The Czech Experience
Comprehensive Cancer Care Networking

(2014 -> 2018 -> .....)

Institute of Biostatistics and Analyses
Masaryk University, Brno, Czech Republic

www.iba.muni.cz

Beginning of the Czech Regional Comprehensive Cancer Care Management

The key questions of 2014

- Management of cancer prevalence
- Population - based screening
- Quality assessment
- Equity of care

Reported cancer incidence in international comparison

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray, F.GLOBOCAN 2012 v1.0, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: http://globocan.iarc.fr, 12/4/2017

Trends in cancer epidemiology in the Czech Republic

Crude incidence and mortality – number of cases per 100,000 persons

Prevalence – number of patients with a history of cancer per 100,000 persons

Access to highly specialized therapy in the Czech regional CCs

Advanced CRC

Annual no. pts: N = 1 850
Therapy in CCs: 62,2 %
No of hospitals: 154

Advanced CaP

Annual no. pts: N = 700
Therapy in CCs: 61,7 %
No of hospitals: 118

Borras JM et al. Policy statement on multidisciplinary cancer care. **Eur J Cancer 2014** Feb;50(3):475-480.

Lin CC et al. Association Between Geographic Access to Cancer Care, Insurance, and Receipt of Chemotherapy: Geographic Distribution of Oncologists and Travel Distance. **J Clin Oncol 2015**;33(28):3177-3185.

Gabriel G et al. The effect of travel distance on radiotherapy utilization in NSW and ACT. **Rad Oncol 2015**;17(2):386-389.

Hui D et al. Indicators of integration of oncology and palliative care programs: an international consensus. **Annal Oncol 2015**;26(9):1953-1959.

Haddad AQ et al. Association of distance to treatment facility on quality and survival outcomes after radical cystectomy for bladder cancer. **Urology 2015**; 85(4):876-882.

Tremblay D et al. Understanding cancer networks better to implement them more effectively: a mixed methods multi-case study. **Implement Science 2016**; 21(11): 39.

Pilot model of the CCCN -> Main PRINCIPLES adopted

Leadership of CC

Contract-based network

Common information system

Organized structure (multi-tier model)

Implemented cancer management protocols

Multidisciplinary assessment of patients (CCs boards)

Common governance including control (QA/QC indicators)

Quantified and mapped collaboration with neighboring regions

Emphasis on complexity of the system: controlled patient pathways

CC(s) **CCCN(s)**

Established Pilot CCCN

- written agreement
- CCCN structure
- CCCN territory

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Spatially closed, geographically interconnected regions

Fully representative demographic, social and epidemiologic attributes

Sufficient demographic mass of people (patients)

Target area of the CCCN

Together, South Moravian Region and the Vysočina Region account for 18% of the total area of the Czech Republic. Although these two regions are geographically next to each other, their remote parts are very different and provide representative sample for piloting of CCCN.

	South Moravian Region	Vysočina Region	Both regions
Population (as of 31/12/2015)	1 175 025	509 475	1 684 500
Area (km2)	7 195	6 796	13 991
Population density (per km2)	163	75	120
Number of districts	7	5	12
Number of municipalities	673	704	1 377
Total length of roads and motorways (km, estimation)	4 500	5 000	9 500
Total length of railway network (km, estimation)	800	650	1 450

Demography in the CCCN area (2015) – benchmarking

The distribution of age groups in the population

Men

Women

Source: The Czech Statistical Office

Cancer incidence (2014–2016) – benchmarking

Source: Czech National Cancer Registry (IHIS CR)

Pilot CCCN: South Moravian Region and Vysocina Region – cancer care infrastructure –

www.onconet.cz

Pilot CCCN in institutional view

CCC
Masaryk Memorial Cancer Institute
www.mou.cz

Project coordination

Project coordination

CC FN Brno
www.fnbrno.cz

CC FNuSA
www.fnusa.cz

Project coordination

Project coordination

Institute of Biostatistics and Analyses
www.iba.muni.cz

CCCN information system
ICT background
Data analyses

Masaryk University Faculty of Medicine
www.med.muni.cz

Education – Training
Certification
Research

CC Jihlava
www.nemji.cz

Region Vysocina
- coordinating cancer centre -

CCCN collaboration

Practical implementation: written agreement

On the below day, month and year, the participants, healthcare providers:

hereinafter referred to as "Providers"

and with the participation of the founder

Kraj Vysočina (Vysočina Region)

hereby and duly enter into this

Cooperation Agreement

of

Cooperating Cancer Care Network (KOS) Vysočina

Preamble:

