-	-	1	1	-	1	-	-	0.7	0.9	-	2.0	0.5	0.4	0.3	0.02
Mature T-cell and NK-cell neoplasms	12	-	-	2	4	4	2	-	-	1.4	3.7	5.5	4.1	2.0	1.9	1.4	0.16
Primary cutaneous T-cell lymphomas	3	-	-	1	1	1	-	-	-	0.7	0.9	1.4	-	0.5	0.5	0.4	0.04
Peripheral NK/T-cell lymphomas	9	-	-	1	3	3	2	-	-	0.7	2.8	4.1	4.1	1.5	1.4	1.0	0.12
Precursor neoplasms	35	4	3	6	6	7	9	3.5	2.4	4.2	5.6	9.6	18.3	5.7	5.2	4.5	0.37
Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma	10	4	-	2	2	1	1	3.5	-	1.4	1.9	1.4	2.0	1.6	1.7	1.8	0.12
Acute myeloid leukaemias and related precursor neoplasms	24	-	2	4	4	6	8	-	1.6	2.8	3.7	8.2	16.2	3.9	3.3	2.5	0.24
Chronic myeloid neoplasms	100	-	2	4	14	33	47	-	1.6	2.8	13.0	45.2	95.4	16.3	12.5	8.5	0.96
Myeloproliferative neoplasms	44	-	1	3	7	19	14	-	0.8	2.1	6.5	26.0	28.4	7.2	6.0	4.2	0.55
Chronic myeloid leukaemia	8	-	-	1	2	2	3	-	-	0.7	1.9	2.7	6.1	1.3	1.1	0.8	0.08
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms	36	-	1	2	5	17	11	-	0.8	1.4	4.6	23.3	22.3	5.9	5.0	3.5	0.48
Mast cell neoplasms	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myelodysplastic syndrome	40	-	1	-	6	11	22	-	0.8	-	5.6	15.1	44.7	6.5	4.9	3.2	0.32
Myelodysplastic/myeloproliferative neoplasms	16	-	-	1	1	3	11	-	-	0.7	0.9	4.1	22.3	2.6	1.5	1.0	0.09
Histiocytic and dendritic cell neoplasms	1	-	1	-	-	-	-	-	0.8	-	-	-	-	0.2	0.2	0.3	0.02
All haematological malignancies	326	5	15	25	52	106	123	4.3	12.1	17.6	48.2	145.1	249.6	53.3	44.0	32.0	3.44

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

Appendix III

Incidence, 5-year prevalence and 5-year relative survival of haematological malignancies by histological subtype and sex

Belgium: Incidence, 5-year prevalence and 5-year relative survival of haematological malignancies by histological subtype and sex

