

Conference „Prevention of chronic non-communicable diseases and healthy lifestyle“

20-21 September 2016, Bratislava

# Epidemiology of cancer

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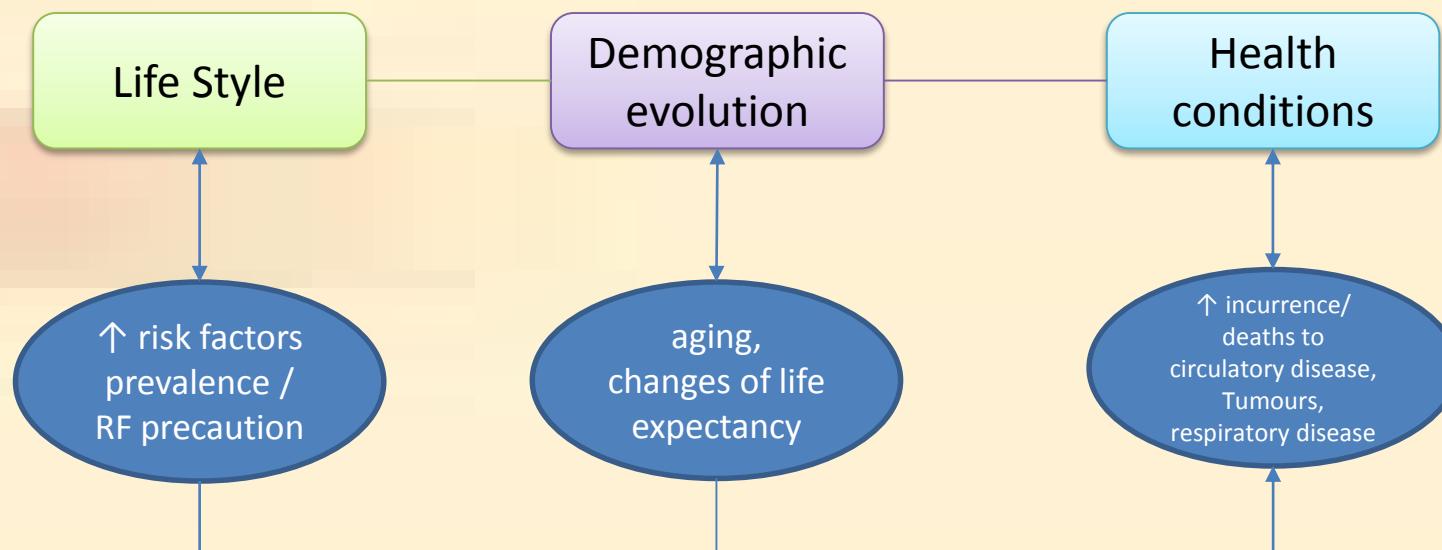
- State Secretary of the Ministry of Health, Slovakia

Chakameh Safaei Diba

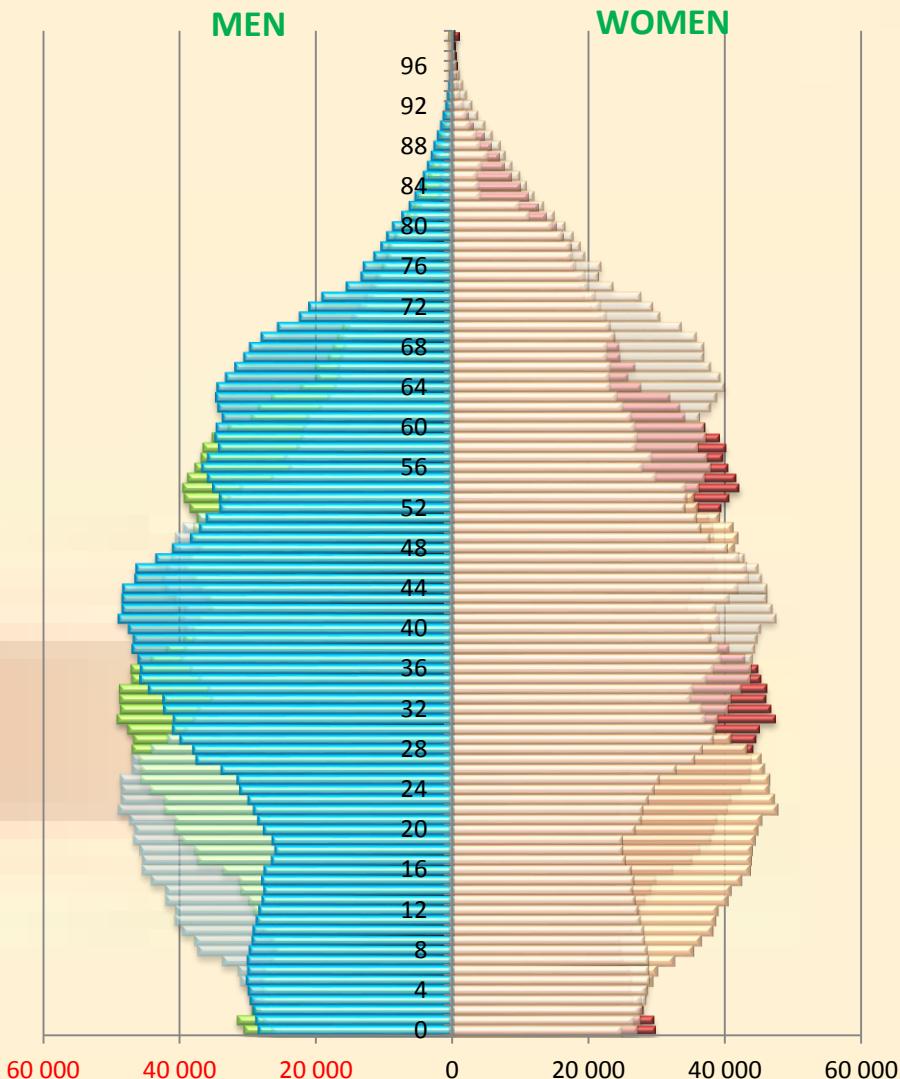
- National Cancer Registry, Slovakia / National Health Information Center

# Prologue

- Initial source for population's health conditions tracking – mortality statistics (18<sup>th</sup> century, Maria Theresia)
  - Primary international classification related to causes of death only (1856) and afterwards extended to classification of diseases as well
- 
- Causes of death reflected predominantly infectious diseases – universal vaccination (since the '60s of 20<sup>th</sup> century) = ↓ infectious diseases / ↓ mortality
  - Social/political/economic changes impact on:



# Demographic changes in Slovakia



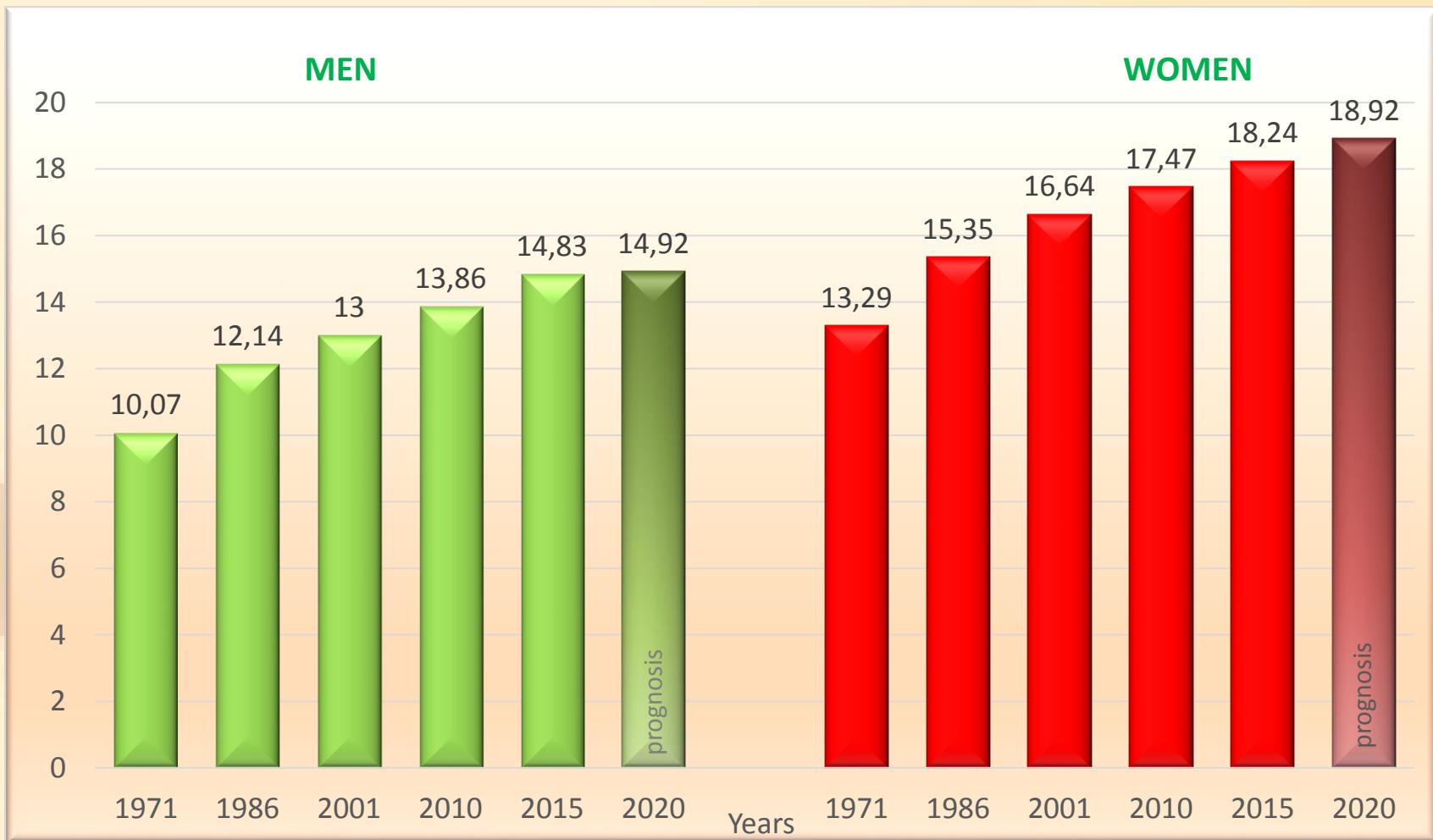
Women 2020  
 Women 2001  
 Women 2010  
 Men 2020  
 Men 2001  
 Men 2010