The concept of cancer care development, better availability and the quality of cancer care are t main priorities of the European health policy for the period 2014–2020. The main objectives of t policy and related projects have been defined pursuant to the outcomes of the large all-Europe project EPAAC (European Partnership for Action against Cancer). In the field of cancer ca organization, the main current challenge is the transition from solitary comprehensive cancer cent to regional or trans-regional networks of comprehensive cancer care. Methodical preparation of t transformation and its piloting is one of the key tasks of the current all-European program CANC (Cancer Control Joint Action; http://www.cancercontrol.eu) in which the Czech Republic also plays important role. Based on its infrastructure readiness and unique information system, the Cze Republic was chosen as a pilot model for the implementation of the above transformation, usin model of selected regions. The Vysočina Region has been identified as one of them; it can therefore, stated that the transformation of cancer care organization in this region will fulfil one the strategic objectives of the all-European policy in this area. Methodological findings from this pi could be presented to the entire community and raise the prestige of the cancer care organizatior model areas.

Assumptions for the functional comprehensive cancer care network

Common governance – given structure –

The main prerequisites for the successful establishment and sustainability of the comprehensive cancer care network are as follows:

1. Respect for the existing facilities and infrastructures. The establishment of a network of centres does not infer their forcible merger or cancellation; on the contrary, the functional network aims to maximize the use of available capacities and know-how throughout the region.
2. Evolutionary, rather than revolutionary, transition of the entire network to full functionality. Individual capacities gradually optimise on the basis of mutual cooperation so that, for example, the changes in the place of providing certain services are gradual and acceptable also for patients already treated.
3. Contract-based cooperation. A prerequisite for the network functionality is to conclude mutual agreements between participating providers of cancer health services, which define the mutual obligations and respect for the main principles of the network functioning.
4. Reasonable degree of centralization of services. Functional network of centres should be able to centralize treatment requiring highly specialized care and treatment of rare diseases. On the contrary, other care components and dispensary care must be optimally stratified so as to enhance its availability to patients.

Mandatory attributes of the functional comprehensive cancer care network

1. Contract-based cooperation of involved providers and members of the network
2. A single management system including common rules especially in the control and due management of care availability and quality.
3. Acceptance of common protocols (diagnostic and clinical standards), at least in the management of major cancer diagnoses
4. Clearly declared system of care organization, arranged in "layers" defining which services are centralized and which are not. Care availability model.
5. A common information system and common reporting for diagnostic and clinical data.
6. Established system of multidisciplinary assessment of clinical cases, including subsequent decisions on the manner of treatment and its location within the network.
7. Ability to communicate with neighbouring regions, to set up and map collaboration, and quantify the migration of patients.

In accordance with the European idea of developing cancer care and taking into account the assumptions for the functional network of comprehensive cancer care, the Parties to this agreement intend to commence the transformation of cancer care organization, which will contribute to the development of cancer care in the region and bring about improvement in its availability and quality. The aim of the cooperation of Providers of cancer care, which will be based on a contractual consideration of the mandatory attributes of the functional comprehensive cancer care network according to the rules adopted within the all-European project, is to standardize and unify the provision of health services in the field so that Providers duly render their services under a unified methodological guidance, in a comparable manner and with comparable results. Furthermore, the aim of the collaboration is also to ensure information exchange and facilitate the implementation of the principles of good practice and evidence-based medicine.

– multidisciplinary assessment

ment is binding upon the Parties concerned, i.e. Providers; the statutory bodies of the said are responsible for its due observance. Participation of the Vysočina Region is determined us as a founder of some Providers and will consist in supporting the declared cooperation pplication of its legal powers – initiation and draft of measures that are discussed and by the competent authorities of the region, incorporation of the proposed concept into locuments of the region.

