

Protocol of the pilot study 7.4 of WP7

Enriching cancer registry with administrative data to study long-term effects in adolescents and young adult cancer survivors

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Abbreviations

CANCON	Joint Action on Cancer Control
EU	European Union
iPAAC	Innovative Partnership for Action Against Cancer
MS	Member States
AYA	Adolescents and young adults
CRs	Population-based cancer registries
SDO	Hospital discharge records (schede di dimissione ospedaliera)
SIR	Standardized incidence ratio
SMR	Standardized mortality ratio
ENCR	European Network of cancer registry
JRC	Joint Research Centre
ICD	International classification of diseases

Executive summary

This document describes the study protocol to assess late effects in Adolescent and Young Adults cancer survivors. It clarifies the objectives, the study design, the data required, and the study indicators.

1 Background

The CANCON JA has pointed to innovative targets to improve cancer control in EU MS. Among the others, a particularly relevant target were the cancer survivors. Cancer survivors are indeed a steadily growing population that is known to be frail and subject to higher health risks, even when cured from the disease. Thus, it is increasingly important to collect information on long-term effects (e.g., multiple tumours, co-morbidities) and to estimate their excess risk in cancer survivors. Among cancer survivors, we focused on AYA (15-39 years at cancer diagnosis). To date every year, almost 156,000 individuals aged 15-39 years develop cancer in Europe, who envisage unique treatment and survivorship challenges. AYAs with cancer differ from children and adults: 1) the spectrum of cancer diagnoses occurring at AYA ages differs from that affecting older and younger people; 2) the biology of AYA cancers is different compared to those affecting children and adults, including biology of similar histological diagnosis; 3) AYA physiology (hormonal), pharmacology (drug clearance), polymorphisms or genomic properties differ from younger and older persons with respect to cancer susceptibility and treatment. Furthermore, adolescence and young adulthood is a challenging developmental phase characterized by physical, emotional, cognitive, and social transitions unique to this time of life (e.g. movement toward increasing autonomy and financial independence, entering romantic relationships, forming a family). A cancer diagnosis and treatment influences these normative developmental challenges of AYA and can negatively affect physical, psychological, social aspects of these young people's lives. AYA survival rates have lagged behind those of other age groups however, improvements have been realised, for some types of cancer, and an increasing number of these young people are becoming long-term cancer survivors. Thus, 5-year relative survival (period of diagnosis 2000-2007) was 80% overall.

To date most late outcomes research has come from survivors of paediatric cancers. Because cancer in AYAs is so different from cancer in children, findings derived from childhood studies cannot be extrapolated to all AYA cancer survivors. Thus, considering the lack of information on AYA with cancers, this growing and heterogeneous AYA cancer survivor population provides important opportunities for age-focused clinical and epidemiologic research into cancer biology, long-term treatment effects, and prevention.

In many European countries, there is the considerable advantage of the early establishment of CRs together with the availability of national registry of deaths and of clinical discharge

records. This provides a great opportunity to characterize the burden of diseases in AYA cancer survivors.

2 Aims

We aim to assess the feasibility of integrating CRs with administrative dataset:

- to estimate the burden of late effects
- to compare late effect indicators across the different countries

The late effects may include both clinical and socio-economic outcomes:

Clinical outcomes

- Multiple subsequent malignant neoplasms (overall and by cancer specific groups).
- Hospitalizations (overall and by cause specific such as: infectious and parasitic diseases, endocrine nutritional and metabolic diseases, and immunity disorders, diseases of the blood and blood-forming organs, diseases of the nervous system and sense organs). Hospitalisation are used as proxy of major diseases (please refer to Annex 1) occurring after a cancer diagnosis.
- Mortality (all cause and by specific cause such as diseases of the nervous system and sense organs, diseases of the circulatory system, malignant neoplasms).
- Infertility and/or complications of pregnancy, childbirth, and puerperium.

Socio-economic outcomes

- Attained education.
- Marital status.
- Utilisation of social/financial benefit (for unemployment, for disability).
- Occupation and unemployment.

