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Mezinárodní data o screeningu karcinomu prsu

Ondřej Májek, Ondřej Ngo, Ladislav Dušek

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Vědecké studie zkoumající dopad screeningu karcinomu prsu

Má screening rakoviny prsu smysl? Odborníci začínají pochybovat

Mamografický screening má pověst vyšetření, které dokáže zachraňovat životy. Je to ale pravda? Jsou randomizované kontrolované studie, které v 70. a 80. letech dokázaly přesvědčit ministerstva zdravotnictví a pojišťovny všude na světě, ještě stále platné? Zdá se, že odpověď zní ano, ale zároveň i ne.

čtvrtek 28. prosince 2017, 3:06

luk, Novinky

▲ Mamografické vyšetření dokáže přesně lokalizovat nádor – na snímku ho

www.novinky.cz

L 327/34 EN Official Journal of the European Union 16.12.2003

COUNCIL RECOMMENDATION
of 2 December 2003
on cancer screening

(2003/878/EC)

THE COUNCIL OF THE EUROPEAN UNION
HEREBY RECOMMENDS THAT MEMBER STATES
offer evidence-based cancer screening through a systematic population-based approach with quality assurance at all appropriate levels. The tests which should be considered in this context are listed in the Annex:

ANNEX

SCREENING TESTS WHICH FULFIL THE REQUIREMENTS OF THE RECOMMENDATION (*):

— pap smear screening for cervical cancer precursors starting not before the age of 20 and not later than the age of 30;

— mammography screening for breast cancer in women aged 50 to 69 in accordance with European guidelines on quality assurance in mammography;

— faecal occult blood screening for colorectal cancer in men and women aged 50 to 74.