Part 1 General provisions - the rights and obligations of Providers

undertake to:

tively participate in the activities of KOS, create conditions for the participation of their presentatives in working meetings of expert committees and for the activities of KOS, pecially to send their representatives to the meetings of expert committees for the cessary duration, provide technical support for meetings of expert committees.
legate qualified representatives to various expert committees.
here to the procedures determined by the oncology expert group (OOS) when providing re to patients with cancer, so that these procedures correspond to the principles of idence-based medicine, subject to the fulfilment of appropriate professional level in cordance with the provisions of §4, subparagraph 5 of Act No. 372/2011 Coll., on Health rvices and Conditions of Their Provision (Act on Health Services), as amended. Integrate ese procedures, including the opinions of expert committees, into the controlled cumentation for clinical practice and require their observance on the part of employees.
tively collaborate on creating a single information system to standardize and unify the livery of health services in the field, and commence negotiations for that purpose after ning this agreement without undue delay, and conclude an agreement on the analysis of nical data with the Masaryk University in Brno (MU Brno), which will process the data of oviders in full accord with Act No. 101/2000 Coll. and respect that the clinical data is the operty of care providers. The purpose of the stated data processing is to obtain formation to analyse and compare health services in the area of cancer care, and acquaint oviders with the outcomes, which will enable them to manage and organize cancer care thin the KOS, improve efficiency and bring about better results.
ospital Jihlava, through the head of KOC, in collaboration with OOS and MU Brno, shall sure the availability of reports and overviews created for Providers.
point a representative for the performance of this agreement, who will be responsible for e mediation, application and observance of the mentioned medical procedures and ligations arising from this agreement (usually the Deputy Director for Medical Care, or the rector). A list of these responsible persons and their deputies is attached to this agreement d shall be periodically updated (see Annex 1).
low their professionals to put forward proposals for the attention of the respective expert mmittees for amending treatment practices and protocols.
otivate their representatives to work within the KOS, particularly to remunerate them for ccessful fulfilment of extra important working tasks in the amount determined according their participation in the KOS activities and pursuant to agreements with other Providers and chairman of the OOS. Pay the necessary expenses related to the participation of their representatives in the expert groups.

Common protocols –

– QA/QC standards – common information system

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Practical implementation: common governance

- **Management coordination and leadership**
  - Network managerial board
  - Network governance, financial management
  - Involvement of stakeholders, patients

- **Quality and performance evaluation**
  - Management of ICT background
  - QA/QC, reporting, predictions

- **Cancer care standards and pathways**
  - Standardization of protocols and procedures
  - Multidisciplinary tumor assessment
  - Quality control with clinical feedback
  - Research activities

Practical implementation: communication -> collaboration

Results and quality of cancer care in the Vysočina Region: launch of the CCCN pilot model

Jihlava (CZE), 30 September 2016

Jiří Běhounek, MD
Governor of the Vysočina Region
Workshop opening, welcome

Prof. Jan Žaloudík, MD, PhD
Senate of the Parliament of the CR
Can Czech regions serve as a model of modern design of cancer care in the European Union?

Lukáš Velev, MD, MHA
Director of the Hospital Jihlava
A new model of cancer care organisation in the Vysočina Region

Lubomír Slavíček, MD, PhD
Cancer Care Department, Hospital Jihlava
Introduction of the Comprehensive Cancer Centre of the Hospital Jihlava

Assoc. Prof. Ladislav Dušek, PhD
Masaryk University / IHIS CZ
Cancer care in the Vysočina Region and its results according to recent national and international data

Jan Mužík, PhD
Masaryk University / IHIS CZ
Indicators of health status of the Vysočina Region population available online – a new reporting tool developed by IHIS CZ

Examples of outcomes I.

