



Selected aspects of Czech cancer care according to available data

Data background – prevention – organisation of care – outcomes



National Cancer Registry and number of cancer patients

Total cancer burden in Czech population

Over **87,000 patients** are diagnosed with cancer every year.

Around **27,000 patients** die from cancer every year.

There are around **600,000 persons alive** with a history of cancer.

Annual incidence of cancer increases, overall mortality is stable and even has started to decrease for some diagnoses.

Malignant neoplasms (C00–C97) in Czechia

	2010	2011	2012	2013	2014	2015	2016	2017
Incidence ¹	78 255	78 486	80 337	82 979	84 430	86 810	88 280	86 819
Mortality ²	27 834	27 171	27 334	27 084	27 050	26 852	27 261	27 320
Prevalence ¹	444 235	462 379	480 823	499 883	519 815	539 716	559 859	577 373

Average interannual change 2013–2017

+1,6 %

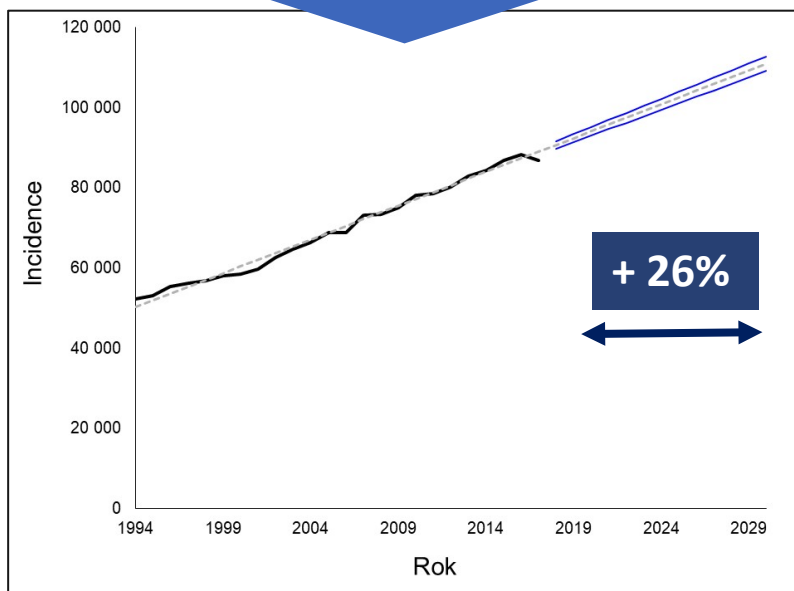
+0,0 %

+3,7 %

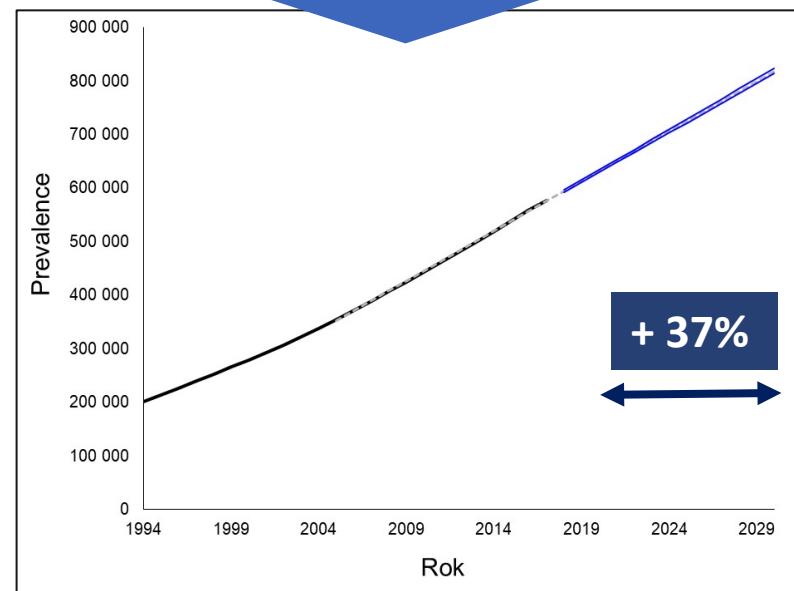


Estimates of number of cancer cases by 2030

Incidence: annual rates of new cancer cases



Prevalence: number of patients with cancer history



Year	Estimate
2025	102 554
2030	110 988

Year	Estimate
2025	725 520
2030	818 899

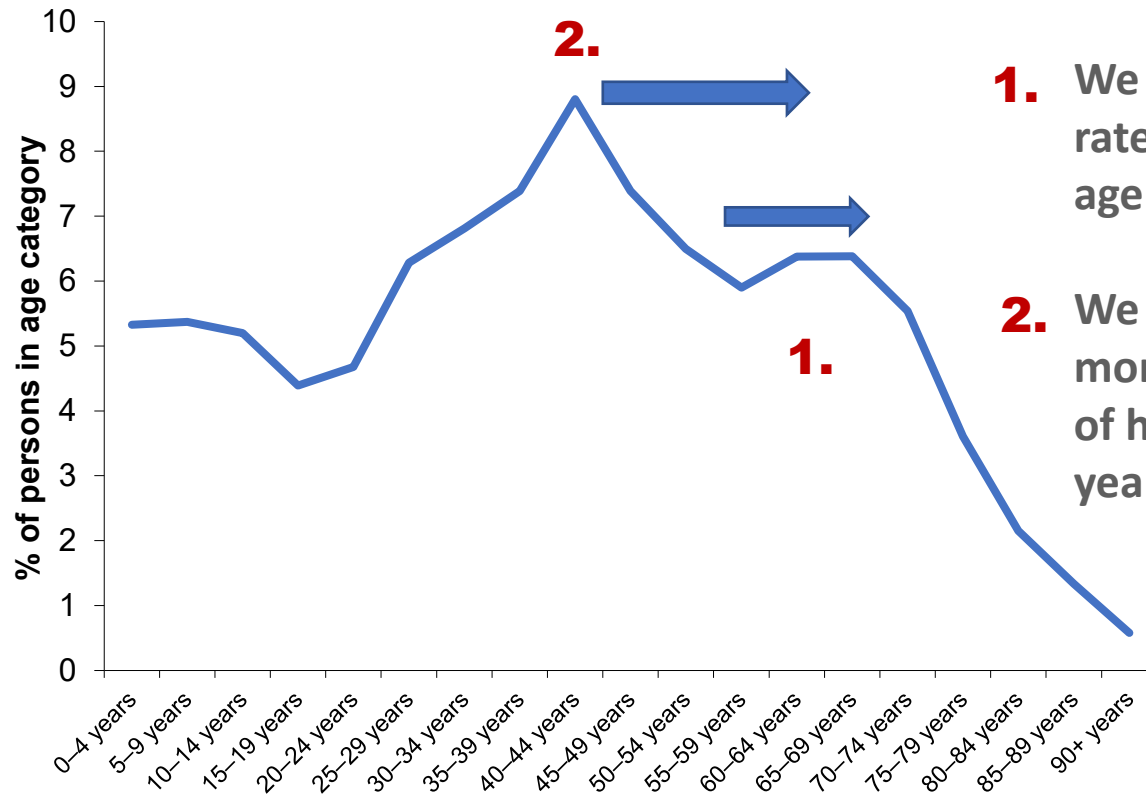


Main cause of anticipated increase of cancer incidence

AGEING OF POPULATION

Age structure of the Czech population

Relative proportion of age categories



- 1.** We can expect increase of morbidity rates connected with diseases of higher age and seniors within 15 years.
- 2.** We can expect steep increase of morbidity rates connected with diseases of higher age and seniors within 20–25 years.