3 Study design

This pilot is based on individual records linked by the CR to different data sources necessary to achieve the pilot-specific objectives. Thus, it does not require an ad hoc data collection. Pilot 7.4 is an incidence based study. CRs identify incident cases aged 15-39 at first cancer diagnosis in each year of incidence covered by the registry. Cancer survivors are defined as those alive 5 years after the first cancer diagnosis. A CR to join the study should have at least:

- 15 years of follow-up (because of the long period of time - median time 15 years - that needs to elapse to observe the late effects) and at least 5 years of follow-up for the latest incidence year (to identify the AYA survivors to include in the cohort);
- availability of mortality information for the incident cases and for the cancer free population covered by the CR;
- cancer and not-cancer related hospitalisation data for the incident cases and for the cancer free population covered by the CR.

Incident cases have to be linked with:

- all their multiple primary malignancies,
- other available sources necessary to study the late effects.

In Italy we established an AYA cancer survivors cohort including: mortality file, SDO database, drug prescription database, outpatientets database and pathological report. The data sources were linked to the AYA incident cancer cases from the first year of their availability onwards as reported in Figure 1.

Primary tumors were defined using the International Classification of Childhood Cancer, Third Edition (ICCC-3)25 groups collected into an AYA-specific tumor list (please refer to Annex 2).

3.1 Study indicators

The following indicators will be computed:

- standardized incidence ratio (SIR) of cancer and other chronic diseases
- standardized mortality ratio (SMR)
- risk ratio of attaining a low education level, of not getting married, of being financially dependent, of being unemployed.

All indicators are calculated using as reference the cancer free population covered by the CR.

The SIR will be calculated considering the cancer incidence in the non-AYA population.

3.2 Information and data sources required

For each AYA cancer cases, the CRs will provide all variables included in the 2015 ENCR-JRC Call for Data study protocol [EUROCARE-6, 2015].

For the cancer free population covered by the CR, the CR will provide a data table including information on sex, calendar-year, age, place of residence, number of residents. Cancer free population data/information source can be provided also in an aggregated way.

To each AYA cancer case, the CR link the available data sources available. The same data sources should be available also for the cancer free population (Table 1).