ICT background and QA/QC system

www.onconet.cz / cccn.onconet.cz

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Comprehensive cancer centers

Hospital facilities in general

Supportive and palliative centers

Screening centers

Primary care specialists

Pilot CCCN -> IT infrastructure for cancer care networking

Epidemiology Population-based registries

Population and treatment burden
National Cancer Registry

Hospitals Specialized registries

Hospital information systems
Local and national registries

Monitoring of health care EHR

Primary care (GPs, gynaecologists)
Hospital care
Specialized care and cancer centres

REPORTS

Equity of health care

Structure of health care

Results of health care

Quality of health care

Distribution of health care

Volume of health care

Data validation

Complexity of the CCCN = complexity of its reporting

SEGMENT VIEW

INDIVIDUAL VIEW

Methodical background. I. QA – QC population-based indicators

Integrated cancer control → **Patient-centred model**

	Epidemiological registries	Hospital data /EHR/	Specialized registries (surveys)
Equity Performance	**CCCN coverage** in catchment area **Volume** of care	**Access to CCCN entry points** Consumption rates	Social & demographic **typology of treated patients**
Patient pathways	(Re)**distribution of care** Inter-regional migration for care	**Pathways:** primary and follow-up care **Patient flow**	**Pathways:** specific clinical surveys / **newly coming therapies**
Standardized protocols	No. of patients enrolled **Compliance to protocols**	Performance of **tumor management teams**	**Time aspects** of diagnostics, staging, follow-up
Safety, efficacy Outcomes	Population-based reference: **mortality and survival**	Hospitalization-related **safety and outcome measures**	Clinical trials **Adverse events**, Patient's satisfaction

Methodical background. II. Predictive mapping of cancer burden

Model diagnosis: colorectal carcinoma

CRC (C18 – C20)	INCIDENCE (95 % CI)	PREVALENCE (95 % CI)
	---------- Prediction: 2018 ----------	
Stage I	**2,156** (2,008; 2,304)	**22,268** (22,023; 22,513)
Stage II	**1,879** (1,760; 1,998)	**19,019** (18,792; 19,246)
Stage III	**2,162** (2,046; 2,277)	**15,265** (15,062; 15,468)
Stage IV	**1,393** (1,186; 1,602)	**6,157** (6,028; 6,286)
TOTAL	**8,095** (7,322; 8,866)	**65,818** (65,396; 66,240)

Pavlík et al. BMC Public Health 2012, 12:117
http://www.biomedcentral.com/1471-2458/12/117

BMC Public Health

RESEARCH ARTICLE Open Access

Estimating the number of colorectal cancer patients treated with anti-tumour therapy in 2015: the analysis of the Czech National Cancer Registry

Tomáš Pavlík[1], Ondřej Májek[1], Jan Mužík[1], Jana Koptíková[1], Lubomír Slavíček[1,2], Jindřich Finek[1,3], David Feltl[4], Rostislav Vyzula[1,5] and Ladislav Dušek[1*]

Abstract

Background: Colorectal cancer (CRC) represents a serious health care problem in the Czech Republic, introducing a need for a prospective modelling of the incidence and prevalence rates. The prevalence of patients requiring anti-tumour therapy is also of great importance, as it is directly associated with planning of health care resources.

Methods: This work proposes a population-based model for the estimation of stage-specific prevalence of CRC patients who will require active anti-tumour therapy in a given year. Its applicability is documented on records of the Czech National Cancer Registry (CNCR), which is used to estimate the number of patients potentially treated with anti-tumour therapy in the Czech Republic in 2015.

Results: Several scenarios are adopted to cover the plausible development of the incidence and survival rates, and the probability of an anti-tumour therapy initiation. Based on the scenarios, the model predicts an increase in CRC prevalence from 13% to 30% in comparison with the situation in 2008. Moreover, the model predicts that 10,074 to 11,440 CRC patients will be indicated for anti-tumour therapy in the Czech Republic in 2015. Considering all patients with terminal cancer recurrence and all patients primarily diagnosed in stage IV, it is predicted that 3,485 to 4,469 CRC patients will be treated for the metastatic disease in 2015, which accounts for more than one third (34-40%) of all CRC patients treated this year.

Conclusions: A new model for the estimation of the number of CRC patients requiring active anti-tumour therapy is proposed in this paper. The model respects the clinical stage as the primary stratification factor and utilizes solely the population-based cancer registry data. Thus, no specific hospital data records are needed in the proposed approach. Regarding the short-term prediction of the CRC burden in the Czech Republic, the model confirms a continuous increase in the burden that must be accounted for in the future planning of health care in the Czech Republic.