Indicator	Year						Prognosis in 2020 <sup>1</sup>	Trend
	1971	1986	2001	2010	2015			
Population (in 1 000)	4559	5192	5 379	5 431	5 423	5 510		-
Age structure (%)								
0-14	27,0	26,4	19,1	15,3	15,3	15,51		↓
15-24	18,7	15,0	17,0	14,3	11,9	9,91		↓
25-44	25,1	29,3	29,5	31,4	31,6	30,61		↑
45-64	20,0	19,8	23,0	26,7	26,9	27,21		↑
65-74	6,6	5,6	6,9	7,1	8,5	10,61		↑
75+	2,7	4,0	4,5	5,3	5,7	6,11		↑

Source: Statistical Office Slovakia

1) Mészároš, INFOSTAT 2011

# Life expectancy age - 65



# Proportion of deaths on the 5 basic causes of death according select age groups in years 1971, 2015

## MEN

Age group	Year	All deaths	proportion on all deaths in %				
			Circulatory diseases	Cancer	Accidents	Respiratory system	Digestive system
0-85+	1971	23 638	41,6	17,4	11,2	14,7	4,8
	2015	27 462	42,2	27,8	8,0	7,9	6,3
35-64	1971	7 361	37,2	23,4	15,4	9,3	7,1
	2015	9 252	32,1	29,4	13,4	5,9	11,0
65+	1971	13 399	52,0	16,8	3,0	18,1	3,6
	2015	17 293	49,5	27,9	3,4	9,1	3,8

## WOMEN

Age group	Year	All deaths	proportion on all deaths in %				
			Circulatory diseases	Cancer	Accidents	Respiratory system	Digestive system
0-85+	1971	19 218	51,7	17,0	4,4	11,8	4,0
	2015	26 364	54,3	22,8	3,2	7,2	4,1
35-64	1971	4 059	39,4	31,8	5,7	6,5	6,2
	2015	4 002	24,7	44,1	6,8	6,2	9,3
65+	1971	13 660	60,7	13,5	2,9	12,3	3,2
	2015	21 951	60,6	19,1	2,3	7,3	3,2

# Genesis of National Cancer Registry (NCR SR)

„We elaborate in order to predict“

Smolík, Czech demographer, 1976

*The same opinion had a WHO group of experts, who recommended to establish cancer registers of population based on exact agreed criteria in 1976.*

*Having national register of malignant tumours of its patients made Czechoslovak Republic one of the pioneers in this field (even reporting for oncological patient was compulsory since 1952, there wasn't a unified population register).*

**National Cancer Registry in SR (NCR SR) was established in 1976 by doc.MUDr. Ivan Pleško, CSc.**

*Executive doctors – operational POKO + qualified team NCR SR =  
high data quality, high international credit (international databases/ publications/ projects).*