randomizované studie

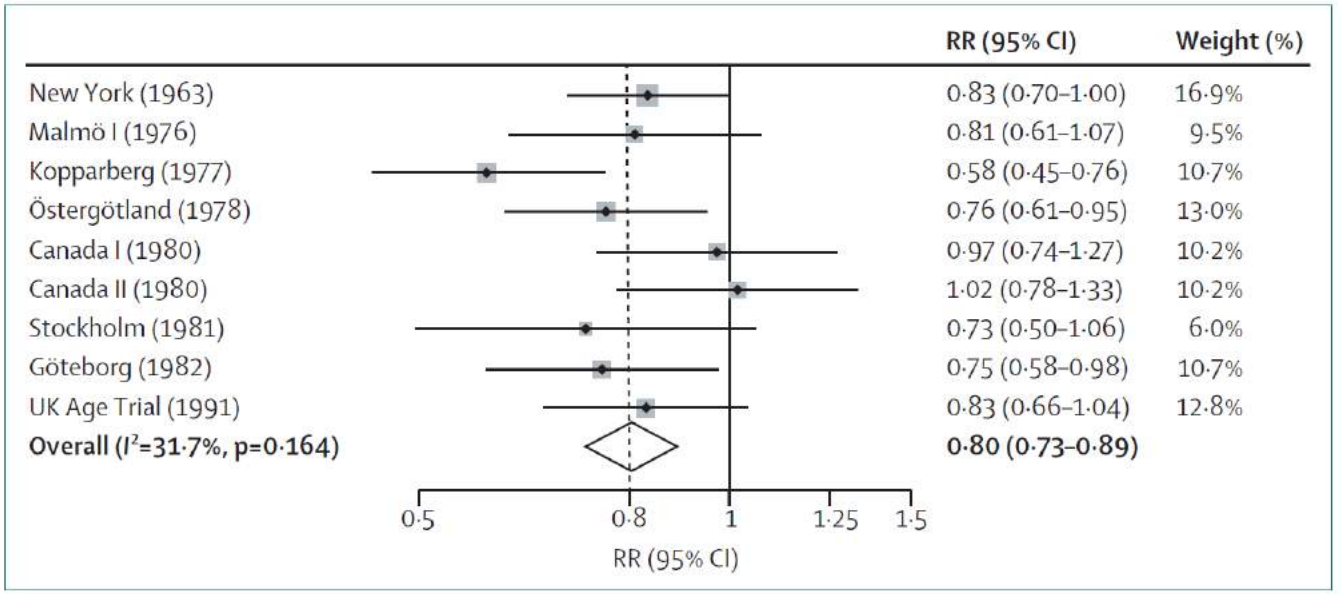


Figure 1: **Meta-analysis of breast cancer mortality after 13 years of follow-up in breast cancer screening trials**
Adapted from the Cochrane Review.[5] RR=relative risk. Malmö II is excluded because follow-up of about 13 years was not available; the Swedish Two County (Kopparberg and Östergötland) and Canada I and II trials are split into their component parts; the Edinburgh trial is excluded because of severe imbalances between randomised groups. Weights are from random-effects analysis.

INDEPENDENT UK PANEL ON BREAST CANCER SCREENING, et al. The benefits and harms of breast cancer screening: an independent review. *The Lancet*, 2012, 380.9855: 1778-1786.

- The Panel concludes that the **UK breast screening programmes confer significant benefit and should continue**. For each woman, the choice is clear. On the positive side, screening confers a reduction in the risk of mortality from breast cancer because of early detection and treatment. On the negative side, is the knowledge that she has perhaps a 1% chance of having a cancer diagnosed and treated that would never have caused problems if she had not been screened.

INDEPENDENT UK PANEL ON BREAST CANCER SCREENING, et al. The benefits and harms of breast cancer screening: an independent review. *The Lancet*, 2012, 380.9855: 1778-1786.

observační studie

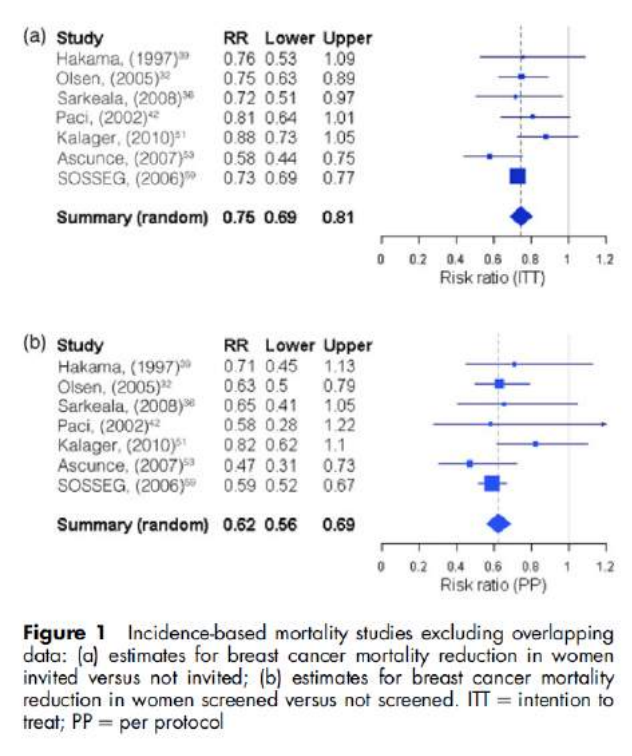


Figure 1 Incidence-based mortality studies excluding overlapping data: (a) estimates for breast cancer mortality reduction in women invited versus not invited; (b) estimates for breast cancer mortality reduction in women screened versus not screened. ITT = intention to treat; PP = per protocol