Background

The Czech population, with an annually diagnosed 78.7 colorectal cancer (CRC) patients per 100,000 inhabitants (2008), presently occupies an undesirable 3rd position in international statistics of age-standardised CRC incidence rates [1]. Moreover, the number of newly diagnosed cases is supposed to be high in the future as well, namely due to population ageing. This health care problem is further worsened by the fact that a large proportion of colorectal carcinomas are primarily diagnosed in a metastatic stage (25% in 2008) [2].

Thus, there is a strong need for a prospective modelling of CRC incidence and prevalence rates, as these measures are necessary for monitoring of the overall cancer load and its dynamics [3]. The prospective estimates should also enable us to quantify the resources necessary for the health care system [4], provided that we are able to adjust the rates for patients untreated for

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Methodical background. III. Clinical outcome assessment

Model diagnosis: colorectal carcinoma

Contents lists available at ScienceDirect

Cancer Epidemiology

The International Journal of Cancer Epidemiology, Detection, and Prevention

journal homepage: www.canceredpidemiology.net

Trends in stage-specific population-based survival of cancer patients in the Czech Republic in the period 2000–2008

Tomáš Pavlík [a], Ondřej Májek [a], Tomáš Büchler [b], Rostislav Vyzula [c], Jiří Petera [d], Miroslav Ryska [e], Aleš Ryška [f], David Cibula [g], Marko Babjuk [h], Jitka Abrahámová [b], Jiří Vorlíček [c], Jan Mužík [a], Ladislav Dušek [a,*]

Population-based reference

Hospital-based benchmarking

Example - CRC: 5-yr relative survival

	Cohort 1990–1994	Cohort 1995–1999	Period 2005–2009	Period 2010–2014	Period 2015–2016
Stage 1	64,9 %	76,2 %	87,6 %	91,8 %	95,3 %
Stage 2	48,4 %	62,9 %	73,7 %	79,4 %	82,1 %
Stage 3	40,0 %	41,8 %	54,5 %	62,2 %	63,1 %
Stage 4	12,0 %	10,7 %	13,9 %	16,2 %	13,7 %
Total	47,9 %	51,7 %	59,4 %	65,4 %	67,8 %

Examples of outcomes II.

Data processing and reporting

- performance - patients' flow - equity - QA/QC system

Population level: epidemiology

Hospital-based information systems

Predictions of cancer burden

Indicators of CCCN functionality

Examples of reporting generated by the Czech National Cancer Control System: I. Epidemiology

*Model diagnosis: colorectal cancer – **CCCN area***

Main trends: incidence & mortality

	Incidence	Mortality
Absolute counts in 2016	7,553	3,445
Counts per 100 000 in 2016	71.5	32.6

Main trends: prevalence

	Prevalence (31.12.2016)
Absolute counts	58,234
Counts per 100 000	551.2

Clinical stages: detection at primary diagnosis

Survival of treated patients in time trends

Colorectal carcinoma (C18-C20)	5yr relative survival (95% IC)	
	2005–2009	2010–2015
All patients	57.9 (57.2–58.6)	63.2 (62.5–63.8)
stage 1	86.4 (84.9–87.7)	89.9 (88.8–91.0)
stage 2	72.3 (70.9–73.6)	77.0 (75.8–78.2)
stage 3	52.9 (51.4–54.3)	59.3 (58.1–60.5)
stage 4	12.2 (11.3–13.1)	13.3 (12.4–14.2)

Stochastic predictions of incidence and prevalence

Colorectal carcinoma (C18-C20)	Predictions for 2018	
	Incidence	Prevalence
Stage I	**2,156** (2,008; 2,304)	**22,268** (22,023; 22,513)
Stage II	**1,879** (1,760; 1,998)	**19,019** (18,792; 19,246)
Stage III	**2,162** (2,046; 2,277)	**15,265** (15,062; 15,468)
Stage IV	**1,393** (1,186; 1,602)	**6,157** (6,028; 6,286)
Stage unknown	**505** (322; 685)	**3,109** (3,017; 3,201)
TOTAL	**8,095** (7,322; 8,866)	**65,818** (65,396; 66,240)