4 Figures and tables

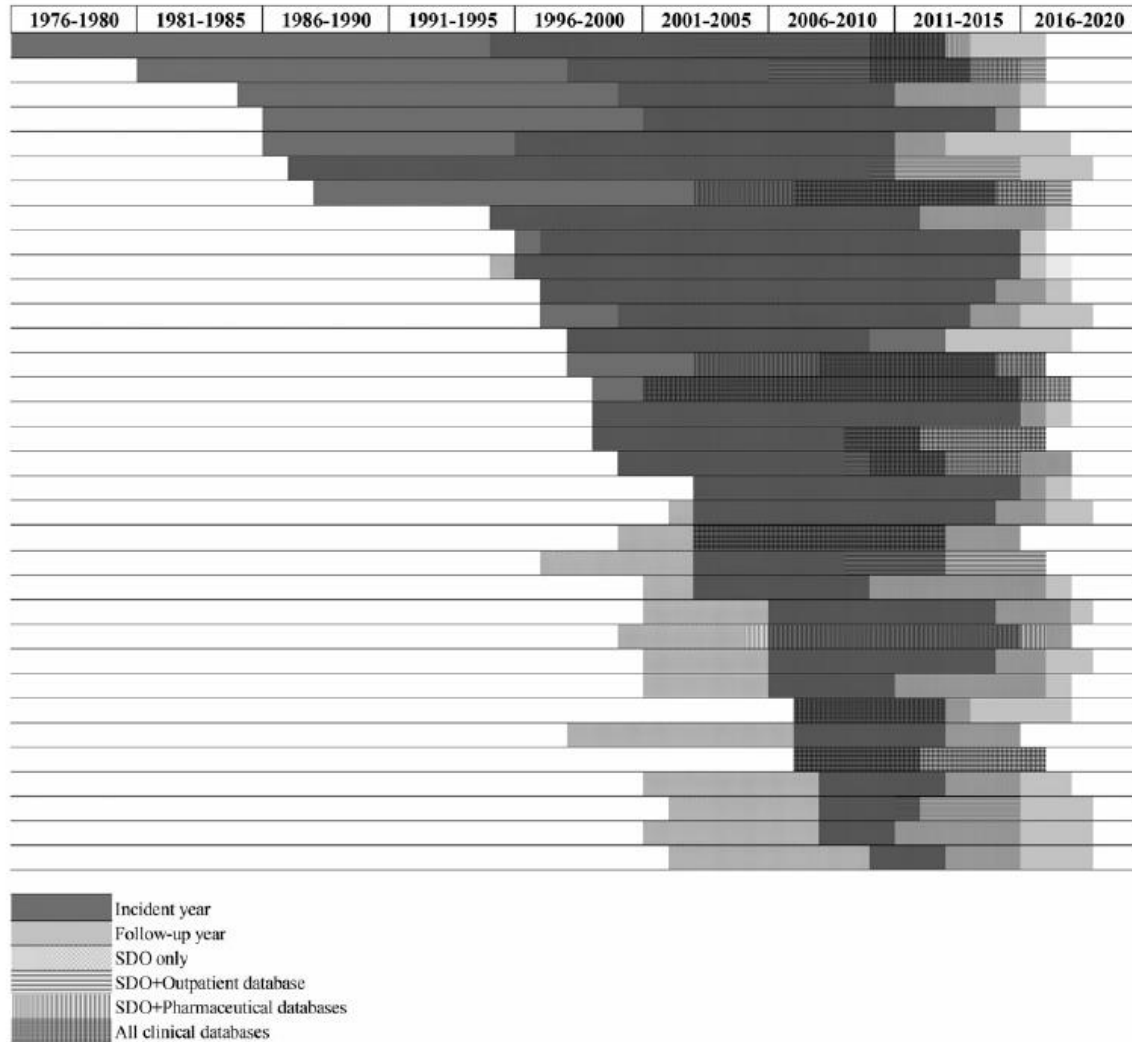


Figure 1. Incidence, follow-up and database availability in time by CR (lines)

Table 1. List of data and data source required by specific indicators

Indicators	Data required	Data source
SIR of multiple cancers	multiple primary malignancies of AYA cancer survivors and of the not-AYA cancer population	Cancer registry database
SIR of chronic diseases	Information on cardiovascular, respiratory, endocrine diseases on infertility and pregnancy problems for the AYA cancer survivors and for the cancer-free population	Clinical discharge records: hospitalisation for a specific disease proxy of the disease occurrence (standardised hospitalisation ratio).
SMR	Mortality (including cause specific mortality) for AYA cancer survivors and for the cancer-free population	Mortality register
RR of low education	Information on the attained education for AYA cancer survivors and for the cancer free population	Census. Education ISCED classification
RR of not being married	Information on marital status for AYA cancer survivors and for the cancer-free population	Census. Marital status classified as: married, not married, divorced, widowed, single
RR of being unemployed or being in an unskilled working class	Information on occupational conditions and occupational class for AYA cancer survivors and for the cancer-free population	Census. Occupational conditions classified as Employed, Unemployed/looking for first occupation, Housewife, Student, Retired; occupational class classified as Bourgeoisie, Middle class, Self-employed with employees, Self-employed without employees, Skilled working class, Unskilled working class.
RR of using social/financials benefit	Information on the use of social/financial benefit status for AYA cancer survivors and for the cancer-free population	In Italy INAIL/INPS (collaboration in progress). In other countries to be defined.