Source: CZSO



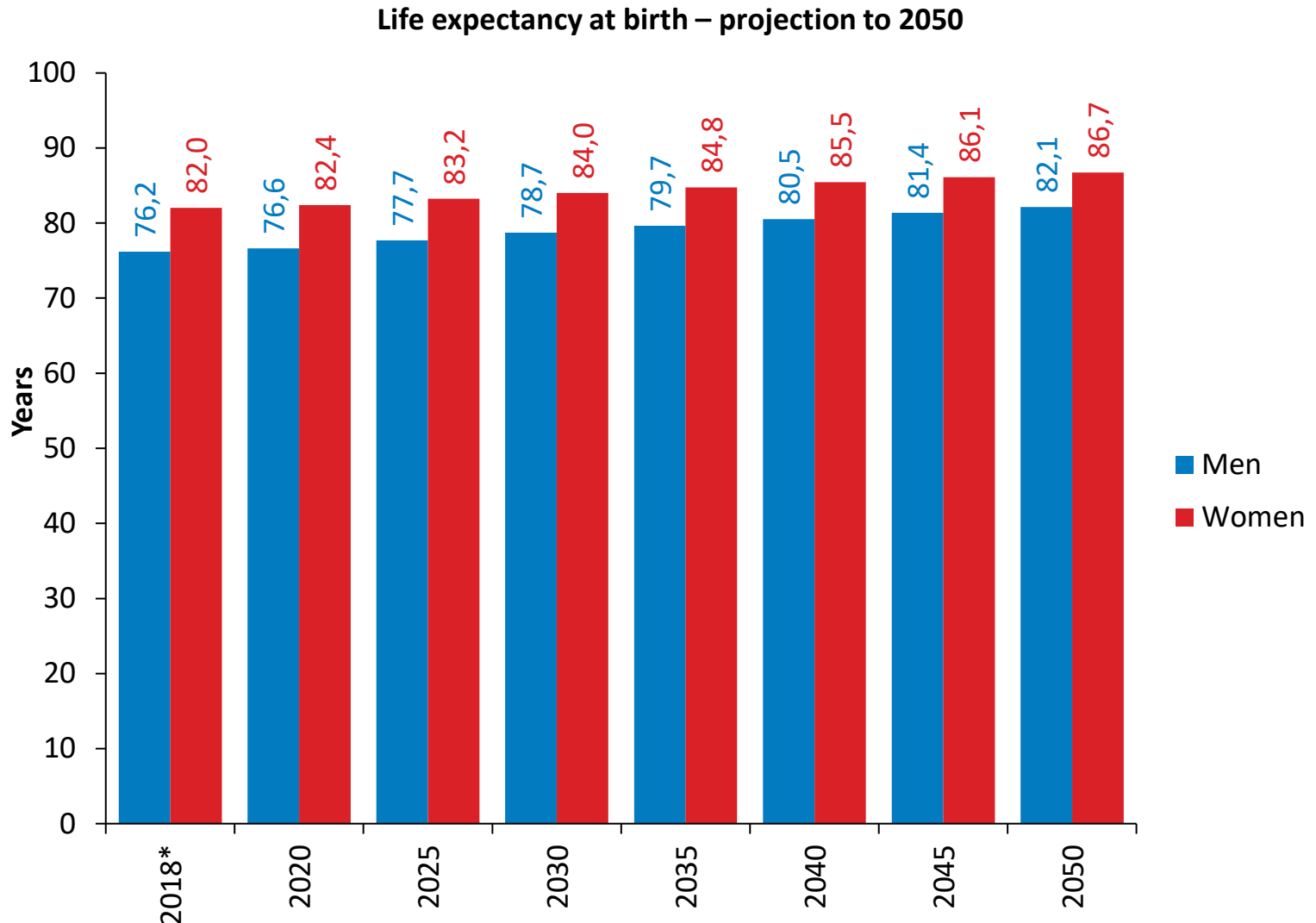
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Main cause of anticipated increase of cancer incidence

AGEING OF POPULATION

Source: CZSO





How can we face the inevitable increase of cancer burden?

1. Prevention and early detection
2. Investment to infrastructure and treatment availability
3. Effective organisation of care



The biggest problem?

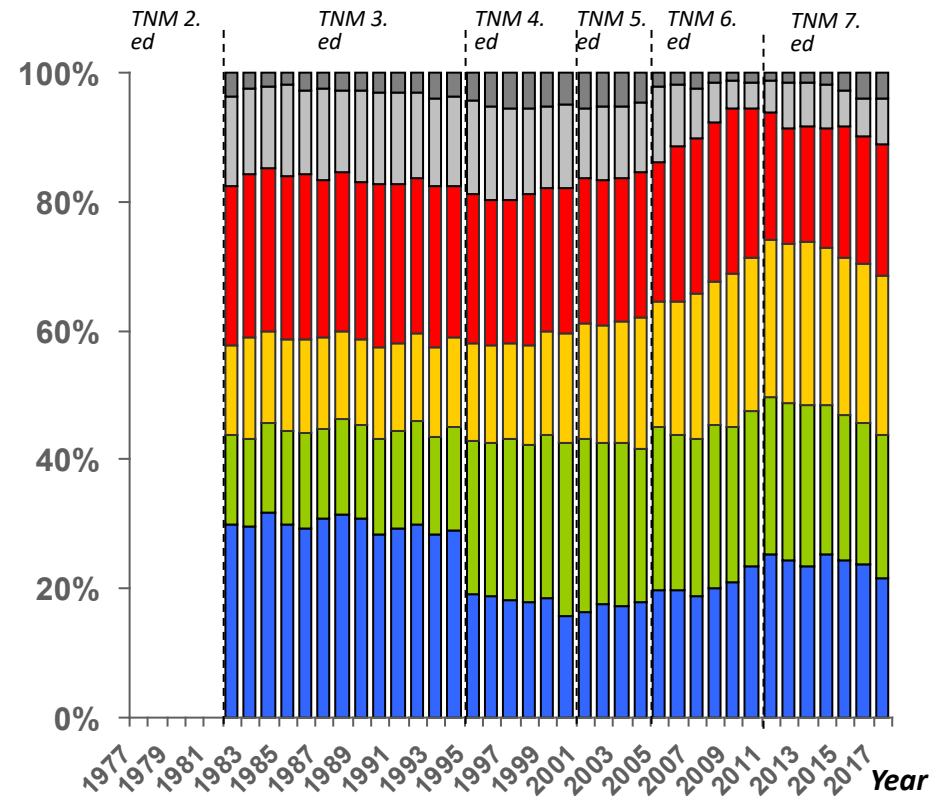
**High proportion of cancers detected
at advanced stage**

Epidemiological trends of colorectal cancer incidence and mortality in Czechia



Almost 40% of colorectal cancers are detected in advanced stage III or IV.