	Males									Females								
	Incidence 2018			Prevalence (5 years) 2014-2018			5-year relative survival 2004-2018			Incidence 2018			Prevalence (5 years) 2014-2018			5-year relative survival 2004-2018		
	N	CR	WSR	N	CR	WSR	N at risk	%	95%CI	N	CR	WSR	N	CR	WSR	N at risk	%	95%CI
Mature lymphoid neoplasms	2,640	47.2	25.4	9,847	175.0	95.7	33,463	73.0	[72.3;73.6]	2,040	35.3	17.4	7,611	131.2	65.3	26,422	73.2	[72.5;73.9]
Hodgkin lymphomas	202	3.6	3.4	888	15.8	14.5	2,616	85.7	[84.0;87.2]	162	2.8	2.6	676	11.6	11.4	1,906	88.2	[86.4;89.8]
Hodgkin lymphoma, nodular lymphocyte predominant	14	0.3	0.3	96	1.7	1.6	270	93.5	[89.0;96.7]	8	0.1	0.1	38	0.7	0.5	86	94.4	[85.1;99.2]
Classical Hodgkin lymphoma	170	3.0	2.8	723	12.8	11.9	2,103	85.8	[83.9;87.5]	141	2.4	2.3	575	9.9	9.9	1,630	89.3	[87.4;91.0]
Hodgkin lymphoma, nodular sclerosis	117	2.1	2.1	534	9.5	9.3	1,494	88.4	[86.3;90.2]	106	1.8	1.9	468	8.1	8.5	1,301	91.6	[89.7;93.2]
Hodgkin lymphoma, mixed cellularity	38	0.7	0.5	131	2.3	1.8	439	78.8	[73.8;83.3]	27	0.5	0.4	78	1.3	1.0	244	78.9	[72.2;84.5]
Hodgkin lymphoma, lymphocyte-rich	13	0.2	0.2	52	0.9	0.7	143	88.6	[80.5;94.4]	7	0.1	0.1	23	0.4	0.2	65	87.2	[73.4;95.9]
Hodgkin lymphoma, lymphocyte depletion	2	0.0	0.0	6	0.1	0.1	<30	-	-	1	0.0	0.0	6	0.1	0.1	<30	-	-
Hodgkin lymphoma, NOS & varia	18	0.3	0.2	70	1.2	1.0	244	75.3	[68.3;81.3]	13	0.2	0.1	63	1.1	0.9	190	75.9	[68.2;82.3]
Mature non-Hodgkin B-cell neoplasms	2,201	39.3	19.7	8,128	144.4	72.9	27,734	72.5	[71.7;73.2]	1,700	29.4	13.2	6,326	109.0	48.6	22,082	72.5	[71.7;73.3]
Mature B-cell leukaemias and related lymphomas	521	9.3	4.6	2,437	43.3	20.7	7,570	88.7	[87.4;90.0]	351	6.1	2.6	1,613	27.8	11.2	5,114	88.7	[87.1;90.1]
B-cell chronic lymphocytic leukaemia / small lymphocytic lymphoma	462	8.3	4.1	2,210	39.3	18.6	6,897	88.3	[86.8;89.6]	337	5.8	2.5	1,541	26.6	10.7	4,877	89.0	[87.5;90.5]
B-cell chronic lymphocytic leukaemia	404	7.2	3.5	2,033	36.1	17.1	6,169	89.7	[88.2;91.1]	305	5.3	2.3	1,420	24.5	9.9	4,341	90.2	[88.6;91.8]
Small lymphocytic lymphoma	58	1.0	0.5	177	3.1	1.5	728	75.8	[70.9;80.3]	32	0.6	0.3	121	2.1	0.9	536	79.5	[74.3;84.2]
Other mature B-cell leukaemias	59	1.1	0.6	227	4.0	2.1	673	93.6	[89.6;97.1]	14	0.2	0.1	72	1.2	0.5	237	81.4	[73.4;88.2]
B-cell prolymphocytic leukaemia	1	0.0	0.0	3	0.1	0.0	<30	-	-	1	0.0	0.0	4	0.1	0.0	<30	-	-
Hairy cell leukaemia	46	0.8	0.5	181	3.2	1.8	558	95.9	[91.8;99.4]	9	0.2	0.1	50	0.9	0.4	145	90.3	[80.8;97.5]
Mature B-cell leukaemia, NOS	12	0.2	0.1	43	0.8	0.3	95	86.7	[71.3;98.8]	4	0.1	0.0	18	0.3	0.1	72	72.6	[56.1;86.6]
Immunoproliferative diseases	123	2.2	1.0	468	8.3	3.7	1,363	78.6	[75.1;82.0]	69	1.2	0.5	284	4.9	1.9	795	82.9	[78.5;86.9]
Waldenström macroglobulinemia	87	1.6	0.7	354	6.3	2.8	966	79.8	[75.5;83.7]	56	1.0	0.4	236	4.1	1.5	577	85.6	[80.4;90.3]
Lymphoplasmacytic lymphoma	36	0.6	0.3	107	1.9	0.8	380	74.6	[67.7;80.9]	13	0.2	0.1	46	0.8	0.3	211	76.3	[67.9;83.6]
Other Immunoproliferative diseases	-	-	-	7	0.1	0.1	<30	-	-	-	-	-	2	0.0	0.0	<30	-	-
Plasma cell neoplasms	567	10.1	4.7	1,710	30.4	14.3	6,400	56.0	[54.4;57.6]	442	7.6	3.1	1,410	24.3	10.2	5,221	54.0	[52.3;55.7]
Plasma cell myeloma	531	9.5	4.3	1,599	28.4	13.3	5,897	55.2	[53.5;56.8]	428	7.4	3.0	1,350	23.3	9.8	4,884	53.8	[52.0;55.5]
Plasmacytoma	36	0.6	0.3	111	2.0	1.0	503	65.7	[60.0;71.1]	14	0.2	0.1	60	1.0	0.5	337	55.6	[49.2;61.8]
Marginal zone lymphomas	175	3.1	1.6	713	12.7	6.6	1,984	86.1	[83.4;88.6]	162	2.8	1.3	735	12.7	5.7	2,067	87.7	[85.3;89.9]
Splenic marginal zone lymphoma	24	0.4	0.2	78	1.4	0.6	238	81.9	[72.9;89.8]	23	0.4	0.2	99	1.7	0.7	271	85.3	[78.0;91.4]
Other marginal zone lymphoma (nodal / extranodal)	151	2.7	1.4	635	11.3	6.0	1,746	86.6	[83.8;89.3]	139	2.4	1.1	636	11.0	5.0	1,796	88.1	[85.5;90.4]
Follicular lymphoma and related lymphoma	202	3.6	2.0	878	15.6	8.6	2,730	88.6	[86.6;90.5]	211	3.7	1.8	884	15.2	7.6	2,871	89.2	[87.3;90.9]
Follicular lymphoma	195	3.5	2.0	849	15.1	8.3	2,677	88.4	[86.4;90.3]	205	3.5	1.8	864	14.9	7.4	2,820	89.2	[87.4;90.9]
Primary cutaneous follicle centre lymphoma	7	0.1	0.1	29	0.5	0.3	53	96.0	[78.3;104.9]	6	0.1	0.1	20	0.3	0.2	51	85.2	[66.7;97.3]
Mantle cell lymphoma	111	2.0	0.9	350	6.2	2.9	1,342	57.8	[54.2;61.2]	36	0.6	0.2	139	2.4	0.9	562	64.9	[59.7;69.9]
Diffuse large B-cell lymphoma and related large B-cell lymphomas	466	8.3	4.2	1,448	25.7	13.7	6,071	59.7	[58.1;61.3]	409	7.1	3.3	1,226	21.1	10.3	5,321	59.4	[57.7;61.0]