Annex 1 List of ICD-9 codes used to identify major chronic diseases in AYA cancer survivors

Hospitalization type	ICD-9-CM Diagnostic codes	ICD-9-CM Procedural codes
Thyroid disease	ICD-9-CM Diagnostic codes=240.*-246.*	
Diabetes	ICD-9-CM Diagnostic codes=250.*, 357.2, 362.0, 366.41, 648.0	
Premature ovarian failure	ICD-9-CM Diagnostic codes=256.2,256.31,256.39, 256.8,256.9	
Dyslipidemia	ICD-9-CM Diagnostic codes=272.0 -272.4	
Vision loss	ICD-9-CM Diagnostic codes=369.*, 12.1, 12.64, 12.7	ICD-9-CM Procedural codes=13.1*, 13.2, 13.3, 13.4*, 13.5*, 13.69, 13.7*
Hearing Loss	ICD-9-CM Diagnostic codes=389.*	
Hypertension	ICD-9-CM Diagnostic codes=401.*-405.*	
Coronary artery Disease	ICD-9-CM Diagnostic codes=410.*,411.*, 413.*, 414.*, V45.81, V45.82	ICD-9-CM Procedural codes=00.66, 36.04,36.06, 36.07, 36.09, 36.1*, 36.2*, 36.3*,36.9*
Cardiomyopathy/Heart Failure	ICD-9-CM Diagnostic codes=425.*, 428.*, V42.1*	ICD-9-CM Procedural codes=37.51
Stroke	ICD-9-CM Diagnostic codes=430.*-435.*	ICD-9-CM Procedural codes=00.61-00.65, 38.1*, 39.74
Emphysema	ICD-9-CM Diagnostic codes=492.*, 496.*	
Asthma	ICD-9-CM Diagnostic codes=493.*	
Pulmonary Fibrosis	ICD-9-CM Diagnostic codes=515.*	

Chronic liver disease and cirrhosis	ICD-9-CM Diagnostic codes=571.*	
Renal diseases	ICD-9-CM Diagnostic codes=580.*, 582.*-586.*	
Infertility males	ICD-9-CM Diagnostic codes=606.*	
Avascular Necrosis	ICD-9-CM Diagnostic codes=733.4*	

Annex 2. List of AYA cancers

Diagnostic group		ICCC-3 group	ICD-O-3 Topography	ICD-O-3 Morphology
Leukemias, myeloproliferative diseases, and myelodysplastic diseases		Group I		
	Acute lymphoid leukemia		C000-C809	9826, 9827, 9831, 9834-9837
	Acute myeloid leukemia	Group Ib		
	Chronic myeloproliferative diseases	Group Ic		
	Myelodysplastic syndrome and other myeloproliferative diseases	Group Id		
	Unspecified and other specified leukemias	Group Ie		
	Other leukemias		C000-C809	8920, 8923, 9832-9833, 9940, 9948
Lymphomas and reticuloendothelial neoplasms		Group II		
	Hodgkin lymphomas	Group IIa		
	Non-Hodgkin lymphomas	Group IIb		
	Other lymphomas	Group IIc, IId, IIe		

CNS and miscellaneous intracranial and intraspinal neoplasms		Group III		
	Ependymomas and choroid plexus tumors	Group IIIa		
	Astrocytomas	Group IIIb		
	Meningiomas		C000-C809	9530-9539
	Other CNS tumors		C000-C809	8270-8281, 8300, 9350-9352, 9360-9362, 9381, 9382, 9412, 9413, 9430, 9444, 9450, 9451, 9460, 9470-9474, 9480, 9492, 9493, 9505-9507, 9508, 9582
			C700-C729	9501-9504
			C700-C729, C751-C753	8000-8005
			C700-C722, C724-C729, C751, C753	9380
Neuroblastoma		Group IV		
Bone sarcomas		Group VIII		
	Osteosarcomas	Group VIIIa		
	Chondrosarcomas	Group VIIIb		
	Ewing and related sarcomas of bone	Group VIIIc		
	Other bone sarcomas	Group VIIIc, VIId		