Stochastic predictions of therapeutic burden

Colorectal carcinoma (C18-C20)	Newly treated patients in 2018
Stage I	**1,927** (1,795; 2,060)
Stage II	**1,761** (1,649; 1,872)
Stage III	**2,007** (1,900; 2,114)
Stage IV – incidence	**937** (798; 1,077)
Disseminated relapses / progressions	**1,583** (1,518; 1,648)
TOTAL	**8,215** (7,660; 8,771)

Examples of reporting generated by the Czech National Cancer Control System: II. Pathways

*el diagnosis: colorectal cancer – **CCCN area***

CCCN catchment area - Solid tumors of adults -

CCCN catchment area - Haematological neoplasms

CCCN catchment area - Childhood cancers -

Control of patient-pathways in follow-up care

Inter-regional sharing of professionals' capacity

Trajectories - patient's patways within CCCN

Examples of reporting generated by the Czech National Cancer Control System: III. Hospital level

*Model diagnosis: colorectal carcinoma – **CCCN area***

Distribution of care among regions/centers

Volume of primary care: capacity of hospitals

Benchmarking of survival after given medication

Distribution of care among hospitals

Volume of care: benchmarking

Outcome measures: 5yr survival – benchmarking

Examples of reporting generated by the Czech National Cancer Control System: IV. Screening programs

Model diagnosis: colorectal cancer – ***CCCN area***

CRC screening: coverage

Time trend in CRC screening coverage

FOBT positivity: regions

Primary screening colonoscopy: coverage

Share of primary care specialists

FOBT positivity: districts

Examples of reporting generated by the Czech National Cancer Control System: V. Palliative care

*System controlling data reports over end-of-life care– **CCCN area***

Mortality rates: subregion of death in the CCCN area

Main causes of death in time trends

Main causes of death by sex: population benchmarking

Main causes of death by sex, age and primary cancer diagnosis

Capacity building of end-of-life care and palliative care

Place of end-of-life care: type of health care facility

Examples of the CCCN assessment. I. Coverage of TM teams

*Place of treatment of **all malignant neoplasms** (C00–C97) without C44 from the South-West Moravian region*

Results of 2017 based on preliminary data

Examples of the CCCN assessment. II. 5yr relative survival

*The values of 5-year survival (with 95% CI) for individual diagnosis are **standardised** to the patients' **age** and to the proportion of **clinical stages** (or other risk categories).*

Brno and VYS core patients – 2001–2005

Brno and VYS core patients – 2006–2014

CCCN core patients – 2013–2015

Significantly higher survival (Δ>+9%)

Significantly higher survival

Diagnosis	Annual number of patients (2001–2006)	Annual number of patients (2007–2012)	Annual number of patients (2013–2014)	Δ Survival difference (2007–2012 vs. 2013–2014)
prostate (C61)	701	1 248	2 744	**+4,5 %**
testis (C62)	139	155	284	+1,7 %
thyroid gland (C73)	103	157	373	+1,5 %
breast - women (C50)	1 240	1 582	3 222	+1,8 %
malignant melanoma of skin (C43)	313	356	631	+1,5 %
uterus (C54, C55)	401	434	779	−0,8 %
kidney (C64)	391	505	1 040	+0,1 %
bladder (C67)	263	316	561	+2,2 %
colon and rectum (C18–C20)	1 052	1 219	2 282	**+4,1 %**
non-Hodgkin lymphoma (C82–C85, C96)	209	276	582	+3,6 %
cervix uteri (C53)	238	211	304	−3,8 %
larynx (C32)	109	103	153	+1,3 %
oral cavity and pharynx (C00–C14)	227	249	465	**+6,4 %**
ovary (C56)	219	214	339	**+8,5 %**
connective and soft tissue (C47, C49)	57	63	129	−4,0 %
leukaemia (C91–C95)	121	162	290	**+16,4 %**
multiple myeloma (C90)	89	117	223	+2,1 %
stomach (C16)	133	160	262	**+5,2 %**
brain and spinal cord (C70–C72)	130	118	182	−1,3 %
gallbladder and biliary tract (C23, C24)	70	71	111	**+9,4 %**
liver and intrahepatic bile ducts (C22)	37	58	103	−1,1 %
trachea, bronchus and lung (C33, C34)	539	627	919	+2,2 %
oesophagus (C15)	50	67	119	−3,1 %
pancreas (C25)	119	146	227	**+5,3 %**