DLBCL	435	7.8	3.8	1,354	24.1	12.4	5,718	59.6	[57.9;61.2]	388	6.7	2.9	1,148	19.8	9.2	5,030	58.1	[56.4;59.8]
Other related large B-cell lymphomas	31	0.6	0.3	94	1.7	1.3	353	61.8	[55.7;67.5]	21	0.4	0.3	78	1.3	1.1	291	79.9	[74.1;84.9]
T-cell/histiocyte rich large B-cell lymphoma	13	0.2	0.1	38	0.7	0.4	140	69.3	[59.3;77.8]	2	0.0	0.0	13	0.2	0.1	62	65.9	[50.5;78.8]
Mediastinal large B-cell lymphoma	7	0.1	0.1	37	0.7	0.7	113	75.9	[66.0;83.5]	13	0.2	0.2	52	0.9	0.9	177	89.0	[83.0;93.1]
ALK-positive large B-cell lymphoma	-	-	-	-	-	-	<30	-	-	-	-	-	-	-	-	<30	-	-
Lymphomatoid granulomatosis, grade 3	1	0.0	0.0	1	0.0	0.0	<30	-	-	-	-	-	-	-	-	-	-	-
Intravascular large B-cell lymphoma	2	0.0	0.0	-	-	-	<30	-	-	4	0.1	0.0	4	0.1	0.0	<30	-	-
Primary effusion lymphoma	1	0.0	0.0	1	0.0	0.0	<30	-	-	-	-	-	1	0.0	0.0	<30	-	-
Plasmablastic lymphoma	6	0.1	0.1	15	0.3	0.2	57	27.4	[15.2;41.8]	1	0.0	0.0	3	0.1	0.0	<30	-	-
HHV8-positive diffuse large B-cell lymphoma	1	0.0	0.0	2	0.0	0.0	<30	-	-	1	0.0	0.0	3	0.1	0.0	<30	-	-
Other diffuse mixed small & large cell lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	2	0.0	0.0	<30	-	-
Burkitt lymphoma / leukaemia	36	0.6	0.6	130	2.3	2.4	320	56.5	[50.2;62.4]	20	0.3	0.4	43	0.7	0.8	160	52.5	[43.9;60.5]
Burkitt lymphoma	32	0.6	0.6	116	2.1	2.2	269	59.5	[52.7;65.9]	16	0.3	0.3	33	0.6	0.6	117	59.2	[49.0;68.2]
Burkitt leukaemia	4	0.1	0.1	14	0.2	0.2	51	40.3	[25.9;54.7]	4	0.1	0.1	10	0.2	0.2	43	33.7	[19.7;48.6]
Mature T-cell and NK-cell neoplasms	174	3.1	1.8	607	10.8	6.5	2,239	63.8	[61.2;66.3]	128	2.2	1.2	424	7.3	4.1	1,520	69.1	[66.2;71.9]
Primary cutaneous T-cell lymphomas	75	1.3	0.8	304	5.4	3.2	970	85.3	[81.5;88.8]	33	0.6	0.3	161	2.8	1.6	598	91.1	[87.1;94.7]
Mycosis fungoïdes / Sezary syndrome	64	1.1	0.7	240	4.3	2.6	749	88.2	[83.9;92.1]	28	0.5	0.3	118	2.0	1.1	426	93.0	[88.1;97.0]
Mycosis fungoides	60	1.1	0.7	230	4.1	2.5	705	90.5	[86.2;94.3]	25	0.4	0.2	108	1.9	1.1	396	94.4	[89.6;98.4]
Sézary syndrome	4	0.1	0.0	10	0.2	0.1	44	49.2	[29.0;68.8]	3	0.1	0.0	10	0.2	0.1	30	72.3	[47.0;90.6]
Other primary cutaneous T-cell lymphoma	11	0.2	0.1	64	1.1	0.7	221	75.5	[67.2;82.9]	5	0.1	0.1	43	0.7	0.4	172	86.6	[78.2;93.2]
Primary cutaneous anaplastic large cell lymphoma	9	0.2	0.1	40	0.7	0.4	94	81.8	[68.4;92.2]	4	0.1	0.1	21	0.4	0.2	53	95.9	[79.6;103.5]
Primary cutaneous γδ T-cell lymphoma	-	-	-	-	-	-	<30	-	-	-	-	-	-	-	-	-	-	-
Cutaneous T-cell lymphoma, NOS	2	0.0	0.0	24	0.4	0.3	126	71.9	[60.8;81.5]	1	0.0	0.0	22	0.4	0.2	119	82.5	[71.9;90.9]
Peripheral NK/T-cell lymphomas	99	1.8	1.0	303	5.4	3.3	1,269	47.3	[44.0;50.6]	95	1.6	0.9	263	4.5	2.6	922	54.5	[50.7;58.3]
Nodal PNK/TCL	66	1.2	0.7	184	3.3	2.0	911	41.7	[38.0;45.4]	65	1.1	0.6	165	2.8	1.7	624	50.0	[45.4;54.6]
Peripheral NK/T-cell lymphoma, NOS	27	0.5	0.3	89	1.6	0.8	485	37.4	[32.4;42.5]	24	0.4	0.2	75	1.3	0.6	341	43.4	[37.2;49.5]
Anaplastic large cell lymphoma	20	0.4	0.2	57	1.0	0.9	191	61.2	[52.8;68.9]	20	0.3	0.3	49	0.8	0.8	107	75.1	[64.1;83.7]
Angioimmunoblastic T-cell lymphoma	19	0.3	0.2	38	0.7	0.4	235	34.7	[27.8;41.8]	21	0.4	0.1	41	0.7	0.3	176	47.6	[38.9;56.1]
Leukaemic PNK/TCL	23	0.4	0.2	90	1.6	0.9	232	69.9	[61.6;77.5]	23	0.4	0.2	83	1.4	0.7	197	74.7	[66.3;81.9]
T-cell prolymphocytic leukaemia	5	0.1	0.0	10	0.2	0.1	31	14.0	[3.6;32.2]	4	0.1	0.0	10	0.2	0.1	<30	-	-
Adult T-cell leukaemia / lymphoma (HTLV1 pos.)	-	-	-	2	0.0	0.0	<30	-	-	2	0.0	0.0	2	0.0	0.0	<30	-	-
T-cell large granular lymphocytic leukaemia	18	0.3	0.1	78	1.4	0.7	177	85.4	[76.0;93.0]	17	0.3	0.2	70	1.2	0.6	155	86.6	[77.3;93.6]
Systemic EBV-positive T-cell lymphoproliferative disease of childhood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aggressive NK-cell leukaemia	-	-	-	-	-	-	<30	-	-	-	-	-	1	0.0	0.0	<30	-	-
Extra-nodal PNK/TCL	10	0.2	0.2	29	0.5	0.4	126	46.5	[36.4;56.2]	7	0.1	0.1	15	0.3	0.2	102	43.1	[32.4;53.7]
Hepatosplenic T-cell lymphoma	2	0.0	0.0	3	0.1	0.0	<30	-	-	-	-	-	2	0.0	0.1	<30	-	-
Intestinal T-cell lymphoma	-	-	-	3	0.1	0.0	<30	-	-	3	0.1	0.0	5	0.1	0.0	32	30.9	[15.7;48.1]
Extranodal NK/T-cell lymphoma, nasal and nasal-type	7	0.1	0.1	20	0.4	0.3	77	47.8	[35.0;59.9]	4	0.1	0.1	6	0.1	0.1	50	41.0	[26.4;55.5]
Subcutaneous panniculitis-like T-cell lymphoma	1	0.0	0.0	3	0.1	0.1	<30	-	-	-	-	-	2	0.0	0.0	<30	-	-