## Summary oncological cases

1968-2010

818 627



2011-2015\*

135 184

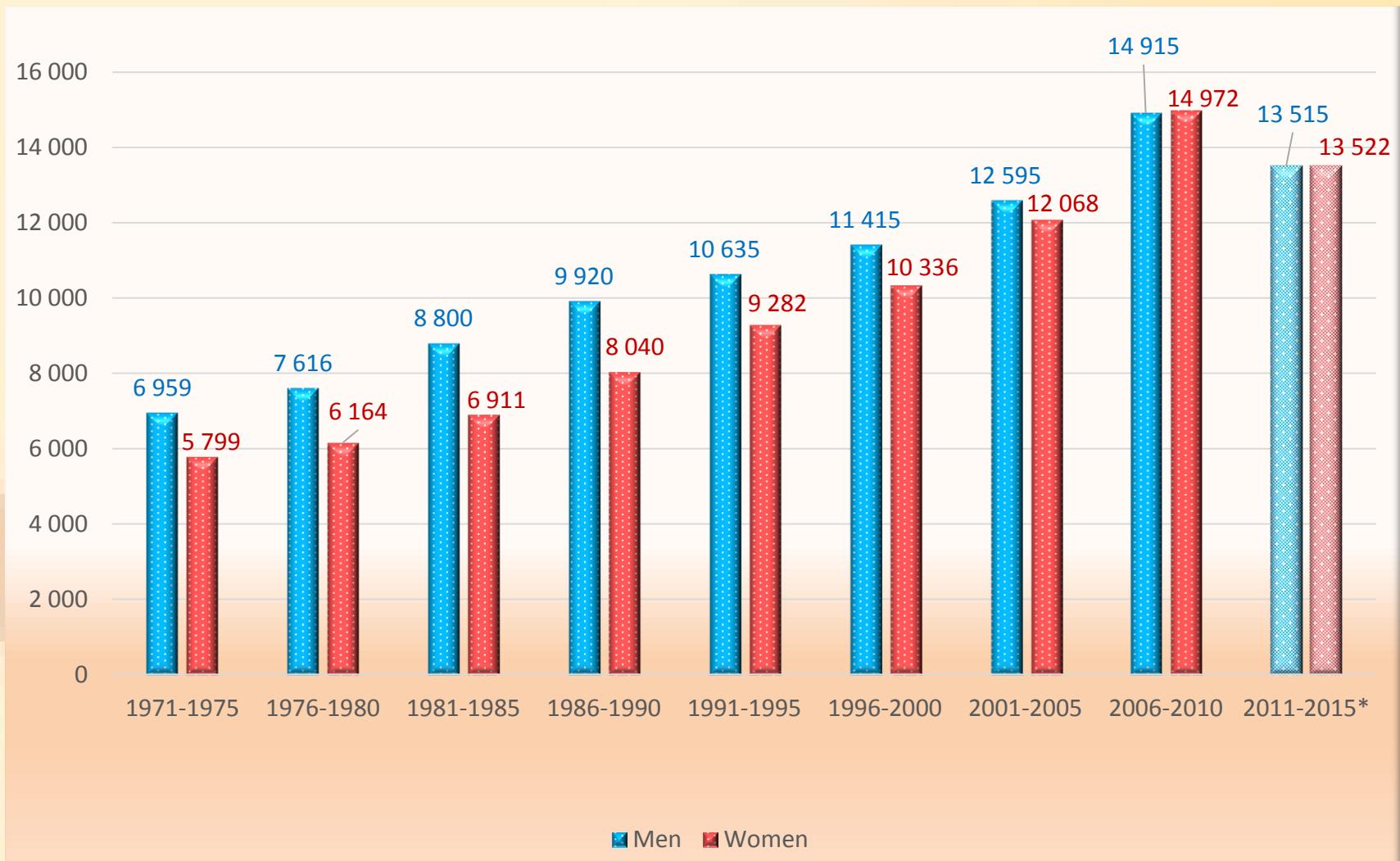


1968-2015

953 811

\* estimate

# Trend of cases the oncological patients in National Cancer Registry Slovakia (average 5 years period)



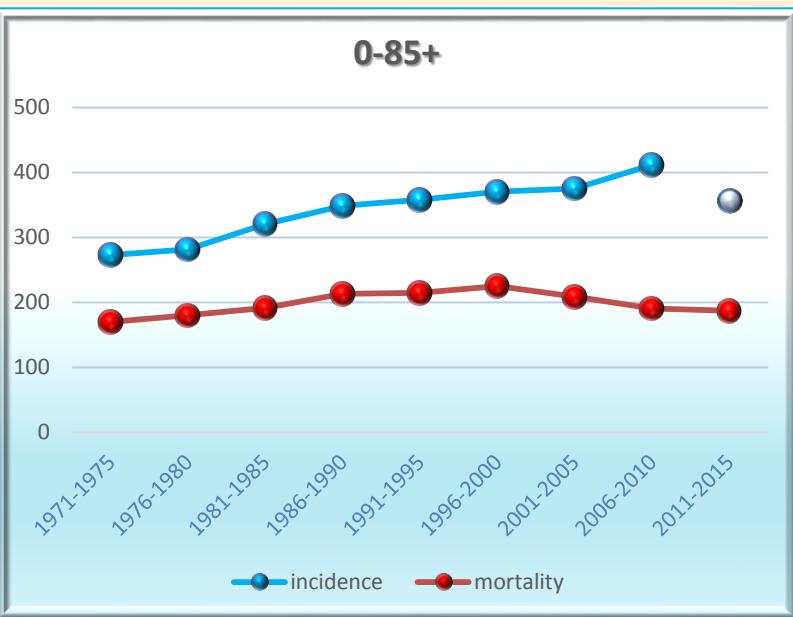
\* Preliminary data from the database hospitalized

Source: NCR SR

# Trend of standardized overall cancer incidence and mortality rates in Slovakia 1971-2015 (average 5 years period)

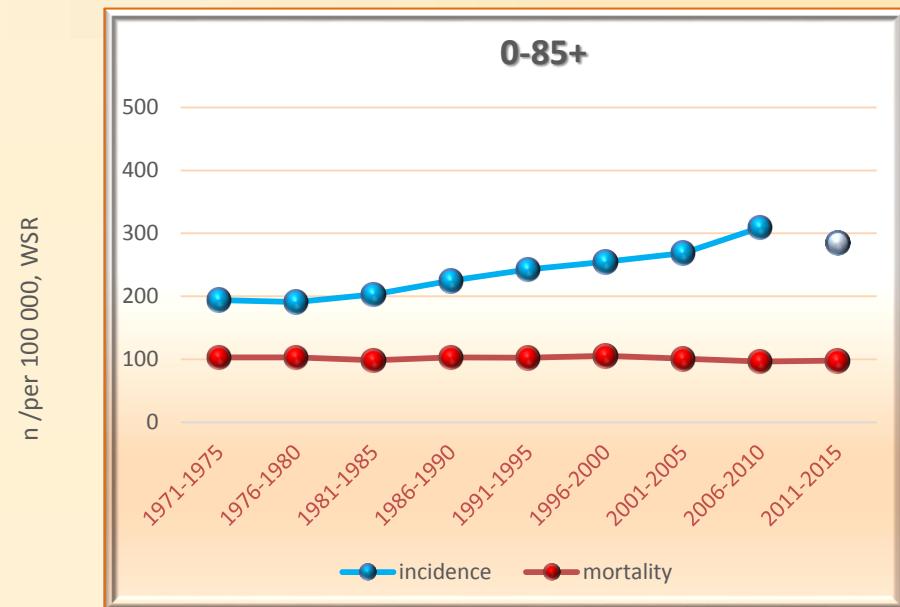
## MEN

### 0-85+

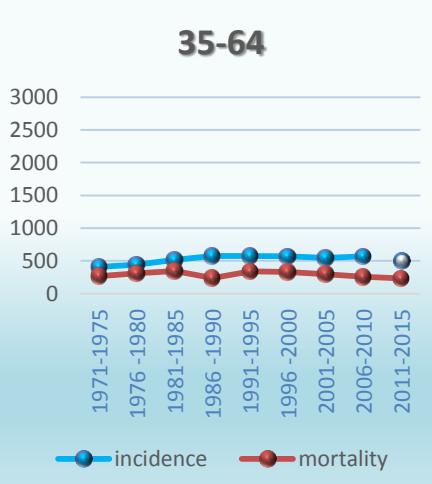


## WOMEN

### 0-85+



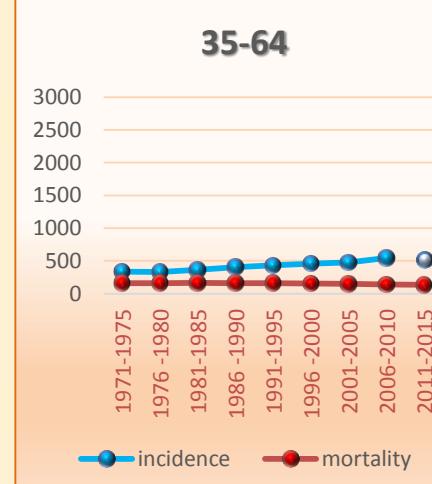
### 35-64



### 65+



### 35-64



### 65+



# Proportion of cases from selected cancer sites on all cases from cancer in time period 1971-2015 in Slovakia (%)

Diagnosis	Sex	1971-1980	1981-1990	1991-2000	2001-2010	2011-2015*	Trend
C18-C21	<i>Men</i>	8,7	10,4	13,1	14,5	17,3	↑
	<i>Women</i>	9,2	4,7	10,9	11,1	12,6	↑
C33-C34	<i>Men</i>	22,1	23,0	18,8	14,1	12,1	↓
	<i>Women</i>	3,6	3,9	3,5	3,8	4,4	↗
C50	<i>Women</i>	14,5	15,0	16,6	17,6	23,2	↑
C61	<i>Men</i>	5,4	6,6	7,4	10,3	8,7	↑

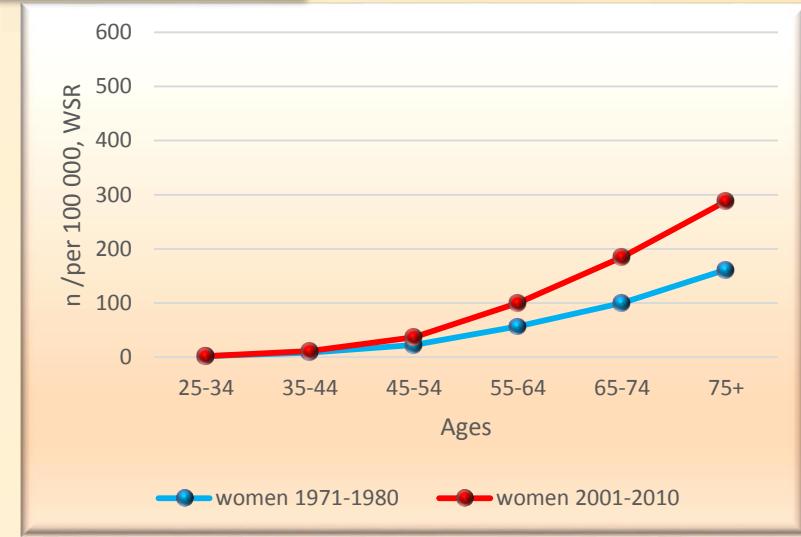
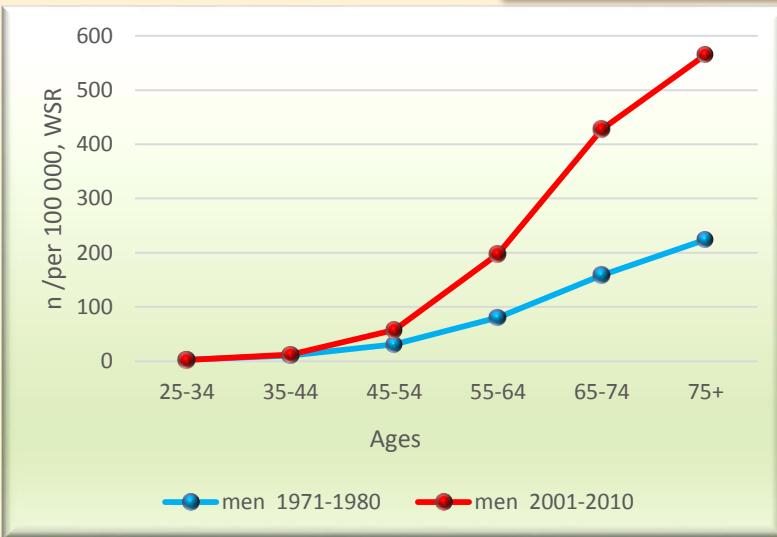
Non-melanom skin carcinomas formed in 1971 to 10%, in 2010 to 16%