Trends of detection of clinical stages



Clinical stage:



Source: Czech National Cancer Registry, IHIS CZ – incidence; Czech Statistical Office – mortality



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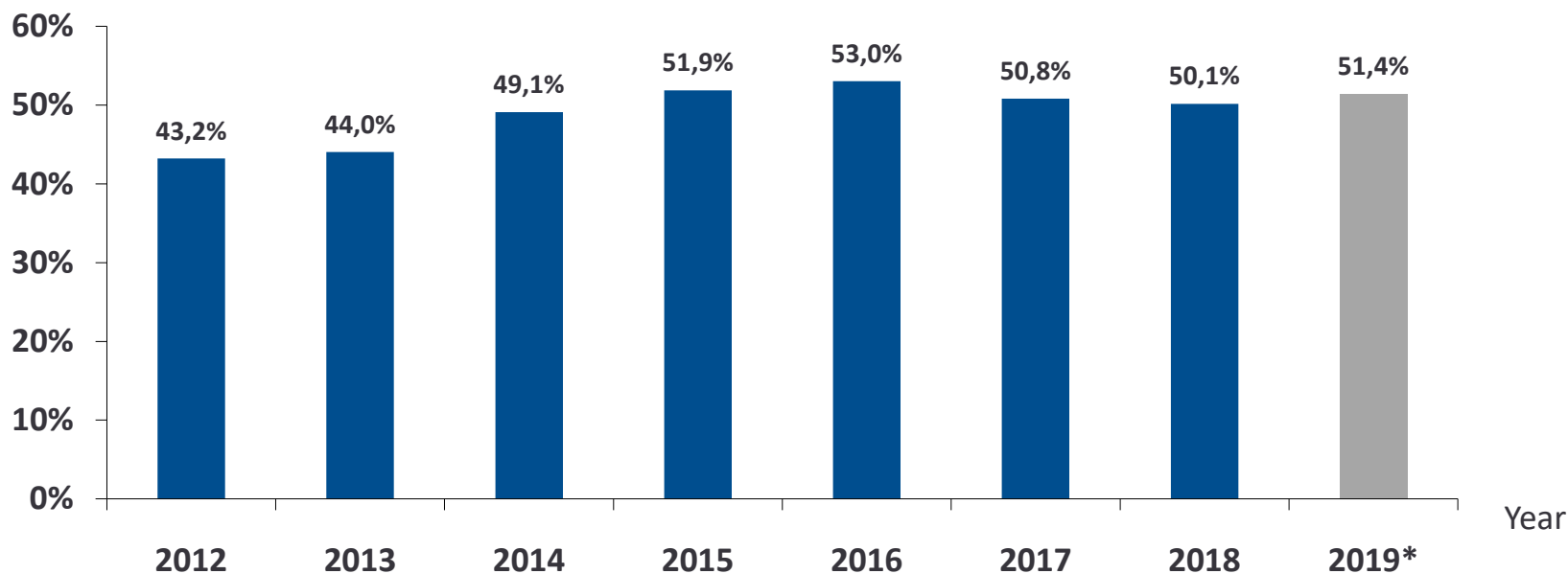


Participation rates in colorectal cancer screening: overall coverage of the target population by diagnostic procedures in 2012—2019 (3-year intervals)

Screening colonoscopy (15105; 15107), FOBT-, FOBT+ (15120; 15121), FOBT+ colonoscopy (15101; 15103),
Diagnostic colonoscopy (15403; 15404), diagnostic FOBT (81561; 81733),
(Men and women over 50 years)

Source: National Registry of Reimbursed Health Services

Coverage



The values show the proportion of persons in the target population (4,122,934 persons in 2019), who underwent a screening and/or diagnostic examination in recommended interval. The total coverage has been steadily slightly above 50 % from 2015 * Year 2019: preliminary results

Persons who do not attend to the screening programme, are at risk of late detection of the disease

With total coverage of the target population (men and women 50–69 years) = 52,2 %:

- **bylo screeningem nebo diagnosticky vyšetřeno 1 409 793 persons were examined by a screening or diagnostic procedure**
- **on the other hand, no such examination has been performed in approx. 1.3 millions of persons (47,8 %) -> these people are at risk of colorectal cancer**

Cancer screening programmes are supported by the system of personalised invitation

In January 2014, **personalised invitation was launched**, in which all health insurance companies are involved; they send letter with the invitation to people that have not participated in screening.

From 2017 the health insurance companies have continued in sending the invitations in regular intervals.