Belgium: Incidence, 5-year prevalence and 5-year relative survival of haematological malignancies by histological subtype and sex

	Males									Females								
	Incidence 2018			Prevalence (5 years) 2014-2018			5-year relative survival 2004-2018			Incidence 2018			Prevalence (5 years) 2014-2018			5-year relative survival 2004-2018		
	N	CR	WSR	N	CR	WSR	N at risk	%	95%CI	N	CR	WSR	N	CR	WSR	N at risk	%	95%CI
Other lymphoid neoplasms	63	1.1	0.5	244	4.3	2.1	1,038	68.6	[64.5;72.5]	50	0.9	0.4	202	3.5	1.4	1,014	61.9	[57.9;65.9]
B-cell lymphoma, unclassifiable, with features intermediate between DLBCL and classical Hodgkin lymphoma	5	0.1	0.0	17	0.3	0.3	50	74.5	[57.3;87.2]	6	0.1	0.1	18	0.3	0.3	42	79.2	[61.7;90.5]
Lymphoid neoplasms, NOS	58	1.0	0.5	227	4.0	1.8	988	68.3	[64.1;72.3]	44	0.8	0.2	184	3.2	1.1	972	61.2	[57.1;65.2]
Lymphoma, NOS	41	0.7	0.3	182	3.2	1.5	787	64.0	[59.3;68.5]	35	0.6	0.2	149	2.6	0.9	791	56.9	[52.4;61.3]
Leukaemia, NOS	17	0.3	0.1	45	0.8	0.3	201	84.7	[75.0;93.1]	9	0.2	0.1	35	0.6	0.2	181	80.0	[70.1;88.6]
Precursor neoplasms	396	7.1	4.8	918	16.3	14.9	4,650	26.0	[24.6;27.4]	380	6.6	4.5	776	13.4	12.7	3,914	27.3	[25.8;28.8]
Precursor lymphoid neoplasms (PLN) or lymphoblastic leukaemia / lymphoma	85	1.5	1.8	344	6.1	8.1	731	45.4	[41.4;49.3]	80	1.4	1.7	262	4.5	6.4	544	47.3	[42.7;51.8]
B-cell PLN or lymphoblastic leukaemia / lymphoma	49	0.9	1.1	222	3.9	5.4	395	43.4	[38.0;48.8]	70	1.2	1.5	213	3.7	5.4	338	45.0	[39.0;50.8]
B-cell PLN with recurrent cytogenetic abnormalities	14	0.3	0.4	63	1.1	1.6	39	54.2	[35.6;70.0]	38	0.7	1.0	82	1.4	2.2	58	53.5	[35.5;69.1]
B-cell PLN with t(9;22)(q34.1;q11.2); *BCR-ABL1*	2	0.0	0.0	27	0.5	0.5	35	58.3	[38.2;74.4]	13	0.2	0.2	25	0.4	0.4	47	47.5	[29.2;64.2]
B-cell PLN with t(v;11q23.3); *KMT2A* rearranged	1	0.0	0.0	4	0.1	0.1	<30	-	-	3	0.1	0.0	3	0.1	0.0	<30	-	-
B-cell PLN with t(12;21)(p13.2;q22.1); *ETV6-RUNX1*	2	0.0	0.1	13	0.2	0.4	-	-	-	9	0.2	0.3	26	0.4	0.9	<30	-	-
B-cell PLN with Hyperdiploidy	5	0.1	0.2	15	0.3	0.5	<30	-	-	9	0.2	0.3	20	0.3	0.7	<30	-	-
B-cell PLN with Hypodiploidy	3	0.1	0.1	3	0.1	0.1	<30	-	-	3	0.1	0.1	4	0.1	0.1	<30	-	-
B-cell PLN with t(5;14)(q31.1;q32.1); *IGH-IL3*	-	-	-	-	-	-	-	-	-	1	0.0	0.0	2	0.0	0.0	<30	-	-
B-cell PLN with t(1;19)(q23;p13.3); *TCF3-PBX1*	1	0.0	0.0	1	0.0	0.0	-	-	-	-	-	-	2	0.0	0.0	<30	-	-
B-cell PLN or lymphoblastic leukaemia / lymphoma, NOS	35	0.6	0.7	159	2.8	3.8	356	42.4	[36.8;48.0]	32	0.6	0.5	132	2.3	3.2	280	42.9	[36.6;49.1]
T-cell and NK-cell PLN or lymphoblastic leukaemia / lymphoma	32	0.6	0.6	113	2.0	2.5	222	56.7	[49.3;63.5]	9	0.2	0.2	41	0.7	1.0	100	63.1	[52.2;72.3]
PLN or lymphoblastic leukaemia / lymphoma, NOS and related neoplasms	4	0.1	0.1	9	0.2	0.2	114	30.5	[21.8;39.7]	1	0.0	0.0	8	0.1	0.1	106	38.5	[28.8;48.3]
Acute myeloid leukaemias and related precursor neoplasms	301	5.4	2.9	557	9.9	6.6	3,836	22.5	[21.0;23.9]	294	5.1	2.7	501	8.6	6.0	3,307	24.3	[22.8;25.9]
Acute myeloid leukaemias with recurrent cytogenetic abnormalities	22	0.4	0.3	77	1.4	1.1	352	43.0	[37.2;48.7]	40	0.7	0.6	89	1.5	1.4	324	56.1	[50.0;61.7]
AML with t(8;21)(q22;q22.1); *RUNX1-RUNX1T1*	1	0.0	0.0	17	0.3	0.3	92	34.0	[23.8;44.6]	6	0.1	0.1	11	0.2	0.2	71	39.9	[27.5;52.1]
AML with inv/t(16;16)(p13.1;q22); *CBFB-MYH11*	2	0.0	0.0	14	0.2	0.2	49	51.9	[35.7;66.4]	4	0.1	0.1	14	0.2	0.2	47	56.9	[41.0;70.3]
Acute promyelocytic leukaemia with t(15;17)(q22;q11-q12) and variant *RARA* transloc.	15	0.3	0.2	35	0.6	0.4	137	62.9	[52.8;71.9]	20	0.3	0.3	51	0.9	0.7	151	76.1	[67.5;83.1]
AML with t(v;11q23.3); *KMT2A* rearranged	4	0.1	0.1	9	0.2	0.2	68	13.8	[6.6;24.0]	8	0.1	0.2	11	0.2	0.2	51	22.8	[12.3;35.5]
AML with t(6;9)(p23;q34.1); *DEK-NUP214*	-	-	-	-	-	-	<30	-	-	1	0.0	0.0	2	0.0	0.0	<30	-	-
AML with inv/t(3;3)(q21.3;q26.2); *GATA2 , MECOM*	-	-	-	2	0.0	0.0	<30	-	-	1	0.0	0.0	-	-	-	<30	-	-
AML with t(1;22)(p13.3;q13.1); *RBM15-MKL1*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute myeloid leukaemias with specific conditions	87	1.6	0.8	123	2.2	1.2	785	15.6	[12.8;18.7]	92	1.6	0.8	118	2.0	1.2	659	16.4	[13.4;19.8]
AML with myelodysplasia-related changes	59	1.1	0.5	84	1.5	0.7	600	15.0	[11.9;18.6]	48	0.8	0.3	52	0.9	0.5	406	13.0	[9.6;16.8]
Therapy-related myeloid neoplasm	28	0.5	0.3	38	0.7	0.4	185	17.3	[11.5;24.4]	43	0.7	0.4	63	1.1	0.6	253	22.3	[16.7;28.6]
Myeloid leukaemia associated with Down syndrome	-	-	-	1	0.0	0.0	-	-	-	1	0.0	0.0	3	0.1	0.1	-	-	-
Other AML and related precursor neoplasms	192	3.4	1.8	357	6.3	4.3	2,699	21.6	[19.9;23.3]	162	2.8	1.3	294	5.1	3.5	2,324	22.0	[20.3;23.8]
Other AML according to the FAB classification	72	1.3	0.7	142	2.5	1.9	1,236	25.0	[22.5;27.7]	65	1.1	0.6	129	2.2	1.7	1,074	27.1	[24.4;30.0]
AML with minimal differentiation (FAB M0)	12	0.2	0.1	26	0.5	0.3	275	19.2	[14.6;24.5]	15	0.3	0.1	28	0.5	0.4	262	24.4	[19.1;30.0]
AML without maturation (FAB M1)	7	0.1	0.1	17	0.3	0.2	150	27.4	[20.2;35.2]	13	0.2	0.1	27	0.5	0.3	182	31.5	[24.5;38.8]
AML with maturation (FAB M2)	17	0.3	0.1	26	0.5	0.3	245	28.9	[22.8;35.3]	5	0.1	0.1	19	0.3	0.3	178	32.4	[25.3;39.7]
Acute myelomonocytic leukaemia (FAB M4)	14	0.3	0.1	24	0.4	0.3	172	30.9	[23.7;38.5]	12	0.2	0.1	23	0.4	0.3	139	33.3	[25.2;41.7]
Acute monocytic leukaemia (FAB M5)	17	0.3	0.2	39	0.7	0.5	258	27.1	[21.5;33.0]	16	0.3	0.2	25	0.4	0.3	221	23.5	[18.0;29.4]
Acute erythroid leukaemia (FAB M6)	5	0.1	0.0	6	0.1	0.1	116	18.3	[11.6;26.4]	4	0.1	0.0	5	0.1	0.0	76	17.1	[9.8;26.3]
Acute megakaryoblastic leukaemia (FAB M7)	-	-	-	4	0.1	0.1	<30	-	-	-	-	-	2	0.0	0.1	<30	-	-
Acute basophilic leukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other related myeloid precursor neoplasms	9	0.2	0.1	25	0.4	0.3	170	41.3	[32.9;49.8]	4	0.1	0.0	14	0.2	0.2	94	50.5	[38.7;61.7]
Acute panmyelosis with myelofibrosis	6	0.1	0.1	19	0.3	0.2	118	41.2	[30.9;51.6]	2	0.0	0.0	9	0.2	0.1	61	52.0	[37.1;65.9]
Myeloid sarcoma	3	0.1	0.0	6	0.1	0.1	52	41.0	[26.8;55.1]	2	0.0	0.0	5	0.1	0.1	33	48.5	[29.9;65.5]
Acute myeloid leukaemias, NOS	111	2.0	1.0	190	3.4	2.1	1,293	15.7	[13.6;17.9]	93	1.6	0.7	151	2.6	1.6	1,156	15.0	[12.9;17.2]
Acute leukaemias of ambiguous lineage	10	0.2	0.1	18	0.3	0.3	94	18.8	[11.5;27.8]	6	0.1	0.0	14	0.2	0.2	72	9.0	[4.2;16.1]
Acute leukaemia, NOS	4	0.1	0.0	6	0.1	0.1	69	10.2	[4.6;18.7]	3	0.1	0.0	-	-	-	49	0.4	[0.0;2.2]
Mixed phenotype acute leukaemia with t(9;22)(q34.1;q11.2); *BCR-ABL1*	1	0.0	0.0	3	0.1	0.1	<30	-	-	-	-	-	2	0.0	0.0	<30	-	-
Mixed phenotype acute leukaemia with t(v;11q23.3); *KMT2A* rearranged	-	-	-	-	-	-	-	-	-	-	-	-	3	0.1	0.1	<30	-	-
Mixed phenotype acute leukaemia B/myeloid, NOS	1	0.0	0.0	2	0.0	0.0	<30	-	-	2	0.0	0.0	3	0.1	0.0	<30	-	-
Mixed phenotype acute leukaemia T/myeloid, NOS	2	0.0	0.0	2	0.0	0.0	<30	-	-	1	0.0	0.0	3	0.1	0.1	<30	-	-
Acute biphenotypic leukaemia, NOS	2	0.0	0.1	5	0.1	0.1	<30	-	-	-	-	-	3	0.1	0.1	<30	-	-

Appendix III

Belgium: Incidence, 5-year prevalence and 5-year relative survival of haematological malignancies by histological subtype and sex