# Colorectal cancer (C18-C21)

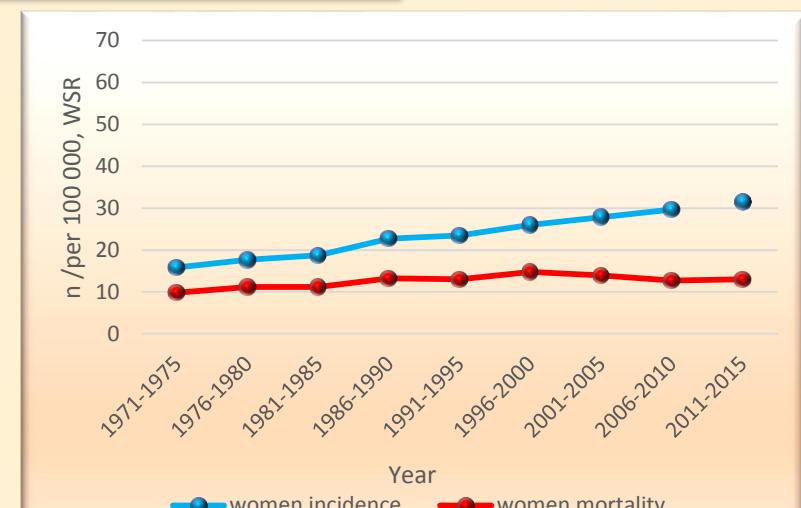
**MEN**

**Age-standardized incidence**

**WOMEN**



**Development of standardized incidence and mortality**

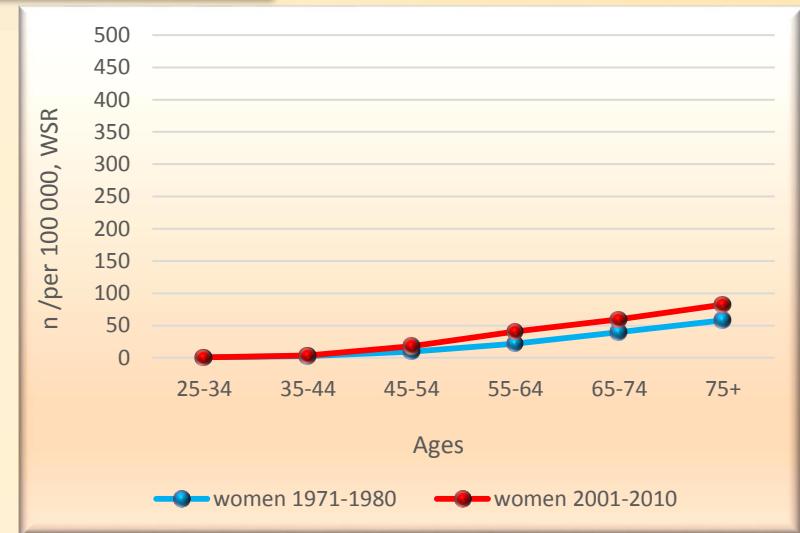
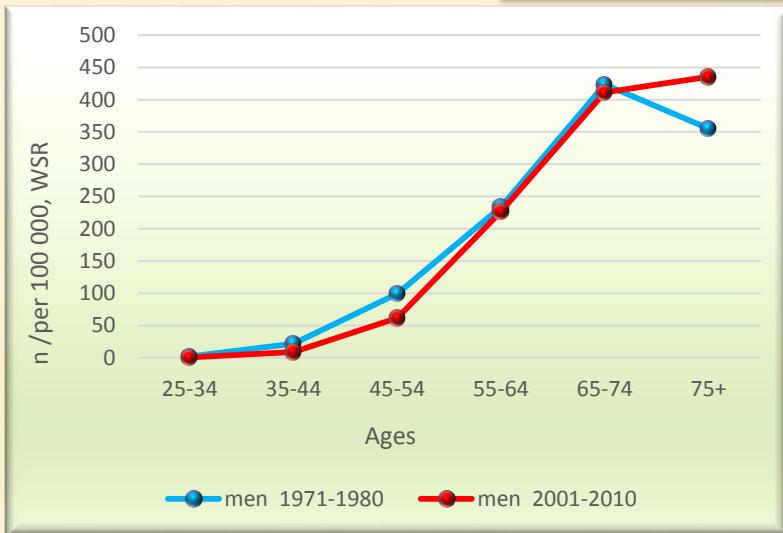


# Trachea and lung cancer (C33-C34)

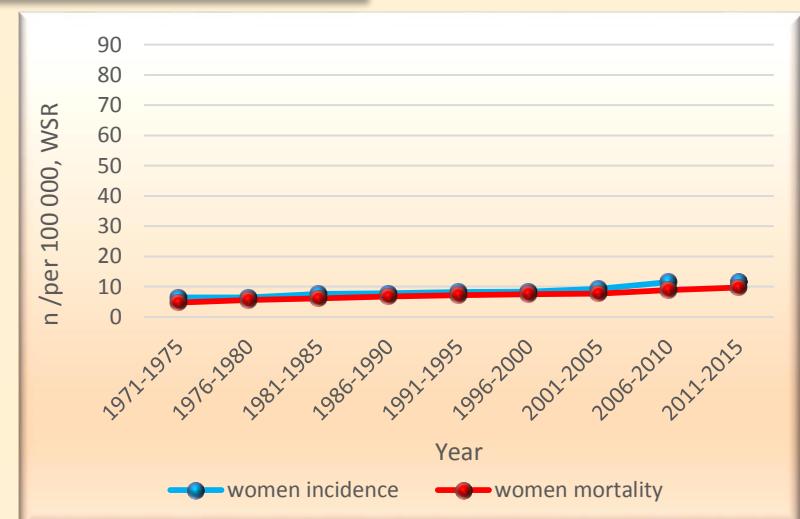
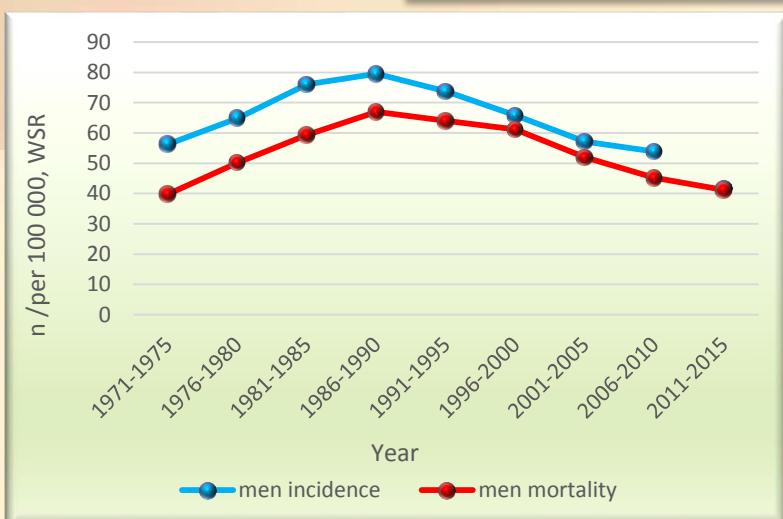
**MEN**