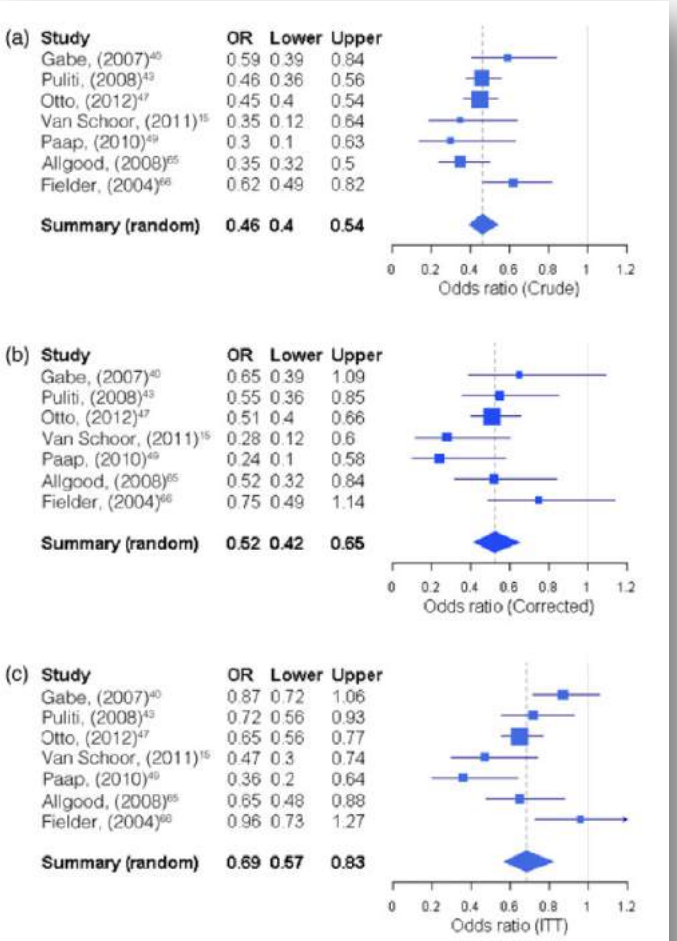
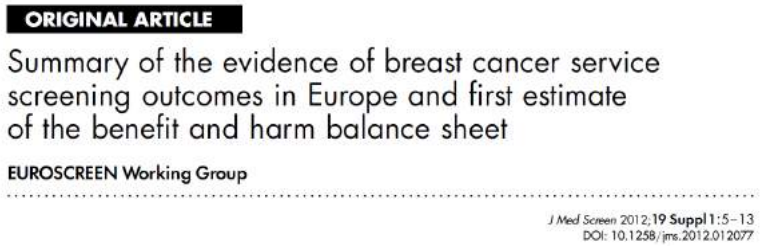


Figure 2 Case-control studies excluding overlapping data: (a) crude odds ratios for breast cancer mortality reduction in women screened versus not screened; (b) crude odds ratios for breast cancer mortality reduction, corrected for self-selection, in women screened versus not screened; (c) crude odds ratios for breast cancer mortality reduction translated to intention to treat estimates for women invited versus not invited

BROEDERS, Mireille, et al. The impact of mammographic screening on breast cancer mortality in Europe: a review of observational studies. *Journal of medical screening*, 2012, 19.1_suppl: 14-25.

Závěry skupiny EUROSCREEN

- For every 1000 women screened biennially from age 50–51 until age 68–69 and followed up to age 79, an estimated **seven to nine lives are saved**, four cases are over-diagnosed, 170 women have at least one recall followed by non-invasive assessment with a negative result and 30 women have at least one recall followed by invasive procedures yielding a negative result.
- **The chance of saving a woman's life by population-based mammographic screening of appropriate quality is greater than that of over-diagnosis.** Service screening in Europe achieves a **mortality benefit at least as great as the randomized controlled trials**. These outcomes should be communicated to women offered service screening in Europe.