	Males									Females								
	Incidence 2018			Prevalence (5 years) 2014-2018			5-year relative survival 2004-2018			Incidence 2018			Prevalence (5 years) 2014-2018			5-year relative survival 2004-2018		
	N	CR	WSR	N	CR	WSR	N at risk	%	95%CI	N	CR	WSR	N	CR	WSR	N at risk	%	95%CI
Chronic myeloid neoplasms	1,100	19.7	9.2	3,706	65.8	32.0	12,368	61.2	[60.0;62.4]	964	16.7	7.4	3,370	58.1	25.6	10,350	70.2	[69.0;71.4]
Myeloproliferative neoplasms	469	8.4	4.4	1,891	33.6	17.9	5,182	83.2	[81.6;84.8]	474	8.2	4.1	1,972	34.0	16.0	5,134	89.3	[87.9;90.8]
Chronic myeloid leukaemia	86	1.5	0.9	409	7.3	4.6	1,201	84.7	[81.6;87.5]	72	1.2	0.8	328	5.7	3.5	1,009	85.9	[82.7;88.7]
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms	383	6.8	3.5	1,482	26.3	13.3	3,981	82.7	[80.7;84.5]	402	7.0	3.3	1,644	28.3	12.5	4,125	90.2	[88.5;91.9]
Polycythaemia vera	125	2.2	1.2	512	9.1	4.6	1,177	96.1	[93.0;98.9]	97	1.7	0.8	427	7.4	3.0	1,010	94.8	[91.4;97.9]
Essential thrombocythaemia	167	3.0	1.6	640	11.4	5.8	1,664	90.6	[87.7;93.2]	251	4.3	2.1	997	17.2	7.9	2,314	96.4	[94.2;98.3]
Primary myelofibrosis	67	1.2	0.5	216	3.8	1.8	719	50.8	[45.9;55.6]	37	0.6	0.3	128	2.2	0.9	450	57.1	[51.2;62.8]
Other MPN and related neoplasms	24	0.4	0.2	114	2.0	1.0	421	68.1	[61.8;74.0]	17	0.3	0.1	92	1.6	0.7	351	79.8	[73.4;85.5]
Chronic neutrophilic leukaemia	2	0.0	0.0	3	0.1	0.0	<30	-	-	2	0.0	0.0	4	0.1	0.0	<30	-	-
Myeloid/lymphoid neoplasm with *PDGFRA* rearr.	-	-	-	1	0.0	0.0	<30	-	-	-	-	-	-	-	-	-	-	-
Myeloid neoplasm with *PDGFRB* rearrangement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myeloid/lymphoid neoplasm with *FGFR1* abn.	-	-	-	1	0.0	0.0	<30	-	-	-	-	-	-	-	-	-	-	-
Chronic eosinophilic leukaemia, NOS	4	0.1	0.1	28	0.5	0.3	85	87.9	[75.1;97.2]	-	-	-	11	0.2	0.1	47	92.1	[77.6;99.5]
Myeloproliferative neoplasm, NOS	18	0.3	0.2	81	1.4	0.7	313	63.8	[56.3;70.8]	15	0.3	0.1	77	1.3	0.5	293	79.4	[72.1;85.9]
Mast cell neoplasms	14	0.3	0.2	62	1.1	1.0	107	83.7	[72.8;91.4]	22	0.4	0.3	91	1.6	1.4	158	96.3	[90.0;99.7]
Mastocytoma, NOS	3	0.1	0.1	20	0.4	0.4	<30	-	-	10	0.2	0.2	35	0.6	0.7	56	100.5	[89.9;102.1]
Indolent systemic mastocytosis	8	0.1	0.1	26	0.5	0.3	51	87.6	[70.4;97.0]	9	0.2	0.1	39	0.7	0.5	68	97.7	[85.8;101.8]
Malignant mastocytosis	3	0.1	0.0	16	0.3	0.2	34	69.1	[46.8;85.2]	3	0.1	0.1	17	0.3	0.2	36	88.0	[69.1;97.2]
Mast cell leukaemia	-	-	-	-	-	-	<30	-	-	-	-	-	-	-	-	-	-	-
Mast cell sarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myelodysplastic syndrome	486	8.7	3.5	1,385	24.6	10.3	5,627	44.2	[42.4;46.0]	362	6.3	2.3	1,062	18.3	6.7	4,116	49.3	[47.3;51.4]
Myelodysplastic syndrome (MDS) with single lineage dysplasia	146	2.6	1.1	367	6.5	2.7	1,241	49.5	[45.5;53.5]	111	1.9	0.8	263	4.5	1.8	810	56.9	[52.1;61.7]
MDS with single lineage dysplasia	38	0.7	0.3	93	1.7	0.6	527	58.0	[51.8;64.2]	30	0.5	0.2	95	1.6	0.6	422	59.6	[53.2;65.8]
MDS with multilineage dysplasia	108	1.9	0.8	274	4.9	2.1	714	42.4	[37.1;47.7]	81	1.4	0.6	168	2.9	1.1	388	53.8	[46.3;61.1]
MDS with ring sideroblasts	54	1.0	0.4	151	2.7	1.1	481	61.0	[54.1;67.8]	45	0.8	0.3	118	2.0	0.7	329	66.5	[58.4;74.2]
MDS with excess blasts	110	2.0	0.8	201	3.6	1.7	990	20.5	[17.5;23.8]	76	1.3	0.5	129	2.2	0.8	673	22.1	[18.4;26.2]
MDS with isolated del(5q)	6	0.1	0.0	16	0.3	0.1	51	48.5	[29.7;67.4]	18	0.3	0.1	55	0.9	0.3	143	61.5	[49.7;72.2]
MDS, NOS	170	3.0	1.2	650	11.5	4.8	2,865	47.3	[44.8;49.8]	112	1.9	0.7	497	8.6	3.1	2,161	51.8	[49.0;54.6]
Myelodysplastic/myeloproliferative neoplasms	130	2.3	1.0	365	6.5	2.8	1,381	43.7	[40.2;47.2]	105	1.8	0.7	242	4.2	1.5	902	48.8	[44.5;53.1]
Chronic myelomonocytic leukaemia	87	1.6	0.6	219	3.9	1.5	832	33.6	[29.4;38.1]	61	1.1	0.3	136	2.3	0.7	493	35.4	[29.8;41.3]
Other myelodysplastic/myeloproliferative neoplasm	43	0.8	0.3	146	2.6	1.2	549	57.9	[52.2;63.4]	44	0.8	0.3	106	1.8	0.8	409	63.4	[57.1;69.4]
Juvenile myelomonocytic leukaemia	-	-	-	3	0.1	0.1	-	-	-	2	0.0	0.1	3	0.1	0.1	<30	-	-
Atypical chronic myeloid leukaemia, *BCR-ABL1* negative	5	0.1	0.0	20	0.4	0.2	114	33.6	[23.5;44.4]	7	0.1	0.0	21	0.4	0.1	73	40.0	[26.6;53.8]
Myelodysplastic/myeloproliferative neoplasm, NOS	38	0.7	0.3	123	2.2	1.0	435	64.5	[58.0;70.7]	35	0.6	0.2	82	1.4	0.6	335	68.8	[61.8;75.3]
Other leukaemias, NOS	1	0.0	0.0	7	0.1	0.1	75	22.2	[12.6;33.9]	1	0.0	0.0	3	0.1	0.0	43	37.9	[21.7;55.4]
Histiocytic and dendritic cell neoplasms	29	0.5	0.6	113	2.0	2.5	172	76.6	[68.2;83.4]	13	0.2	0.2	77	1.3	1.5	148	81.5	[73.1;87.8]
Langerhans cell histiocytosis	26	0.5	0.6	106	1.9	2.4	123	89.6	[80.4;95.4]	9	0.2	0.1	63	1.1	1.3	109	92.0	[84.1;96.6]
Langerhans cell sarcoma	-	-	-	1	0.0	0.0	<30	-	-	1	0.0	0.0	1	0.0	0.0	<30	-	-
Histiocytic sarcoma	1	0.0	0.0	1	0.0	0.0	<30	-	-	-	-	-	1	0.0	0.0	<30	-	-
Dendritic cell tumour	1	0.0	0.0	2	0.0	0.0	<30	-	-	1	0.0	0.0	3	0.1	0.0	<30	-	-
Follicular dendritic cell sarcoma	-	-	-	1	0.0	0.0	<30	-	-	-	-	-	5	0.1	0.1	<30	-	-
Fibroblastic reticular cell tumour	-	-	-	-	-	-	<30	-	-	-	-	-	-	-	-	-	-	-
Malignant histiocytosis, NOS	1	0.0	0.0	2	0.0	0.0	<30	-	-	2	0.0	0.0	4	0.1	0.1	<30	-	-
All haematological malignancies	4,165	74.4	39.9	14,520	258.0	144.5	50,140	66.2	[65.7;66.8]	3,397	58.8	29.4	11,787	203.1	104.7	40,513	68.4	[67.8;69.0]

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

WSR: age-standardised rate, using the world population (N/100,000 person years)

Relative survival calculated for adults (age 15+) diagnosed between 2004 and 2018. Relative survival data are not presented when the number of patients at risk is less than 30 cases.