Numbers of invitations demonstrate that the cancer screening programmes are among the biggest health interventions in the history of the Czech healthcare system



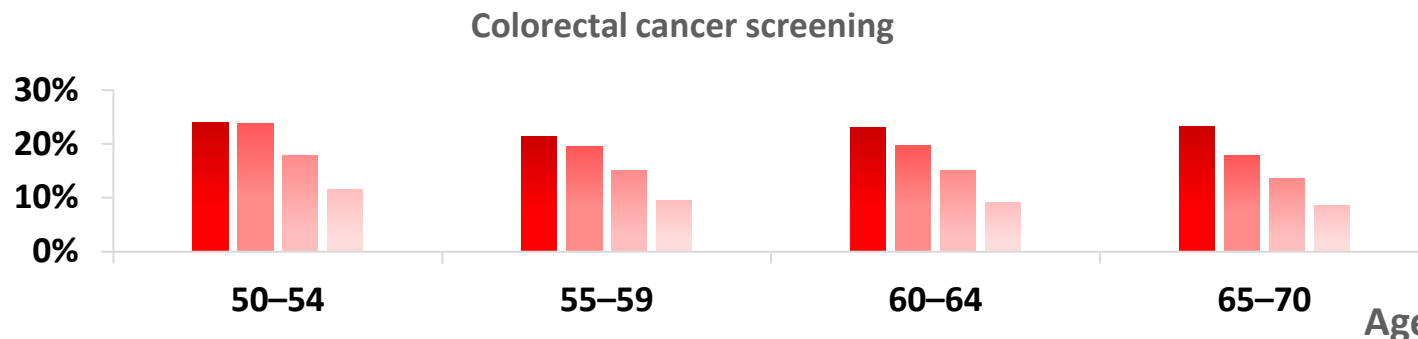
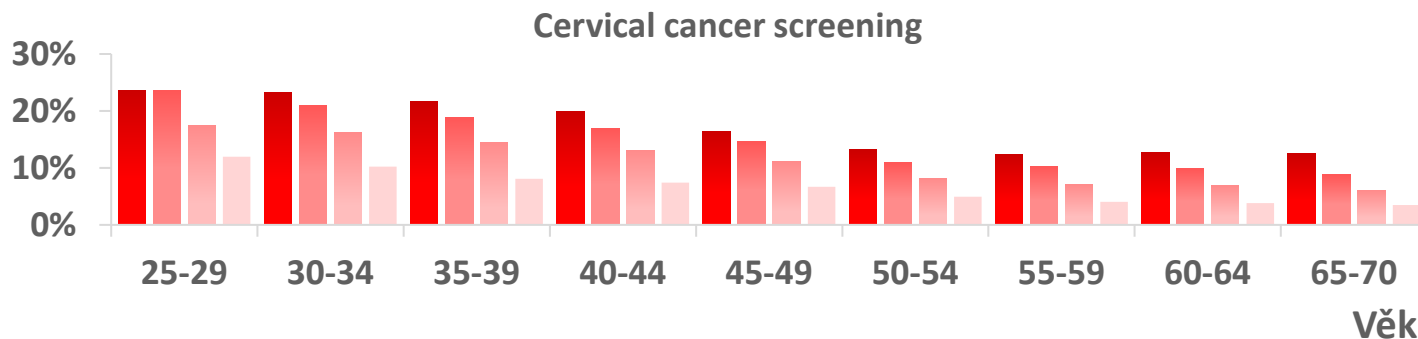
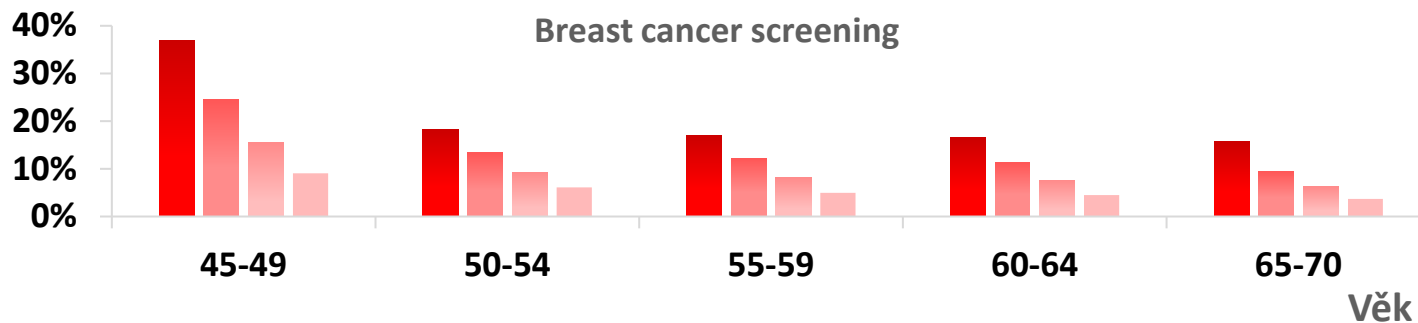
During the assessed period from 2014, **1,7 million** invitations for breast cancer screening, **1,9 million** invitations for cervical cancer screening, and **4,6 million** invitations for colorectal cancer screening were sent.