**Age-standardized incidence**

**WOMEN**

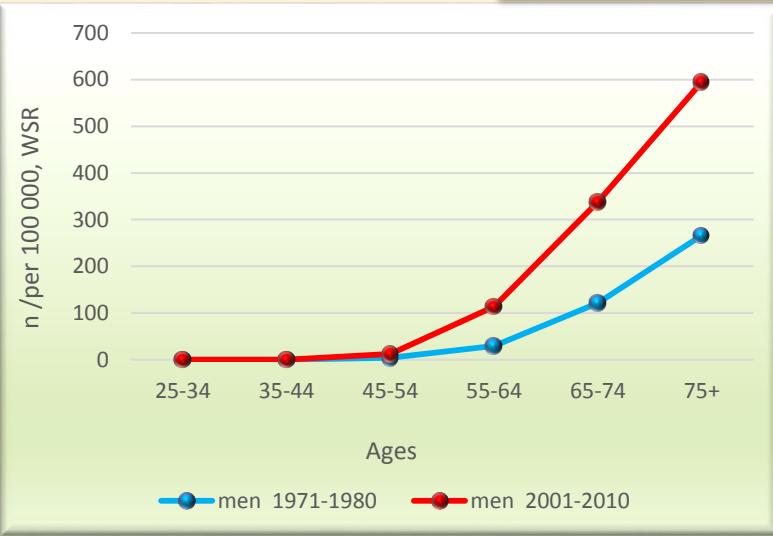


**Development of standardized incidence and mortality**

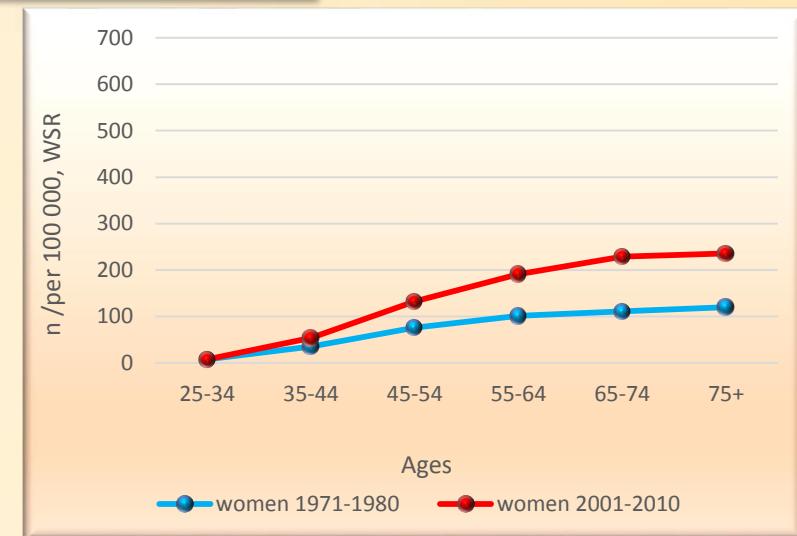


# Prostate cancer (C61) / Breast cancer (C50)

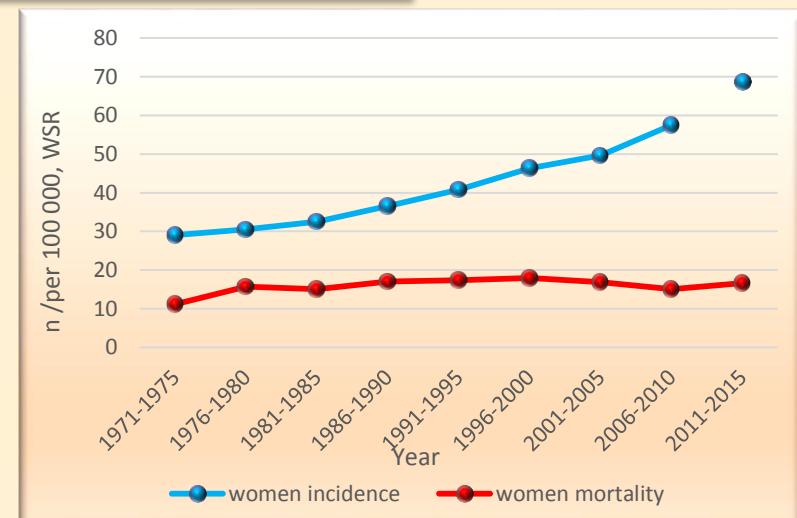
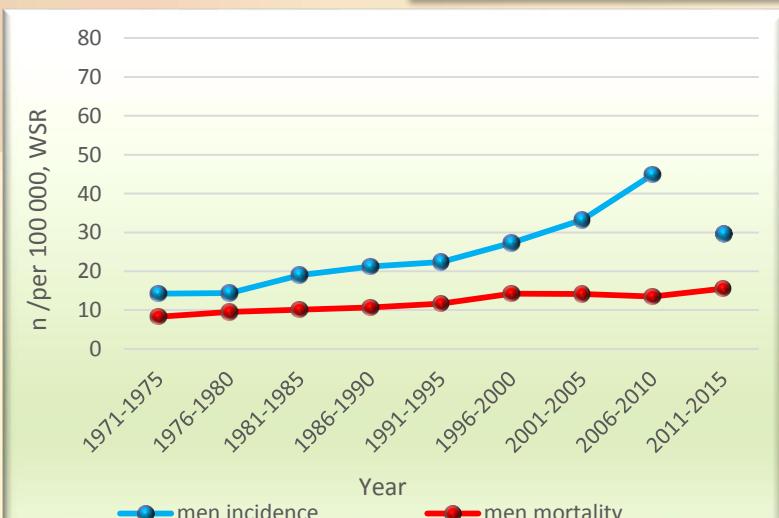
## MEN (C61)