APPENDIX IV

NUMBER OF NEW DIAGNOSES (N) AND AGE-STANDARDISED INCIDENCE (N/100,000)

OF HAEMATOLOGICAL MALIGNANCIES BY HISTOLOGICAL SUBTYPE, SEX AND INCIDENCE YEAR, 2004-2018

Belgium: Number of new diagnoses (N) and age-standardised incidence (N/100,000) of haematological malignancies in males by histological subtype and incidence year, 2004-2018

	N															WSR														
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Mature lymphoid neoplasms	1,938	1,942	1,964	1,966	2,051	2,087	2,122	2,245	2,440	2,463	2,578	2,539	2,642	2,591	2,640	23.8	23.6	23.3	23.4	23.8	23.4	23.2	24.7	25.9	26.0	26.4	25.8	26.3	25.8	25.4
Hodgkin lymphomas	159	176	176	160	180	173	154	197	185	195	218	188	210	206	202	2.8	3.3	3.0	2.8	3.0	3.0	2.5	3.4	3.0	3.3	3.5	3.2	3.4	3.4	3.4
Mature non-Hodgkin B-cell neoplasms	1,539	1,539	1,585	1,627	1,677	1,714	1,775	1,809	2,011	2,064	2,115	2,109	2,185	2,125	2,201	18.0	17.7	17.8	18.5	18.4	18.1	18.5	18.8	20.3	20.6	20.4	20.2	20.3	19.7	19.7
Mature B-cell leukaemias and related lymphomas	403	433	416	425	482	475	505	498	575	542	593	586	586	556	521	4.6	4.9	4.5	4.7	5.1	4.9	5.2	5.0	5.6	5.3	5.6	5.5	5.2	5.0	4.6
Immunoproliferative diseases	90	63	73	62	78	79	73	83	90	102	110	110	122	111	123	1.0	0.7	0.8	0.7	0.8	0.8	0.7	0.8	0.8	1.0	0.9	1.0	1.1	1.0	1.0
Plasma cell neoplasms	350	351	362	375	353	406	403	442	445	457	445	470	499	505	567	3.7	3.7	3.8	4.1	3.6	4.1	3.9	4.3	4.3	4.2	4.0	4.2	4.4	4.4	4.7
Marginal zone lymphomas	91	91	105	109	124	102	101	119	132	150	175	167	180	176	175	1.1	1.1	1.2	1.3	1.4	1.2	1.0	1.2	1.3	1.5	1.8	1.6	1.7	1.6	1.6
Follicular lymphoma and related lymphoma	180	175	164	162	182	172	177	158	183	192	180	195	207	214	202	2.2	2.1	2.0	2.0	2.1	1.9	2.0	1.8	2.0	2.0	1.9	2.0	2.1	2.3	2.0
Mantle cell lymphoma	76	71	84	89	73	74	92	81	91	99	99	93	118	94	111	0.8	0.8	0.9	1.0	0.8	0.7	0.9	0.8	0.9	0.9	0.9	0.8	1.0	0.8	0.9
Diffuse large B-cell lymphoma and related large B-cell lymphomas	324	329	353	385	354	386	393	405	467	488	482	446	434	437	466	3.9	3.8	4.0	4.4	4.0	4.1	4.3	4.3	4.7	4.9	4.7	4.3	4.2	4.0	4.2
Burkitt lymphoma / leukaemia	25	26	28	20	31	20	31	23	28	34	31	42	39	32	36	0.6	0.5	0.6	0.4	0.6	0.3	0.6	0.5	0.6	0.7	0.6	0.8	0.6	0.5	0.6
Mature T-cell and NK-cell neoplasms	124	131	118	129	138	146	140	170	171	146	181	163	170	192	174	1.5	1.6	1.5	1.5	1.7	1.7	1.7	1.9	2.0	1.6	2.0	1.8	1.9	2.0	1.8
Primary cutaneous T-cell lymphomas	63	59	50	72	68	53	63	78	63	63	69	69	61	76	75	0.7	0.7	0.6	0.8	0.8	0.6	0.7	0.9	0.7	0.7	0.8	0.8	0.7	0.8	0.8
Peripheral NK/T-cell lymphomas	61	72	68	57	70	93	77	92	108	83	112	94	109	116	99	0.8	0.9	0.9	0.8	0.9	1.1	0.9	1.0	1.3	0.9	1.2	1.0	1.1	1.2	1.0
Precursor neoplasms	290	309	276	326	337	351	351	373	383	397	408	361	413	395	396	4.7	5.2	4.4	5.0	5.0	5.3	4.6	4.8	5.3	5.5	5.5	4.7	5.8	5.1	4.8
Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma	85	75	72	83	94	95	79	63	95	105	92	84	120	84	85	2.2	2.0	1.9	2.1	2.3	2.4	1.8	1.6	2.3	2.7	2.1	1.9	2.7	1.9	1.8
Acute myeloid leukaemias and related precursor neoplasms	198	229	198	232	237	249	261	304	286	287	313	267	285	306	301	2.4	3.1	2.4	2.8	2.6	2.8	2.7	3.2	3.0	2.8	3.4	2.7	2.9	3.2	2.9
Chronic myeloid neoplasms	575	545	552	595	716	716	797	876	871	956	1,001	1,068	1,056	1,094	1,100	6.5	5.9	5.9	6.2	7.4	7.3	8.1	8.6	8.4	8.8	9.1	9.4	9.5	9.4	9.2
Myeloproliferative neoplasms	240	225	221	267	299	283	335	368	368	360	434	438	459	450	469	3.0	2.6	2.7	3.0	3.4	3.2	3.7	4.0	4.0	3.7	4.4	4.3	4.6	4.4	4.4
Chronic myeloid leukaemia	68	61	67	79	83	76	89	96	63	78	86	94	88	103	86	0.9	0.8	0.9	1.0	1.0	1.0	1.1	1.2	0.8	0.9	1.0	1.1	1.1	1.2	0.9
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms	172	164	154	188	216	207	246	272	305	282	348	344	371	347	383	2.1	1.8	1.8	2.0	2.4	2.2	2.6	2.8	3.2	2.8	3.4	3.2	3.5	3.3	3.5
Mast cell neoplasms	1	2	8	6	7	4	10	8	16	12	11	7	13	21	14	0.0	0.0	0.2	0.1	0.2	0.0	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.3	0.2
Myelodysplastic syndrome	266	251	252	241	320	350	352	398	393	476	448	516	466	470	486	2.7	2.5	2.4	2.3	2.9	3.2	3.2	3.5	3.3	3.9	3.5	4.0	3.7	3.5	3.5
Myelodysplastic/myeloproliferative neoplasms	56	60	60	74	83	79	95	97	92	106	105	97	114	151	130	0.6	0.7	0.6	0.7	0.8	0.8	0.9	0.9	0.8	0.9	0.9	0.8	0.9	1.1	1.0
Histiocytic and dendritic cell neoplasms	17	10	23	12	25	13	19	18	18	21	28	25	23	25	29	0.5	0.3	0.7	0.3	0.6	0.3	0.5	0.5	0.4	0.5	0.6	0.5	0.6	0.5	0.6
All haematological malignancies	2,820	2,806	2,815	2,899	3,129	3,167	3,289	3,512	3,712	3,837	4,015	3,993	4,134	4,105	4,165	35.4	35.0	34.3	34.8	36.7	36.4	36.4	38.6	40.0	40.8	41.6	40.4	42.1	40.8	39.9