Soft tissue and other extraosseous sarcomas	C000-C399, C420-C699, C739-C749, C754-C809	8004
	C000-C699, C739-C809	9501-9504
	C000-C399, C420-C759, C770-C779	9180-9187, 9191-9195, 9210, 9220, 9240, 9260
	C490-C499	8000-8003, 8005, 8982
	C000-C399, C420-C809	8800, 8800-8805, 8810, 8811, 8830, 9363-9365
	C000-C809	8710, 8711, 8714, 8802, 8806,8813, 8814, 8815, 8825, 8832, 8833, 8840, 8842,8850-8855, 8857, 8858, 8890, 8891, 8894, 8895, 8896, 8897, 8900, 8897, 8900-8902, 8910, 8912, 8920, 8921,8930, 8931, 8933, 8934, 8935, 8940, 8959, 8963, 8964, 8990, 8991, 9020, 9040, 9041, 9042, 9043, 9044, 9120, 9124, 9130, 9133, 9137, 9140, 9150, 9170, 9231, 9251, 9252, 9540,

			9542, 9560, 9561, 9562, 9571, 9580, 9581
Leiomyosarcoma		C000-C809	8890, 8891, 8894-8897
Malignant fibrous histocytoma (MFH)		C000-C399, C420-C809	8830
Liposarcoma		C000-C809	8850-8855, 8857, 8858
Dermatofibrosarcoma		C000-C809	8832-8833
Rhabdomyosarcoma		C000-C809	8900-8902, 8910, 8912, 8920
Angiosarcomas		C000-C809	9120, 9130, 9133, 9170
Nerve sheath tumor/MPNST		C000-C809	9540, 9560-9562
Fibrosarcoma		C000-C399, C420-C809	8810, 8811
		C000-C809	8814-8815
Sarcoma, NOS		C000-C399, C420-C809	8800-8805
Other soft tissue and extraisseous sarcomas		C000-C399, C420-C699, C739-C749, C754-C809	8004
		C000-C699, C739-C809	9501-9504
		C490-C499	8000-8003, 8005, 8982
		C000-C399, C420-C809	9363-9365

			C000-C399, C420-C759, C770-C779	9180-9187, 9191-9195, 9210, 9220, 9240, 9260
			C000-C809	8710, 8711, 8714, 8802, 8806,8813, 8825, 8840, 8842, 8900, 8897, 8921,8930, 8931, 8933, 8934, 8935, 8940, 8959, 8963, 8964, 8990, 8991, 9020, 9040, 9041, 9042, 9043, 9044, 9124, 9137, 9140, 9150, 9231, 9251, 9252, 9542, 9571, 9580, 9581
Germ cell and trophoblastic tumors (excluding gonadal carcinomas)		Group Xa, Xb, Xc		
	Intracranial and intraspinal germ cell tumors	Group Xa		
	Malignant extracranial and extragonadal germ cell tumors	Group Xb		
	Malignant gonadal germ cell tumors	Group Xc		
Malignant melanomas		Group XI		
	Skin melanomas		C440-C449	8720-8780, 8790
	Non-skin melanomas		C000-C439, C450-C809	8720-8780, 8790
GIST			C00-C809	8936
Mesotheliomas			C00-C809	9050-9053

Thymus tumors		C370-C379	8000, 8010, 8020, 8070, 8072, 8082, 8240, 8241, 8246, 8249, 8589
		C370-C379, C381, C383	8580-8586
Eye tumors		C690-C699	8000, 8010, 8070, 8090, 8097, 8200, 8410, 8430
Thyroid and other endocrine glands tumors		C739-C759	8000, 8001, 8010, 8020, 8021, 8041, 8050, 8070, 8071, 8140, 8190, 8200, 8210, 8230, 8260, 8263, 8290, 8310, 8320, 8330, 8331, 8332, 8335, 8337, 8340, 8341, 8342, 8343, 8344, 8345, 8346, 8347, 8350, 8360, 8370, 8430, 8450, 8480, 8510, 8550, 8561
	Thyroid tumors	C739	8000, 8001, 8010, 8020, 8021, 8041, 8050, 8070, 8071, 8140, 8190, 8200, 8210, 8230, 8260, 8263, 8290, 8310, 8320, 8330, 8331, 8332, 8335, 8337, 8340, 8341, 8342, 8343, 8344, 8345, 8346, 8347,