Response rates to personalised invitations

Source: health insurance companies, IHIS CZ

- First invitation
- Second invitation
- Third invitation
- Fourth invitation

Participation rate



Resistance of a certain part of the population represent the biggest issue of the personalised invitation system. Only persons who have not attended to the screening programme are invited. The highest response rate is in the first round (20 to 30% of people come to the examination); the success rate decreases with repeated invitation.

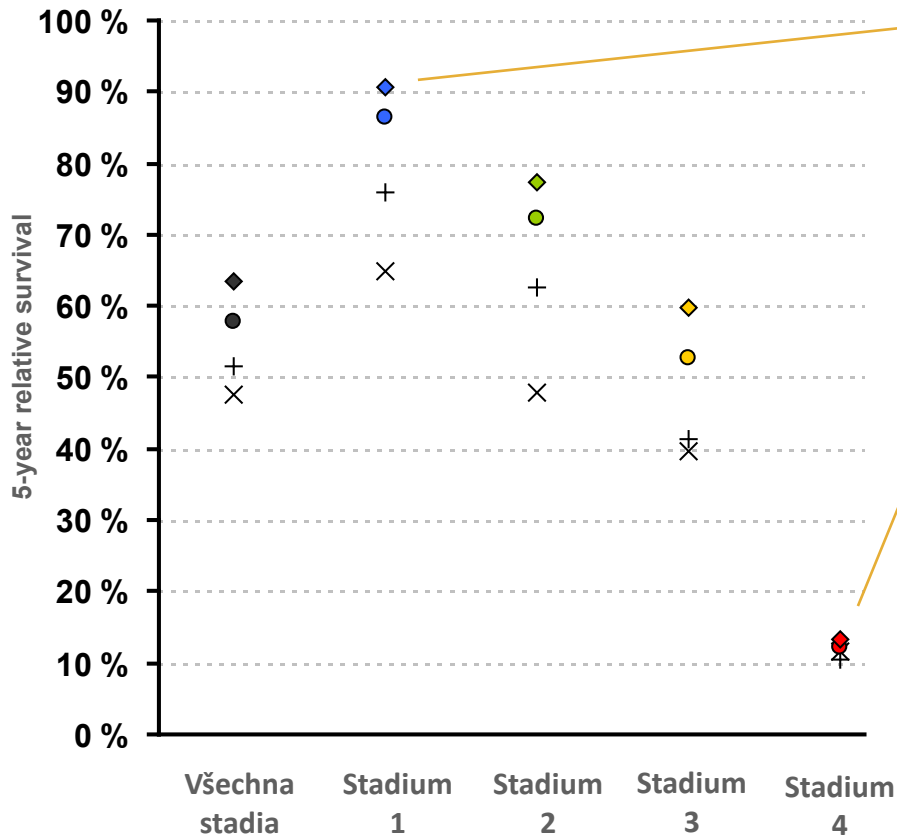


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Trends of 5-year relative survival of cancer patients

Colorectal cancer



Survival rates achievable for less advanced stages (I and II) are significantly higher than for advanced disease (stage IV)

Overall survival rates of colorectal cancer patients in Czechia have significantly increased, which is associated with lower mortality from this type of cancer.

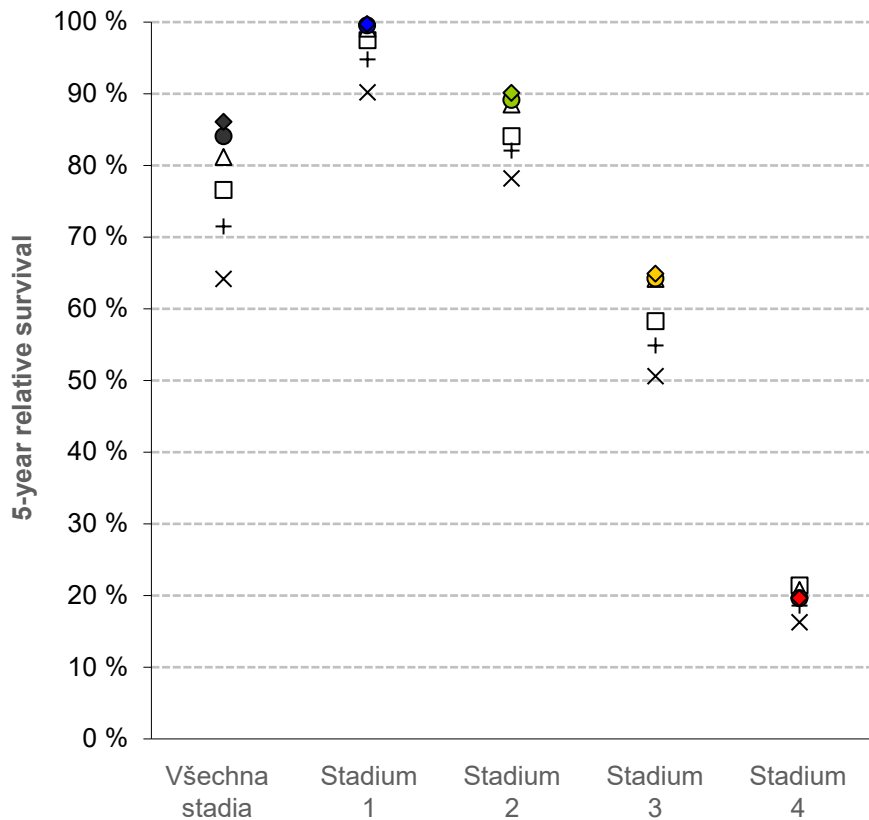
◇ Period analysis 2010-2016 ● Period analysis 2005-2009
+ Cohort analysis 1995-1999 × Cohort analysis 1990-1994