## WOMEN (C50)



## Development of standardized incidence and mortality

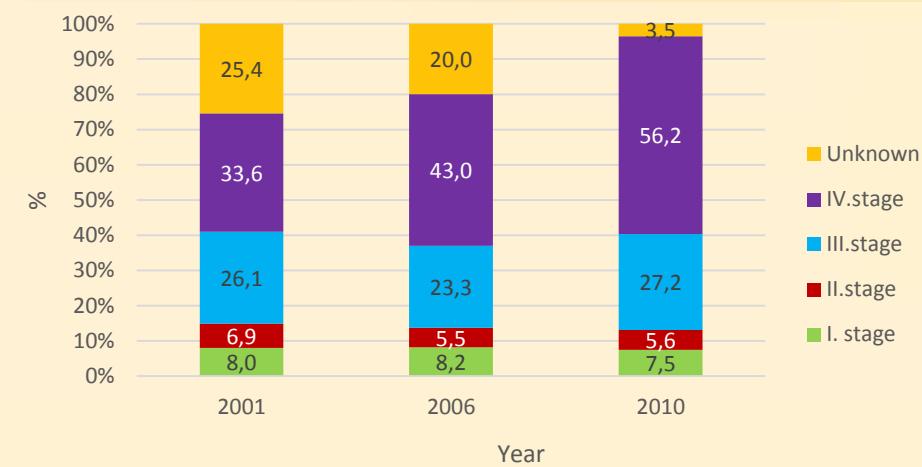


# TNM stages of the reported cancer cases to NCR SR

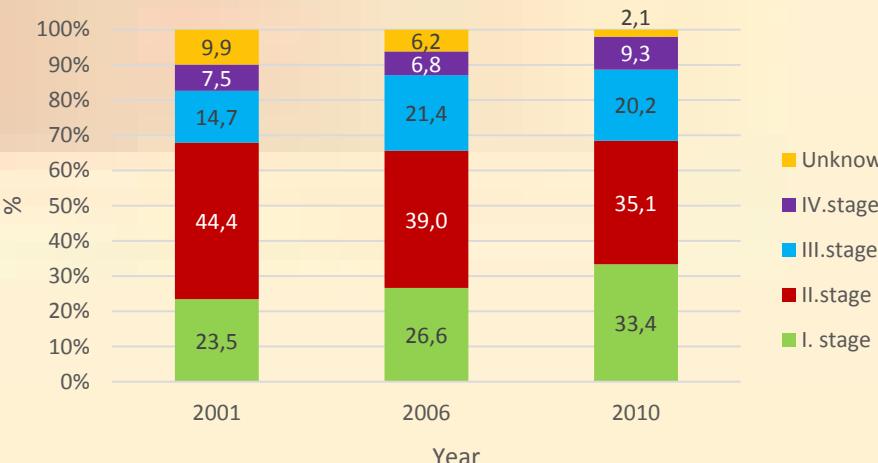
**Colorectal cancer**



**Trachea and lung cancer**



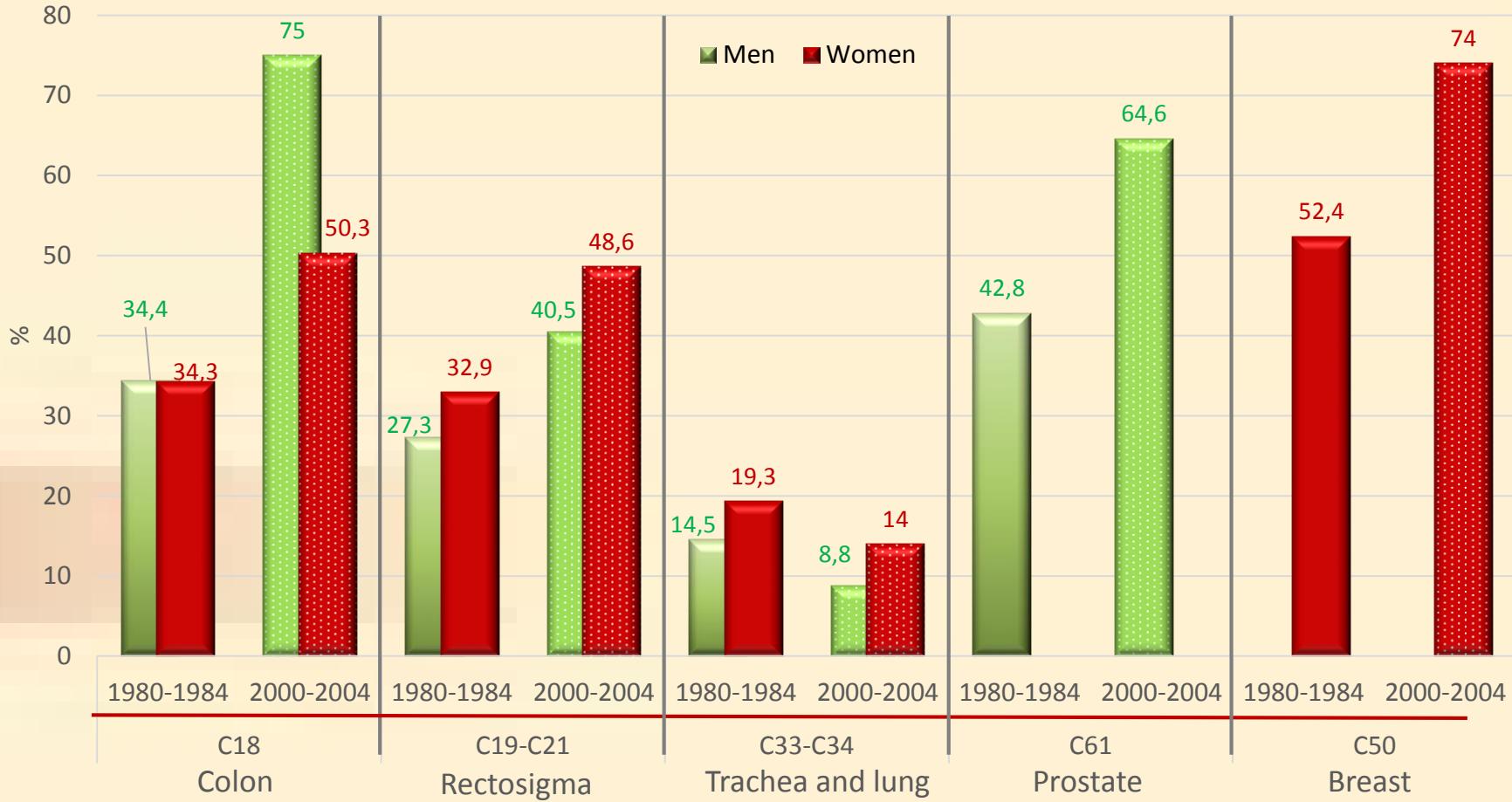
**Breast cancer (women)**



**Prostate cancer (men)**



# Proportion of patients with 5- year survival after diagnosis of selected cancer cases in Slovakia

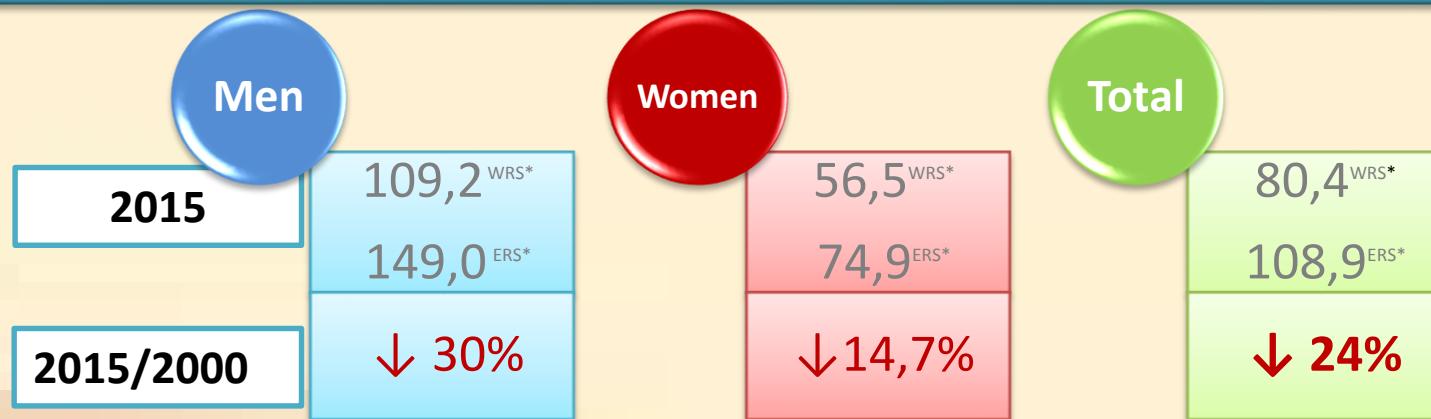


# HEALTH for 21. CENTURY (material WHO/ EURO) - recommend

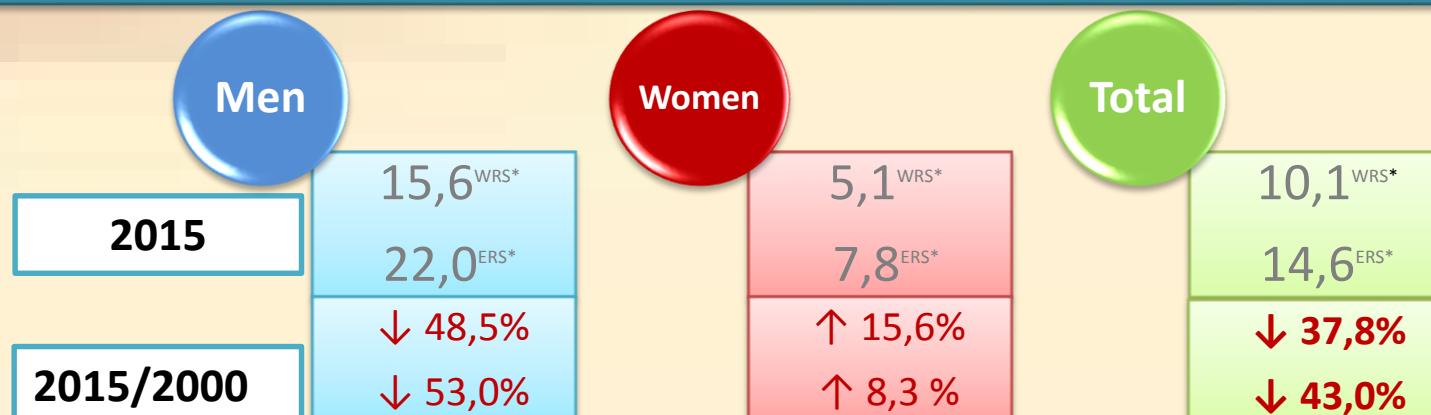
**Goal 8 – Prevalence decrease of chronic diseases by 2020:**

**„Tumor mortality“ of any localization **below 65 years** of age has to be decreased minimum by 15% in average, lungs by 25%.**

## Overall cancer (C00-D09) in Slovakia



## Trachea and Lung cancer( C33-C34)



\* Standardized according WHO ( WRS – World standard, ERS- European standard)

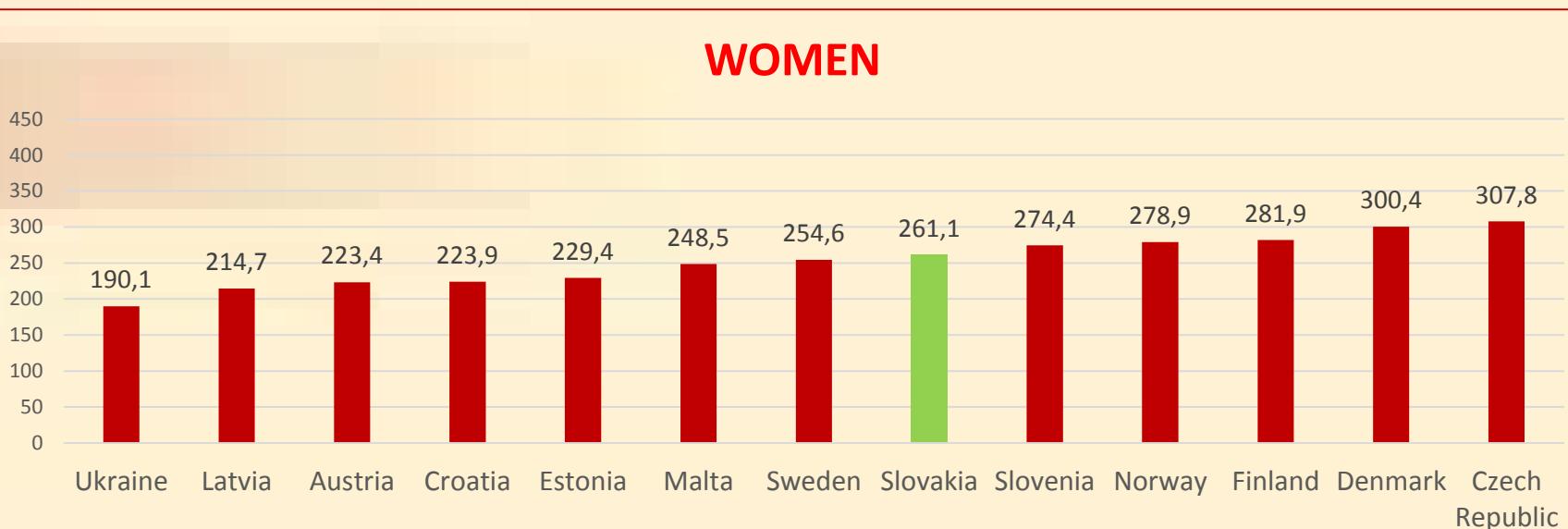
# Cancer incidence in selected countries average 2003-2007