			8350, 8430, 8450, 8480, 8510, 8550
Adrenal gland tumors		C740-C749	8000-8001, 8010, 8140, 8190, 8260, 8290, 8310, 8370
Other endocrine glands tumors		C750-C759	8000, 8010, 8140, 8290, 8370, 8550, 8140
Breast tumors		C500-C509	8000, 8001, 8005, 8010, 8011, 8013, 8015, 8020, 8021, 8022, 8032, 8033, 8041, 8050, 8070, 8140, 8141, 8190, 8200, 8201, 8210, 8211, 8230, 8246, 8251, 8260, 8290, 8310, 8314, 8323, 8345, 8401, 8430, 8440, 8450, 8453, 8480, 8481, 8500, 8501, 8502, 8503, 8504, 8507, 8508, 8510, 8512, 8513, 8514, 8520, 8521, 8522, 8523, 8524, 8530, 8540, 8541, 8543, 8550, 8573, 8575, 8980

Digestive organs tumors		C150-C269	8000, 8001, 8003, 8005, 8010, 8013, 8020, 8021, 8033, 8041, 8050, 8051, 8070, 8071, 8072, 8076, 8082, 8123, 8124, 8140, 8141, 8143, 8144, 8145, 8150, 8151, 8152, 8153, 8154, 8160, 8161, 8162, 8170, 8171, 8172, 8174, 8180, 8190, 8210, 8211, 8215, 8220, 8221, 8230, 8240, 8241, 8243, 8244, 8245, 8246, 8249, 8260, 8261, 8262, 8263, 8323, 8440, 8452, 8470, 8480, 8481, 8490, 8500, 8510, 8550, 8560, 8574, 8576, 8836, 8970, 8971, 8980
	Esophagus tumors	C150-C159	8000, 8001, 8010, 8020, 8041, 8051, 8070, 8071, 8072, 8140, 8144, 8246, 8490
	Stomach tumors	C160-C169	8000, 8001, 8005, 8010, 8020, 8021, 8033, 8071, 8082, 8140, 8144, 8145, 8211, 8230, 8240, 8246,

			8260, 8323, 8480, 8481, 8490, 8510, 8560, 8576
Small intestine tumors		C170-C179	8000, 8010, 8020, 8140, 8144, 8153, 8240, 8241, 8246, 8249, 8260, 8261, 8263, 8480, 8481, 8490, 8574
Colorectum tumors		C180, C182- C218	8000, 8001, 8010, 8013, 8020, 8041, 8140, 8141, 8144, 8210, 8211, 8220, 8221, 8230, 8240, 8246, 8261, 8262, 8263, 8480, 8481, 8490, 8510, 8560, 8574, 8980
Appendix tumors		C181	8000, 8010, 8013, 8140, 8240, 8241, 8243, 8244, 8245, 8246, 8249, 8261, 8440, 8470, 8480, 8481, 8490, 8574
Liver and intrahepatic bile ducts tumors		C220, C221	8000, 8001, 8010, 8021, 8140, 8160, 8161, 8162, 8170, 8171, 8172, 8174, 8180, 8190, 8211, 8240, 8246, 8440, 8970
Gallbladder tumors		C239	8000, 8001, 8020, 8021, 8140, 8240, 8260, 8261, 8263, 8480, 8490

	Pancreas tumors		C250-C259	8000, 8001, 8010, 8021, 8041, 8050, 8140, 8150, 8151, 8152, 8153, 8154, 8211, 8230, 8240, 8241, 8246, 8249, 8440, 8452, 8470, 8480, 8481, 8490, 8500, 8550, 8560, 8574, 8971
	Other digestive sistem tumors		C240-C249, C260-C269	8000, 8001, 8010, 8013, 8020, 8021, 8140, 8160, 8162, 8240, 8260, 8261, 8480, 8490, 8560, 8574, 8836
Male genital tract tumors			C600-C639	8000, 8001, 8002, 8005, 8010, 8020, 8021, 8050, 8051, 8070, 8071, 8072, 8084, 8090, 8097, 8130, 8140, 8240, 8323, 8550, 8560, 8631, 8640, 8650, 8981, 9061
	Testicular tumors		C620-C629	8000, 8001, 8002, 8005, 8010, 8020, 8021, 8070, 8140, 8240, 8323, 8560, 8631, 8640, 8650, 8981, 9061
	Penile tumors		C600-C609	8000, 8051, 8070, 8071, 8072, 8084, 8090