Trends of 5-year relative survival of cancer patients

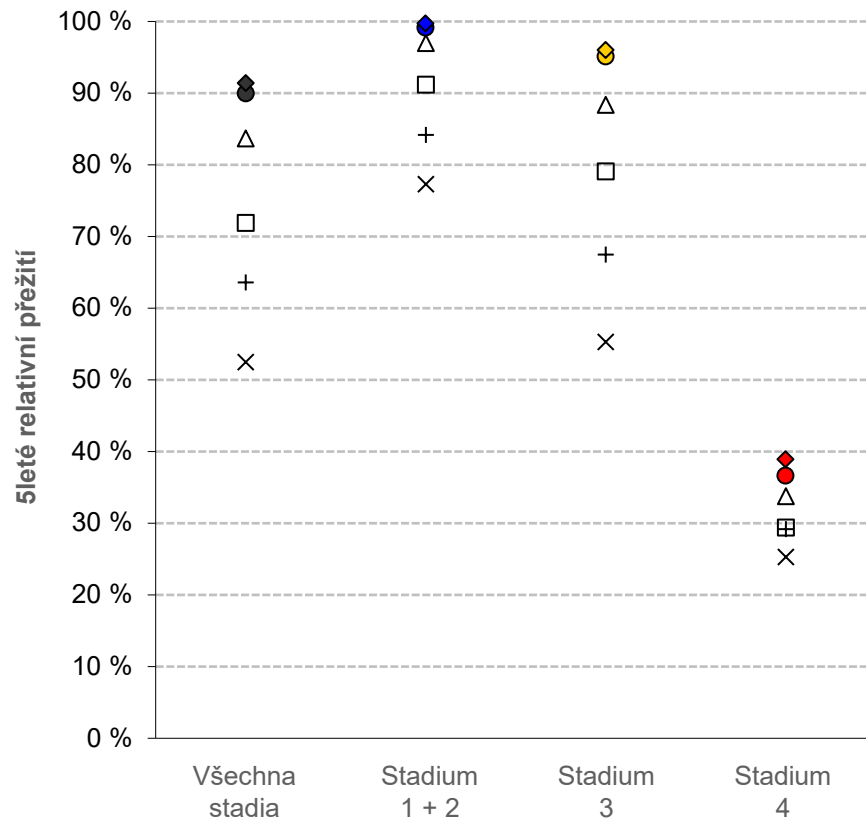
All patients with the diagnosis

The 5-year survival rates for individual diagnoses/stages are age-standardised

Brest cancer (C50) in women



Prostate cancer (C61)



- ◇ Period analysis 2013-2017
- △ Cohort analysis 2003-2007
- + Cohort analysis 1994-1997
- Cohort analysis 2008-2012
- Cohort analysis 1998-2002
- × Cohort analysis 1990-1993

Estimates of number of cancer patients and costs in the field of highly specialised cancer care