## All sites (C00-D09)

### MEN



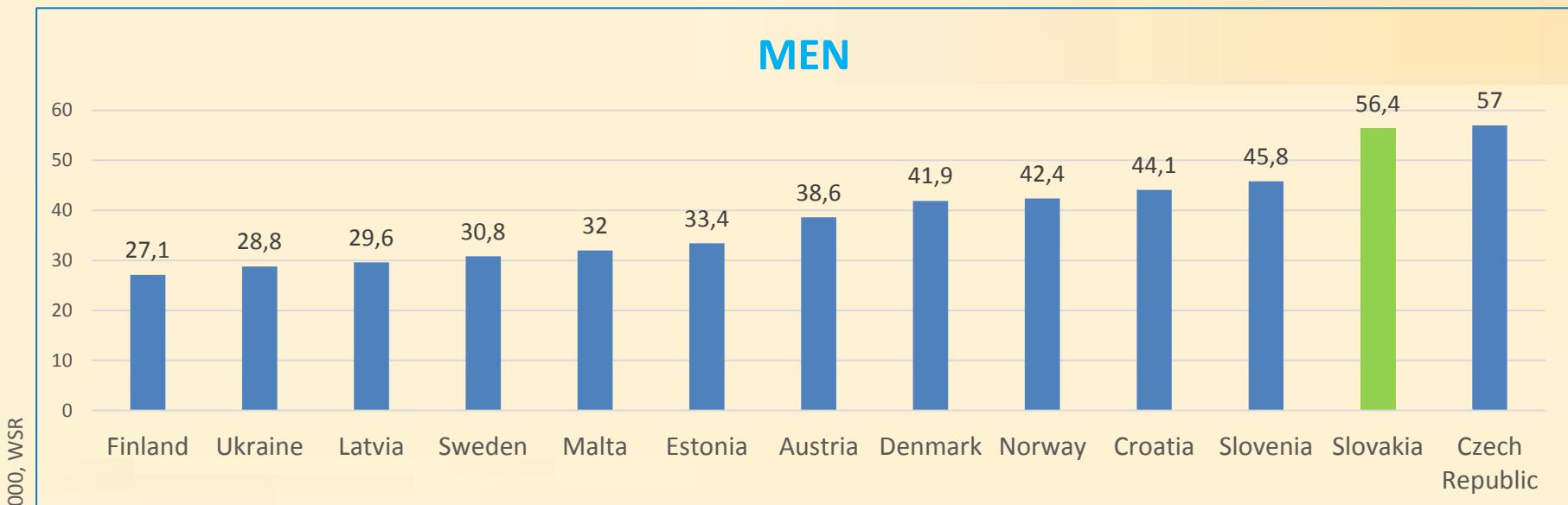
### WOMEN



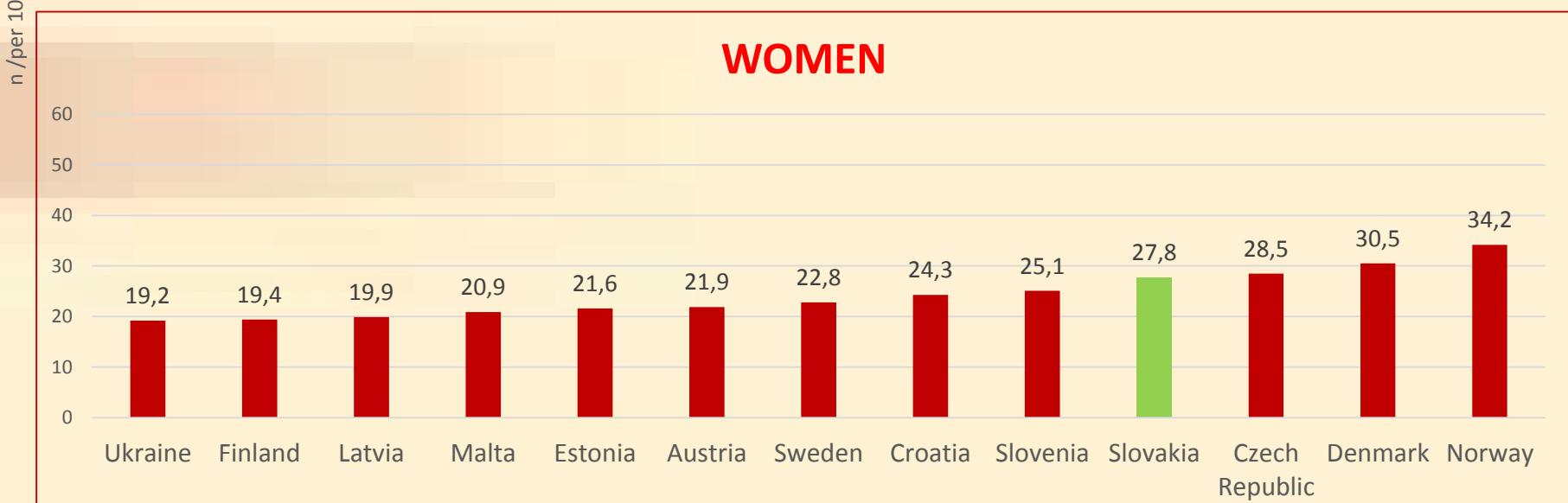
# Cancer incidence in selected countries average 2003-2007