CanCon Cancer Control Joint Action

Data: Czech National Cancer Registry, Death Certificates (IHIS CR)

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CONCLUSIONS & FUTURE STEPS

"Export" of the CCCN model to the whole country
-> changes in the National Cancer Control Plan

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iPAAC
INNOVATIVE PARTNERSHIP
FOR ACTION AGAINST CANCER

Legal background for the national model of cancer care management

Methodology for longitudinal integration of multiple data sources

Population-based set of indicators: CCCN performance and outcomes

www.onconet.cz

Diagrams of cancer care available for each region

PDF download

Regional models of cancer care, presenting professionals and navigating patients

Interactive maps

Access points

Regional models of cancer care

Map of facilities involved in comprehensive cancer care

Types and numbers of facilities

Diagram of cancer care

Link to a regional Cancer Centre

Regional news

Detail of a health care facility

Cancer Centres On-line

Equipment characteristics

Comprehensive Cancer Centre of Masaryk Memorial Cancer Institute in cooperati
Hospital Brno and St. Anne's University Hospital in Brno

Identification data | Basic characteristics | Contractual relationships with health insurance companies
Hospital and management information systems | Health care quality assessment and documentation | clinical assessment

Basic characteristics

Beds and outpatient departments:
Total number of beds available for cancer patients: 230
Total number of oncology outpatient departments: 26

Medical equipment:

Spiral computed tomography: ☑ number of instruments: 5

MRI: ☑ number of instruments: 4

PET: ☑ number of instruments: 2

Classical mammography machine ☑ number of instruments: 1

Digital mammography machine: ☑ number of instruments: 3

Endoscopic ultraso (EUS): ☑ number of instrume

Other equipment:
-

Clinical research

Comprehensive Cancer Centre of Masaryk Memorial Cancer Institute in cooperation with University Hospital Brno and St. Anne's University Hospital in Brno

Identification data | Basic characteristics | Contractual relationships with health insurance companies
Hospital and management information systems | Health care quality assessment and documentation | clinical assessment

Clinical trials and implementation of new procedures
The centre has a local ethical commision at its disposal: ☑
The centre is willing and has the capacity to take part in new multicentre clinical trials and registries: ☑

Number of clinical trials (being conducted in compliance with the Good Clinical Practice) in which the centre currently participates:
Phase I: Total number: 3
Number of international projects: 3
Phase II: Total number: 23
Number of international projects: 23
Phase III: Total number: 43
Number of international projects: 43
Phase IV: Total number: 0
Number of international projects: 0

The centre is involved in Czech or international clinical registries:
(out of National Cancer Registry, i.e. projects concerned with genetics etc.) ☑

Project title	Identification of project organizers	Diagnosis of registered patients	The centre has been actively participating in the registry since
Registry ČOS	Prof. MUDr. Rostislav Vyzula, CSc.	C18-20, C25, C34, C45, C64, C56, C44	2008

The centre actively participates in prevention programmes:
Primary prevention:
mammary screening, colorectal carcinoma, Stub It Out, counselling service on healthy diet and lifestyle
Secondary prevention:
mammary screening, colorectal carcinoma, melanoma treatment, seniors

The centre organizes its own projects of a nationwide significance in the following areas:
Diagnostics: pathology: ☑
radiodiagnostics: ☑
nuclear medicine: ☑
Therapy: chemotherapy: ☑
radiation therapy: ☑
biological therapy: ☑
Genomics and proteomics: ☑
Pharmacogenetics: ☑

Data authorization: 16.5.2014, Jiří Vorlíček

Information systems

Comprehensive Cancer Centre of Masaryk Memorial Cancer Institute in cooperation with University Hospital Brno and St. Anne's University Hospital in Brno

Identification data | Basic characteristics | Contractual relationships with health insurance companies
Hospital and management information systems | Health care quality assessment and documentation | clinical assessment

Hospital and management information systems (HIS and MIS)

For the documentation of diagnostic and therapeutic processes in cancer patients, the centre employs a fully electronic Hospital Information System (HIS): ☑
HIS identification: NIS GreyFox tm 9.E
HIS provider: Medicon a.s.