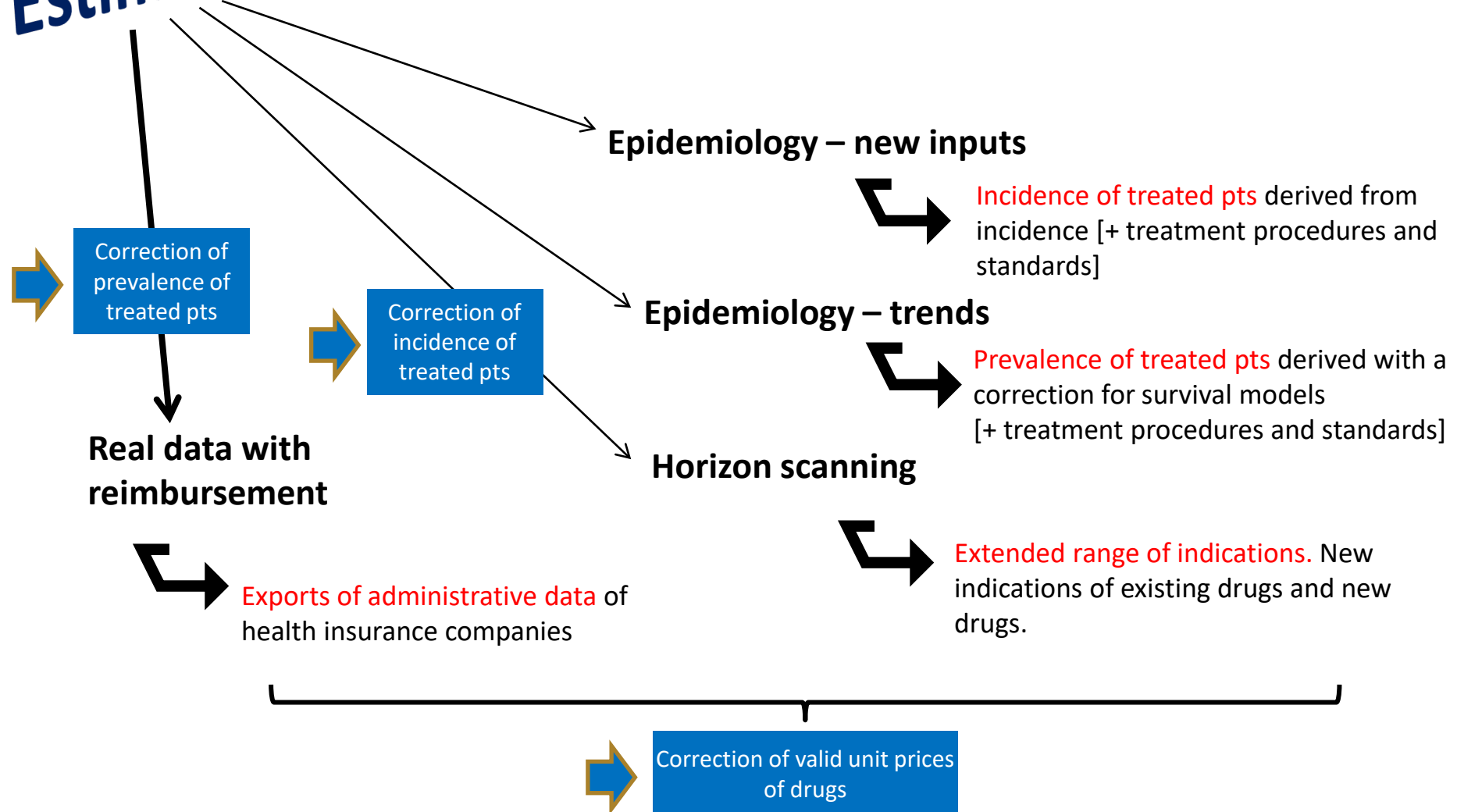
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Ústav zdravotnických informací a statistiky České republiky
Institute of Health Information and Statistics of the Czech Republic

Essential data sources for estimates

Estimates



Methodological conclusions

Volume of highly specialised cancer care has been increasing steadily. The trend is given by epidemiological factors (increasing incidence and particularly prevalence) and further by rapid introduction of new drugs and indications.

The estimates cannot be based solely on a prolongation of epidemiological trends. Introduction of new molecules and indications, as well as generic drugs and strain on the reduction of prices must be reflected. Correction for prices development is a new component of our predictive models.

The overall market development cannot be assessed from separate data of individual health insurance companies: there are different proportions of patients requiring specialised cancer care and there are different trends in time.



CONCLUSION

Evaluation of the Czech cancer care performance in international context



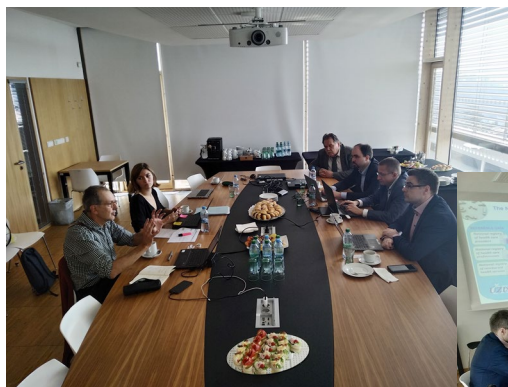
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Country report, Czech Republic

Mapping of the Czech cancer care
within the frame of the iPAAC Joint Action



Co-funded by
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Strengths

- Cancer control programme since 2006
- Implemented population-based screening programmes
- Care in cancer centres guaranteed by the accreditation of the Ministry of Health
- Good data background for the cancer control programme evaluation

To be improved

- Participation rates in the screening programmes
- Insufficient capacity and reimbursement of palliative care, cooperation of healthcare and social system in long-term care
- Clinical guidelines and associated evaluation of cancer care