	Prostate tumors		C619	8000, 8020, 8021, 8130, 8140, 8550
	Other male genita tract tumors		C630-C639	8000, 8010, 8050, 8070, 8071, 8090, 8097, 8380
	Female genital tract tumors		C510-C589	8000, 8001, 8010, 8011, 8012, 8013, 8020, 8021, 8031, 8032, 8041, 8050, 8051, 8052, 8070, 8071, 8072, 8073, 8075, 8076, 8082, 8083, 8090, 8120, 8140, 8143, 8144, 8148, 8200, 8201, 8210, 8230, 8240, 8246, 8260, 8262, 8263, 8310, 8313, 8323, 8380, 8382, 8383, 8384, 8390, 8430, 8440, 8441, 8450, 8451, 8460, 8461, 8462, 8470, 8471, 8480, 8481, 8482, 8490, 8500, 8542, 8550, 8551, 8560, 8570, 8574, 8620, 8630, 8631, 8634, 8640, 8650, 8950, 8951, 8980, 8982, 9000, 9015, 9110
	Ovarian tumors		C569	8000, 8001, 8010, 8020, 8021, 8041, 8050, 8052, 8070, 8071, 8082, 8120,

			8140, 8144, 8240, 8260, 8263, 8310, 8313, 8380, 8382, 8440, 8441, 8450, 8451, 8460, 8461, 8462, 8470, 8471, 8480, 8481, 8482, 8490, 8551, 8560, 8570, 8620, 8630, 8631, 8634, 8640, 8650, 8950, 8980, 9000, 9015, 9110
Cervix uteri tumors		C530-C539	8000, 8001, 8010, 8011, 8012, 8013, 8020, 8021, 8031, 8041, 8050, 8051, 8052, 8070, 8071, 8072, 8073, 8076, 8082, 8083, 8120, 8140, 8144, 8148, 8201, 8210, 8230, 8246, 8260, 8262, 8310, 8323, 8380, 8384, 8430, 8460, 8480, 8481, 8482, 8490, 8550, 8560, 8570, 8574, 8950, 8980, 9110
Corpus uteri and uterus NOS tumors		C540-C549, C559	8000, 8001, 8010, 8020, 8070, 8072, 8076, 8140, 8143, 8210, 8246, 8260, 8263, 8310, 8380, 8383, 8441, 8480, 8481, 8560, 8570, 8950, 8951, 8980

	Other female genital tract tumors		C510-C529, C570-C589	8000, 8001, 8010, 8020, 8032, 8050, 8051, 8070, 8071, 8072, 8075, 8076, 8090, 8140, 8200, 8230, 8310, 8380, 8390, 8440, 8441, 8450, 8460, 8461, 8470, 8480, 8500, 8542, 8560, 8950, 8982
	Urinary tract tumors		C640-C689	8000, 8001, 8005, 8010, 8012, 8020, 8031, 8032, 8033, 8041, 8050, 8051, 8070, 8120, 8121, 8130, 8140, 8211, 8230, 8240, 8260, 8290, 8310, 8312, 8316, 8317, 8318, 8319, 8320, 8322, 8323, 8450, 8472, 8480, 8510, 8550, 8680, 8693, 8960
	Kidney tumors		C640-C649	8000, 8001, 8005, 8010, 8012, 8020, 8032, 8033, 8041, 8050, 8070, 8130, 8140, 8211, 8230, 8240, 8260, 8290, 8310, 8312, 8316, 8317, 8318, 8319, 8320, 8322, 8323, 8450, 8510, 8550, 8960