The HIS employed in the centre enables a parametric collection of cancer data, at least in the extent of the report sent to the National Cancer Registry: ☒

Which of the following data are parametrically recorded within the HIS and which of them are easily available for the centre's management:

Data	Údaj parametricky zaznamenáván v NIS	Údaj pohodlně dostupný pro vedení centra
er of diagnosed and/or treated patients	☑	☑
diagnosed and/or treated patients sorted by diagnoses	☑	☑
the time of diagnosis (TNM, clinical stage etc.)	☑	☑
histopathological examination (pTNM, grade etc.)	☑	☑
Results of laboratory examination	☒	☑
Results of examination by imaging methods	☒	☑
Records on anticancer pharmacotherapy (regimens, products, doses etc.)	☑	☑
Records on radiation therapy	☑	☑
Records on adverse drug reactions	☑	☑

The centre employs a Management Information System (MIS): ☑
MIS identification: BEE/GreyFox tm 9.E
MIS provider: INSIGHT STRATEGY/ CBA MU, MEDICON
Length of use (in months): 120

The centre employs filmless technologies and telemedicine tools: ☑
HIS identification : PACS ICZ, PACS TatraMed SR
HIS provider: ICZ, TatraMed SR

...and more

SW Moravia CCCN in its web portal

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Comprehensive Cancer Care Network - a pilot model

- Homepage
- Joint Action CanCon
- Pilot model concept
- Regions of CCCN pilot model
- Employed data sources
- Published methods and results
- Management and contacts

Regions of CCCN pilot model

Vysočina Region

General characteristics: an overview of history and demography

The Vysočina Region is an administrative unit of the Czech Republic, located on the border of historical regions of Bohemia and Moravia. The Vysočina Region is divided into five districts, namely: Havlíčkův Brod District, Jihlava District, Pelhřimov District, Třebíč District and Žďár nad Sázavou District.

The Vysočina Region was established on 1 January 2000 by the Fundamental Law No. 347/1997 Coll. by joining three districts of the former South Moravian Region, one district of the former East Bohemian Region, and one district of the former South Bohemian Region. Since the very beginning, the newly created region had to face many problems that emerged from an artificial connection of areas that had formerly belonged to three various regional centres. The declared "natural catchment area" of Jihlava, the newly created capital of the Vysočina Region, was a wishful thinking rather than reality. All these problems affected health care as well, including cancer care. The doctrine imposed by former regional management, who intended to develop five equal regional hospitals that would compete with each other, also had a negative impact on the development of network of health care providers and mutual relations. This trend was enforced even in 2008 – at the time when Comprehensive Cancer Centres were being developed – and a gradual change has been under way only in recent years.

The Vysočina Region has 510,520 inhabitants, out of which 253,218 (49.6%) are men and 257,302 (50.4%) are women (data from 2013 census). Population of the Vysočina Region accounts for about 5% of the entire population of the Czech Republic. The population density is very low, with the number of inhabitants per square kilometer (75.1) hardly reaching 57% of the national average. A dispersed settlement is a characteristic feature of the Vysočina Region: there is a large number of small municipalities.

Comprehensive cancer care

The comprehensive cancer care works very well in the Vysočina region: from preventive screening programmes to diagnosis, treatment and follow-up. The Comprehensive Cancer Centre is located in Hospital Jihlava, which therefore serves as the catchment centre for a more demanding and specialised cancer care, whereas other regional hospitals largely contribute to the basic care.

Hospitalisation episodes in health care facilities in Vysočina Region (year 2014). Source: National Registry of Hospitalised Patients

Authorities of the Vysočina Region established five regional hospitals, which provide cancer care in various extent and volume. This structure is supplemented by a private outpatient facility focused on medical oncology in Třebíč, as well as numerous smaller private facilities, which deal primarily with cancer diagnosis, prevention, and palliative care. At the time of development of cancer care in the Vysočina Region, it was necessary to take into account that the region actually has no natural catchment centre such as a university hospital or central hospital, and that subjects dealing with cancer care were

Colorectal cancer screening programme in the Vysočina Region

« previous 1 2 3 4 5 6 next »

Volume and coverage by screening examinations

cccn.onconet.cz

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Promotion of CCCN outcomes

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Revision of the National Cancer Control Plan

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Thank you very much for your attention

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