WSR: age-standardised rate, using the world population (N/100,000 person years)

Belgium: Number of new diagnoses (N) and age-standardised incidence (N/100,000) of haematological malignancies in females by histological subtype and incidence year, 2004-2018

	N															WSR														
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Mature lymphoid neoplasms	1,650	1,499	1,519	1,609	1,621	1,725	1,805	1,814	1,813	1,832	1,959	1,986	1,944	2,002	2,040	16.6	15.3	15.2	16.0	15.6	16.3	17.0	16.4	16.4	16.5	17.4	17.2	16.7	17.2	17.4
Hodgkin lymphomas	125	119	116	110	126	122	147	126	142	131	139	152	146	137	162	2.2	2.3	2.0	2.1	2.1	2.3	2.6	2.2	2.3	2.2	2.6	2.7	2.4	2.4	2.6
Mature non-Hodgkin B-cell neoplasms	1,332	1,195	1,233	1,345	1,348	1,435	1,495	1,539	1,517	1,521	1,647	1,656	1,620	1,662	1,700	12.5	11.1	11.4	12.4	12.0	12.4	12.8	12.8	12.6	12.6	13.3	13.0	12.8	13.1	13.2
Mature B-cell leukaemias and related lymphomas	321	269	261	297	312	348	353	360	338	407	403	436	344	339	351	2.8	2.4	2.4	2.7	2.6	3.1	2.8	2.8	2.8	3.3	3.0	3.3	2.6	2.6	2.6
Immunoproliferative diseases	51	44	42	48	46	40	55	46	51	38	58	72	56	81	69	0.5	0.4	0.4	0.4	0.4	0.3	0.5	0.4	0.4	0.3	0.4	0.5	0.4	0.5	0.5
Plasma cell neoplasms	357	289	287	301	302	337	320	364	338	315	391	370	407	420	442	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	3.0	3.1
Marginal zone lymphomas	102	99	108	121	100	104	134	138	155	158	175	167	175	174	162	0.9	1.0	1.0	1.2	1.0	0.9	1.2	1.2	1.3	1.4	1.7	1.3	1.4	1.3	1.3
Follicular lymphoma and related lymphoma	178	151	175	183	187	201	198	193	226	173	198	187	198	216	211	1.9	1.6	1.7	1.9	1.9	1.9	1.9	1.9	2.2	1.6	1.8	1.7	1.8	2.0	1.8
Mantle cell lymphoma	34	31	35	33	30	41	42	42	34	39	40	38	48	41	36	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2
Diffuse large B-cell lymphoma and related large B-cell lymphomas	281	306	316	348	351	348	377	381	367	379	364	373	382	379	409	2.9	2.9	2.8	3.1	3.0	3.0	3.2	3.2	2.9	3.1	2.9	2.9	3.1	3.2	3.3
Burkitt lymphoma / leukaemia	8	6	9	14	20	16	16	15	8	12	18	13	10	12	20	0.2	0.1	0.2	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.4
Mature T-cell and NK-cell neoplasms	77	83	89	88	96	106	113	85	107	109	103	104	119	137	128	0.8	0.9	1.1	0.9	1.1	1.1	1.1	0.9	1.1	1.1	1.0	1.0	1.1	1.3	1.2
Primary cutaneous T-cell lymphomas	35	39	34	49	52	42	42	38	40	44	36	31	41	45	33	0.3	0.5	0.4	0.5	0.6	0.4	0.3	0.4	0.4	0.5	0.3	0.3	0.5	0.5	0.3
Peripheral NK/T-cell lymphomas	42	44	55	39	44	64	71	47	67	65	67	73	78	92	95	0.5	0.5	0.7	0.4	0.5	0.7	0.8	0.5	0.7	0.6	0.6	0.7	0.7	0.8	0.9
Precursor neoplasms	269	256	239	279	270	257	331	289	310	324	333	316	304	340	380	3.9	3.7	3.5	4.1	3.6	3.5	4.4	3.6	4.1	4.0	3.9	4.0	3.8	4.3	4.5
Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma	71	58	57	74	55	58	76	46	84	72	62	57	62	66	80	1.8	1.4	1.6	1.7	1.3	1.5	1.7	1.1	1.9	1.6	1.6	1.5	1.4	1.5	1.7
Acute myeloid leukaemias and related precursor neoplasms	192	196	177	201	209	195	250	236	219	244	265	255	236	267	294	2.1	2.3	1.9	2.3	2.3	2.0	2.7	2.4	2.2	2.4	2.3	2.4	2.3	2.7	2.7
Chronic myeloid neoplasms	459	489	455	538	585	558	619	688	786	812	851	842	917	904	964	3.9	4.5	4.2	4.8	4.8	4.8	5.3	5.5	6.3	6.7	6.5	6.3	6.9	6.9	7.4
Myeloproliferative neoplasms	204	238	223	281	265	272	323	330	386	428	412	426	462	452	474	2.0	2.5	2.3	2.8	2.4	2.6	3.0	3.1	3.6	3.8	3.6	3.6	4.0	3.8	4.1
Chronic myeloid leukaemia	64	66	47	66	53	49	79	73	94	69	76	69	70	84	72	0.8	0.8	0.5	0.8	0.6	0.5	0.9	0.8	1.0	0.8	0.9	0.8	0.8	0.9	0.8
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms	140	172	176	215	212	223	244	257	292	359	336	357	392	368	402	1.2	1.7	1.7	2.0	1.9	2.1	2.1	2.2	2.6	3.0	2.7	2.8	3.2	2.9	3.3
Mast cell neoplasms	3	5	6	7	7	8	14	8	8	13	12	14	16	31	22	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.5	0.3
Myelodysplastic syndrome	198	204	174	197	249	224	215	295	322	316	357	329	368	344	362	1.5	1.6	1.4	1.4	1.8	1.7	1.5	2.0	2.1	2.2	2.3	2.0	2.2	2.1	2.3
Myelodysplastic/myeloproliferative neoplasms	48	39	49	49	63	52	63	50	66	52	66	72	67	77	105	0.4	0.3	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.7
Histiocytic and dendritic cell neoplasms	12	12	11	7	19	18	21	15	18	16	14	19	19	21	13	0.3	0.3	0.3	0.1	0.5	0.5	0.5	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.2
All haematological malignancies	2,390	2,256	2,224	2,433	2,495	2,558	2,776	2,806	2,927	2,984	3,157	3,163	3,184	3,267	3,397	24.8	23.9	23.2	24.9	24.5	25.1	27.1	25.8	27.2	27.5	28.1	27.9	27.8	28.8	29.4

WSR: age-standardised rate, using the world population (N/100,000 person years)

APPENDIX V

5-YEAR RELATIVE SURVIVAL TRENDS OF HAEMATOLOGICAL MALIGNANCIES BY COHORT, HISTOLOGICAL SUBTYPE AND SEX, 2004-2018

Belgium: 5-year relative survival trends of haematological malignancies by cohort, histological subtype and sex, 2004-2018