## Colorectal cancer (C18-C21)

### MEN



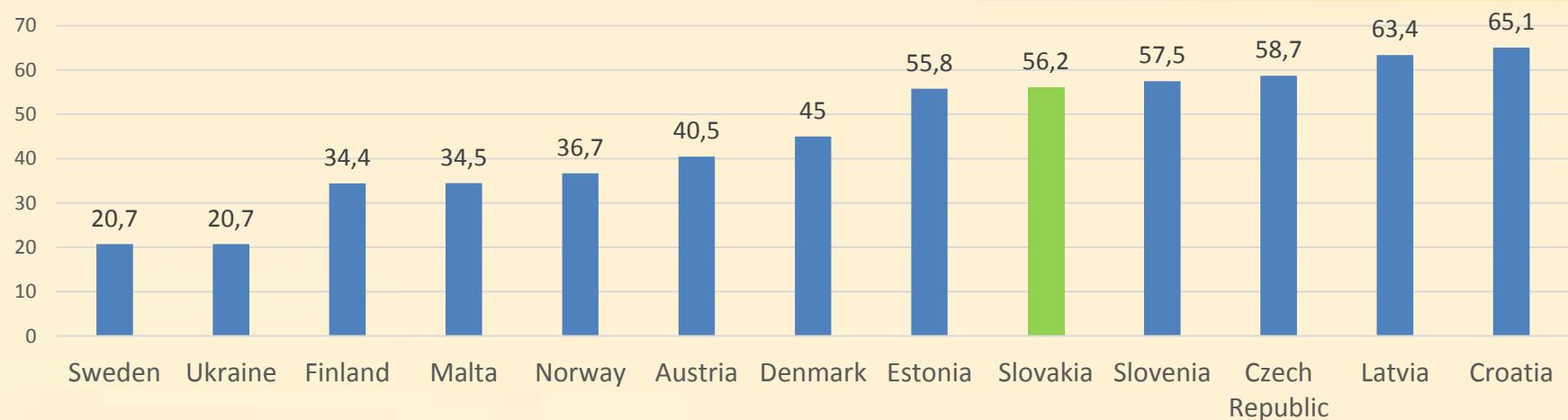
### WOMEN



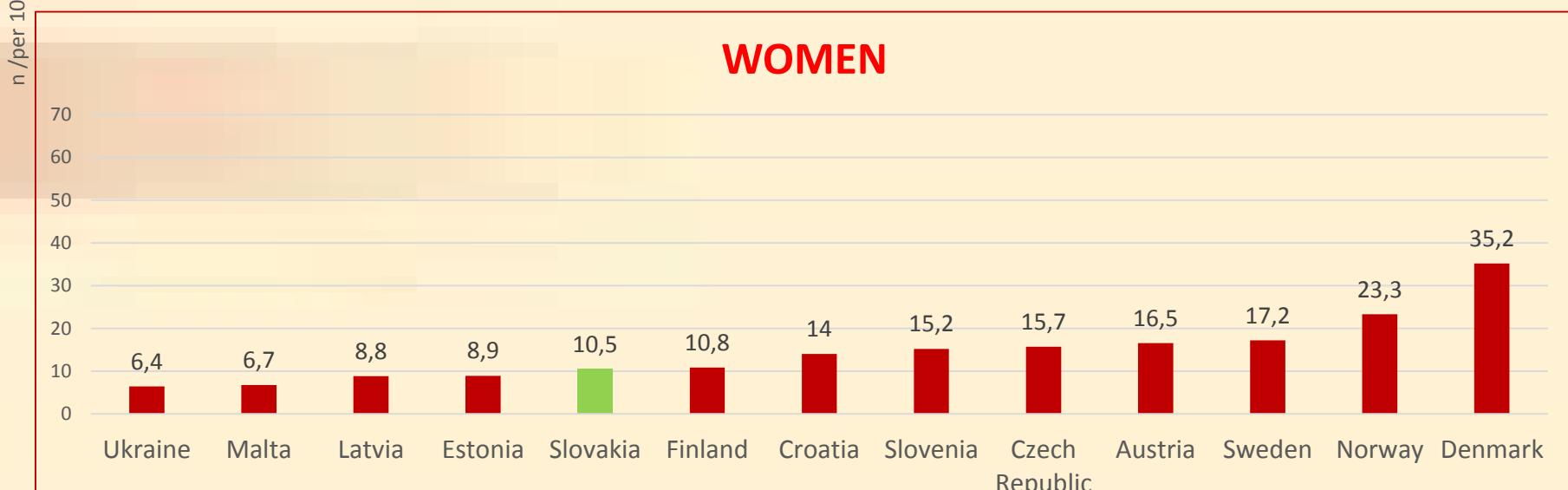
# Cancer incidence in selected countries average 2003-2007

## Trachea bronchus and lung cancer (C33-C34)

### MEN

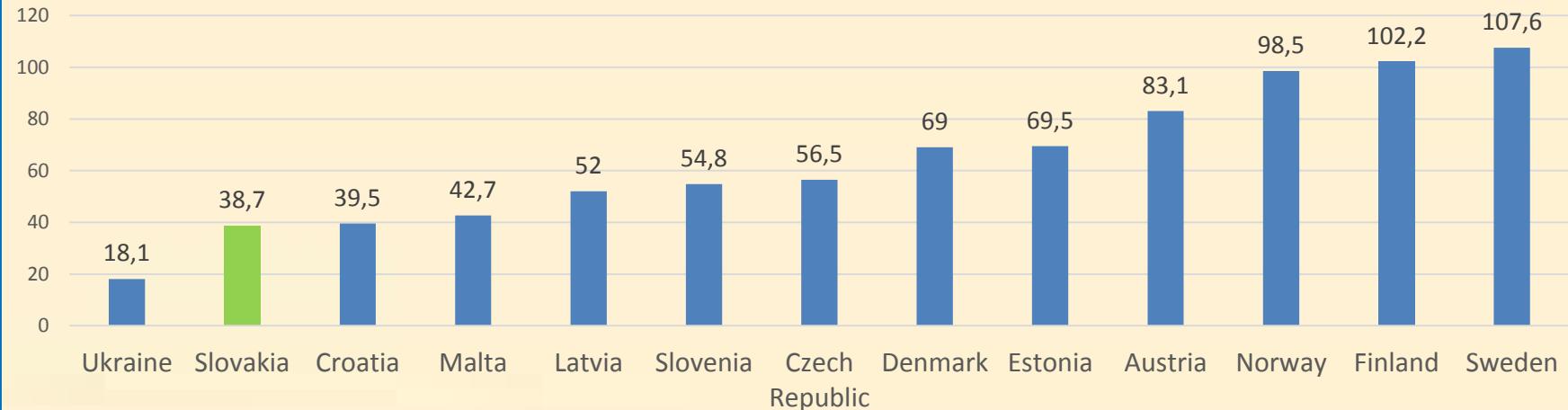


### WOMEN

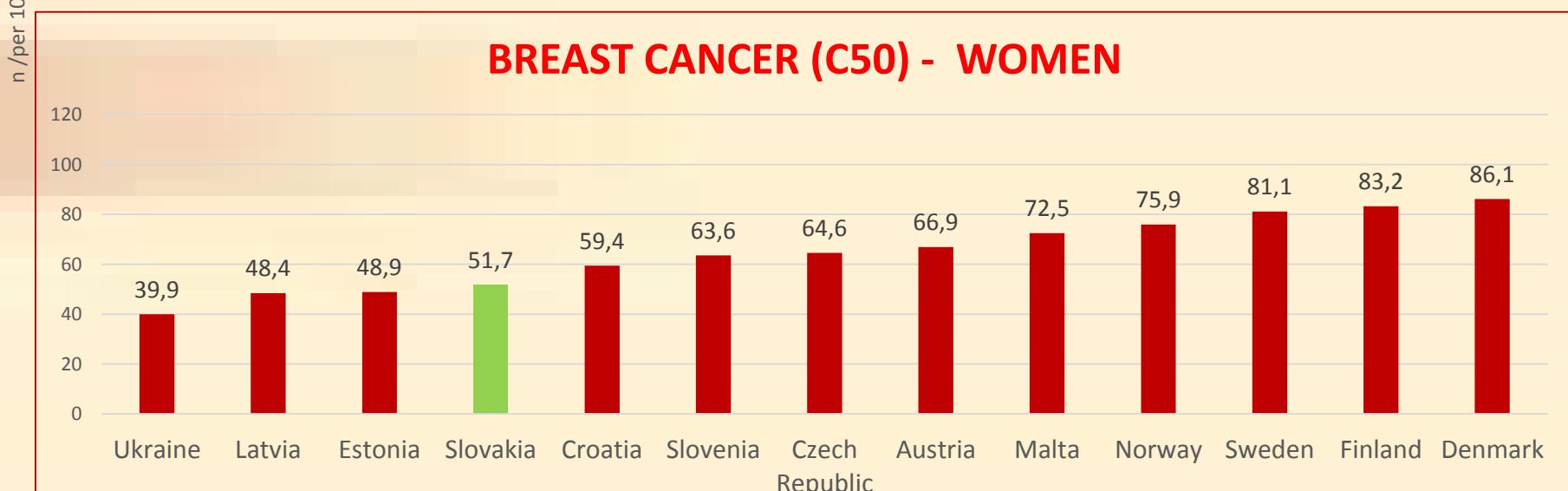


# Cancer incidence in selected countries average 2003-2007

## PROSTATA CANCER (C61) - MEN



## BREAST CANCER (C50) - WOMEN



# Importance of National Cancer Registry (NCR)

NCR represents fundamental global source of clinico-epidemiological data of malignant tumors prevalence **in time and space** (regional differences) by:

- age, sex,
- tumor localization,
- cytological/ histo-pathological diagnostics
- treatments

Data analysis & interpretation should act as basis **for effective state health policy** in the field with principle goals:

- improve primary prevention of known risk factors/ optimize life style,
- increase early disease identification / apply respective treatment = successful prognosis/ health expectancy.

In recent years problems with data collection incurred by reporting units has had direct negative impact on accuracy of data processing.

*For the first time since it's establishment NCR Slovakia will not have stated data in publication „Cancer Incidence in Five Continents Vol.X.“ (IARC) due to lack of complexity of primary data from reporting units for years of 2011-2013.*

However there has been ongoing discussions between Health department SR and it's chief experts of Ministry of Health about new ways of data collection which would strengthen e-reporting to NCR Slovakia.

# Recommend / Challenge

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## ***Health 21. for European region, Goal 14***

All government departments should recognize and accept their responsibility for population's health condition by 2020 (assessment of department's impact on health).

## ***Health 21... Goal 8- Prevalence decrease of chronic diseases***

Public health depends on interdepartmental approach. Principle target is to have a complex approach for the most important risk factors in human behavior and only that creates environment where multi-departmental initiatives are aligned government directions and particular efforts of each single being

Thank you very much  
for your attention