	Bladder tumors		C670-C679	8000, 8001, 8010, 8020, 8031, 8033, 8041, 8050, 8051, 8070, 8120, 8121, 8130, 8140, 8472, 8480, 8680, 8693
	Other urinary tract tumors		C659, C669, C680-C689	8000, 8001, 8010, 8070, 8120, 8130, 8140, 8310, 8312, 8320
	Head and Neck tumors		C000-C148, C300-C329, C760	8000, 8001, 8003, 8010, 8011, 8012, 8020, 8021, 8022, 8032, 8033, 8041, 8050, 8051, 8052, 8070, 8071, 8072, 8073, 8074, 8075, 8076, 8078, 8082, 8084, 8090, 8093, 8120, 8121, 8123, 8140, 8144, 8147, 8200, 8240, 8246, 8260, 8290, 8310, 8320, 8430, 8440, 8470, 8480, 8481, 8500, 8525, 8550, 8560, 8562, 8941, 8980, 8982
	Nasal cavity and sinuses tumors		C300, C310-C319	8000, 8010, 8011, 8012, 8020, 8022, 8032, 8041, 8050, 8070, 8071, 8072, 8074, 8076, 8078, 8120, 8121, 8140, 8144, 8200,

			8246, 8260, 8430, 8480, 8481, 8560
Nasopharynx tumors		C110-C119	8000, 8010, 8020, 8021, 8032, 8041, 8070, 8071, 8072, 8073, 8082, 8123, 8140, 8200, 8246, 8430, 8560
Salivary glands tumors		C070-C089	8000, 8001, 8010, 8011, 8012, 8020, 8022, 8070, 8071, 8072, 8082, 8140, 8147, 8200, 8260, 8290, 8310, 8320, 8430, 8440, 8470, 8500, 8525, 8550, 8562, 8941, 8982
Hypopharynx tumors		C120-C139	8000, 8010, 8070, 8071, 8072, 8082
Larynx tumors		C320-C329	8000, 8010, 8033, 8051, 8070, 8071, 8072, 8076, 8123, 8140, 8200, 8240, 8260
Oropharynx tumors		C019, C024, C028, C051, C052, C058, C059, C090- C103, C108, C109, C142	8000, 8001, 8010, 8020, 8022, 8052, 8070, 8071, 8072, 8076, 8078, 8082, 8123, 8140, 8200, 8430, 8550

Oral cavity tumors		C020-C023, C029-C050, C060-C069	8000, 8001, 8003, 8010, 8020, 8022, 8051, 8070, 8071, 8072, 8074, 8075, 8076, 8078, 8084, 8093, 8123, 8140, 8200, 8320, 8430, 8525, 8550, 8560, 8980
Lip tumors		C000-C009	8000, 8011, 8051, 8070, 8071, 8076, 8090, 8430
Other Head and Neck tumors		C104, C140, C148, C301, C760	8000, 8010, 8020, 8021, 8070, 8071, 8082, 8090, 8140, 8144, 8200, 8240, 8246, 8430
Lung and trachea tumors		C330-C349	8000, 8001, 8002, 8005, 8010, 8012, 8013, 8020, 8021, 8022, 8031, 8032, 8033, 8041, 8042, 8043, 8044, 8045, 8046, 8050, 8070, 8071, 8082, 8090, 8140, 8141, 8190, 8200, 8230, 8240, 8241, 8243, 8245, 8246, 8249, 8250, 8252, 8253, 8255, 8260, 8310, 8323, 8333, 8430, 8480, 8481, 8490, 8550, 8560, 8574, 8576, 8972, 8980

Retroperitoneum and peritoneum tumors		C480-C488	8000, 8001, 8002, 8010, 8260, 8370, 8380, 8441, 8460, 8461, 8470, 8480
Other not better classified tumors		C420-C449, C470-C479 C770-C779	8000-8003, 8005, 8010
		C390-C399, C761-C769, C809	8000-8003, 8005, 8010, 8012, 8013, 8020, 8021, 8022, 8034, 8041, 8042, 8045, 8050, 8051, 8070, 8071, 8072, 8090, 8140, 8153, 8155, 8230, 8240, 8241, 8246, 8260, 8310, 8430, 8441, 8480, 8481, 8490, 8500
		C380-C389	8000-8003, 8005, 8010, 8020, 8021, 8240, 8246