	Males									Females								
	N at risk			5-yr RS			95% CI			N at risk			5-yr RS			95% CI		
	2004-2008	2009-2013	2014-2018	2004-2008	2009-2013	2014-2018	2004-2008	2009-2013	2014-2018	2004-2008	2009-2013	2014-2018	2004-2008	2009-2013	2014-2018	2004-2008	2009-2013	2014-2018
Mature lymphoid neoplasms	9,634	11,155	12,769	69.9	72.9	76.0	[68.7;71.1]	[71.8;73.9]	[74.8;77.3]	7,764	8,903	9,816	69.2	74.4	75.9	[68.0;70.5]	[73.2;75.5]	[74.6;77.2]
Hodgkin lymphomas	794	862	960	84.0	86.6	86.6	[80.8;86.7]	[83.8;89.1]	[83.5;89.3]	561	646	699	85.1	88.0	91.8	[81.5;88.1]	[84.9;90.6]	[88.7;94.3]
Mature non-Hodgkin B-cell neoplasms	7,847	9,273	10,637	69.0	72.6	75.9	[67.7;70.3]	[71.4;73.8]	[74.4;77.3]	6,386	7,466	8,242	68.4	73.7	75.6	[67.0;69.8]	[72.4;74.9]	[74.0;77.0]
Mature B-cell leukaemias and related lymphomas	2,146	2,589	2,836	84.8	88.6	92.8	[82.3;87.1]	[86.4;90.6]	[90.3;95.2]	1,441	1,803	1,870	84.3	89.8	91.5	[81.5;87.0]	[87.4;92.1]	[88.6;94.2]
Immunoproliferative diseases	363	424	576	73.9	77.3	84.7	[67.4;79.8]	[71.4;82.8]	[78.0;90.8]	230	229	336	75.7	84.4	87.8	[67.7;82.7]	[77.0;90.6]	[79.1;95.0]
Plasma cell neoplasms	1,779	2,147	2,474	52.5	55.7	60.0	[49.7;55.3]	[53.2;58.3]	[56.8;63.3]	1,525	1,669	2,027	50.8	53.0	59.4	[47.9;53.7]	[50.2;55.8]	[56.0;62.7]
Marginal zone lymphomas	513	600	871	85.8	86.4	87.0	[80.8;90.2]	[81.7;90.7]	[82.3;91.3]	530	688	849	83.2	87.1	91.9	[78.6;87.4]	[83.0;90.8]	[87.6;95.6]
Follicular lymphoma and related lymphoma	856	879	995	84.9	89.5	91.1	[81.3;88.1]	[86.2;92.5]	[86.8;94.8]	873	989	1,009	86.3	91.4	89.0	[83.0;89.2]	[88.5;94.1]	[85.2;92.3]
Mantle cell lymphoma	391	436	515	52.5	62.0	57.6	[46.6;58.3]	[56.2;67.6]	[50.4;64.6]	161	198	203	60.7	70.5	63.4	[51.3;69.5]	[62.0;78.0]	[52.9;73.1]
Diffuse large B-cell lymphoma and related large B-cell lymphomas	1,721	2,108	2,242	56.3	61.0	61.9	[53.5;59.1]	[58.4;63.5]	[59.0;64.7]	1,589	1,840	1,892	56.2	60.7	61.2	[53.3;59.0]	[57.9;63.3]	[58.1;64.2]
Burkitt lymphoma / leukaemia	89	93	138	54.6	53.9	59.0	[43.2;64.8]	[42.4;64.4]	[47.8;69.1]	41	55	64	38.3	62.5	54.0	[23.3;53.6]	[47.7;74.6]	[39.8;66.7]
Mature T-cell and NK-cell neoplasms	625	752	862	65.6	60.8	65.8	[60.8;70.1]	[56.5;64.9]	[60.9;70.3]	424	513	584	67.6	70.1	67.7	[62.2;72.6]	[65.2;74.7]	[61.7;73.2]
Primary cutaneous T-cell lymphomas	306	317	347	84.6	85.4	89.2	[77.8;90.7]	[79.1;90.8]	[82.3;94.8]	208	206	184	89.3	93.4	89.4	[82.2;94.8]	[86.6;98.7]	[78.7;97.1]
Peripheral NK/T-cell lymphomas	319	435	515	47.6	42.8	50.1	[41.4;53.7]	[37.6;47.9]	[43.8;56.2]	216	307	400	46.8	54.5	57.6	[39.5;53.9]	[48.1;60.7]	[50.4;64.4]
Precursor neoplasms	1,302	1,618	1,736	24.2	25.1	28.4	[21.8;26.7]	[22.9;27.4]	[25.9;31.1]	1,125	1,326	1,468	26.5	28.8	26.1	[23.8;29.1]	[26.3;31.4]	[23.4;28.9]
Precursor lymphoid neoplasms or lymphoblastic leukaemia / lymphoma	216	238	277	41.3	42.7	53.0	[34.4;48.2]	[36.1;49.2]	[45.9;59.6]	177	194	173	38.7	48.1	56.2	[31.4;46.0]	[40.6;55.3]	[46.1;65.3]
Acute myeloid leukaemias and related precursor neoplasms	1,052	1,356	1,428	21.2	22.2	23.5	[18.7;23.9]	[19.9;24.6]	[20.8;26.3]	928	1,105	1,274	24.7	26.0	22.0	[21.9;27.6]	[23.4;28.8]	[19.3;24.8]
Chronic myeloid neoplasms	2,938	4,163	5,268	61.1	59.5	62.5	[58.9;63.4]	[57.6;61.4]	[60.3;64.7]	2,498	3,415	4,441	68.6	69.8	72.5	[66.2;70.8]	[67.8;71.8]	[70.3;74.7]
Myeloproliferative neoplasms	1,246	1,698	2,238	83.5	81.3	84.3	[80.4;86.4]	[78.6;83.9]	[81.2;87.2]	1,201	1,722	2,211	87.5	88.0	92.0	[84.6;90.2]	[85.6;90.3]	[89.2;94.5]
Chronic myeloid leukaemia	354	395	452	78.9	84.7	90.1	[73.1;84.1]	[79.5;89.2]	[84.6;94.6]	293	353	363	81.6	88.2	86.6	[75.7;86.7]	[83.1;92.5]	[80.0;91.8]
Myeloproliferative neoplasms *BCR-ABL1* negative and related neoplasms	892	1,303	1,786	85.3	80.2	82.7	[81.6;88.7]	[77.0;83.2]	[79.1;86.1]	908	1,369	1,848	89.4	88.0	93.1	[86.1;92.5]	[85.2;90.6]	[90.0;95.9]
Mast cell neoplasms	<30	38	56	-	76.9	89.2	-	[58.7;88.9]	[68.6;100.1]	<30	46	88	-	97.0	97.5	-	[84.1;101.5]	[89.1;100.8]
Myelodysplastic syndrome	1,310	1,951	2,366	42.8	44.0	45.5	[39.4;46.2]	[41.2;46.8]	[42.2;48.8]	1,012	1,353	1,751	49.5	49.2	50.4	[45.7;53.3]	[45.9;52.5]	[46.7;54.2]
Myelodysplastic/myeloproliferative neoplasms	327	462	592	48.5	40.9	41.5	[41.8;55.2]	[35.5;46.3]	[34.7;48.4]	242	279	381	48.3	49.1	50.8	[40.8;55.8]	[42.0;56.2]	[42.7;58.8]
Histiocytic and dendritic cell neoplasms	40	47	85	64.1	79.5	80.6	[46.5;77.7]	[63.5;90.4]	[66.3;90.2]	34	49	65	85.3	73.4	88.2	[67.1;94.9]	[58.6;84.8]	[75.0;95.5]
All haematological malignancies	13,876	16,887	19,732	63.8	65.3	68.5	[62.8;64.8]	[64.4;66.3]	[67.5;69.6]	11,393	13,637	15,712	65.0	69.0	70.7	[63.9;66.0]	[68.0;69.9]	[69.6;71.7]

Relative survival calculated for adults (age 15+) diagnosed between 2004 and 2018. Relative survival data are not presented when the number of patients at risk is less than 30 cases.

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