ORIGINAL ARTICLE

Summary of the evidence of breast cancer service screening outcomes in Europe and first estimate of the benefit and harm balance sheet

EUROSCREEN Working Group

J Med Screen 2012;19 Suppl 1:5–13
DOI: 10.1258/jms.2012.012077

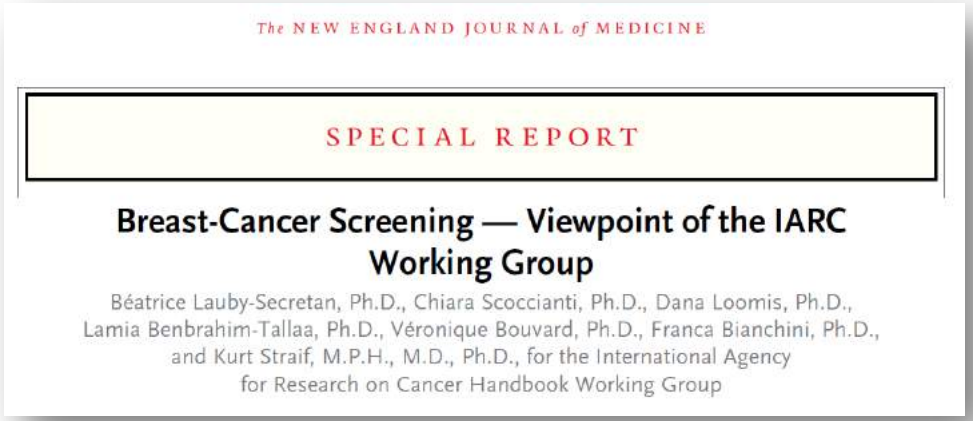
PACI, Eugenio. Summary of the evidence of breast cancer service screening outcomes in Europe and first estimate of the benefit and harm balance sheet. *Journal of medical screening*, 2012, 19.1_suppl: 5-13.

Inspirace pro novináře... (červnové číslo JMS)

JOHNS, L. E., A. J. SWERDLOW AND S. M. MOSS Effect of population breast screening on breast cancer mortality to 2005 in England and Wales: A nested case-control study within a cohort of one million women. Journal of Medical Screening, 2018, 25(2), 76-81.

ITS was associated with a 21% breast cancer mortality reduction (OR = 0.79, 95% confidence interval [CI]: 0.71–0.88, *P* < 0.001). Attendance ≤5 years before diagnosis was associated with a 47% reduction in breast cancer mortality after self-selection correction (OR = 0.53, 95% CI: 0.46–0.62, *P* < 0.001). Breast cancer mortality reduction associated with ITS was 21% in both the case-control and cohort analyses, but the impact of attendance was marginally greater in the case-control analysis (36% vs. 32%).

vyjádření panelu expertů IARC



The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL REPORT

Breast-Cancer Screening — Viewpoint of the IARC Working Group

Béatrice Lauby-Secretan, Ph.D., Chiara Scoccianti, Ph.D., Dana Loomis, Ph.D., Lamia Benbrahim-Tallaa, Ph.D., Véronique Bouvard, Ph.D., Franca Bianchini, Ph.D., and Kurt Straif, M.P.H., M.D., Ph.D., for the International Agency for Research on Cancer Handbook Working Group

LAUBY-SECRETAN, Béatrice, et al. Breast-cancer screening—viewpoint of the IARC Working Group. *New England Journal of Medicine*, 2015, 372.24: 2353-2358.

Table 1. Evaluation of Evidence Regarding the Beneficial and Adverse Effects of Different Methods of Screening for Breast Cancer in the General Population and in High-Risk Women.*

Method	Strength of Evidence†
Mammography	
Reduces breast-cancer mortality in women 50–69 yr of age	Sufficient
Reduces breast-cancer mortality in women 70–74 yr of age‡	Sufficient
Reduces breast-cancer mortality in women 40–44 yr of age§	Limited
Reduces breast-cancer mortality in women 45–49 yr of age§	Limited¶
Detects breast cancers that would never have been diagnosed or never have caused harm if women had not been screened (overdiagnosis)	Sufficient
Reduces breast-cancer mortality in women 50–74 yr of age to an extent that its benefits substantially outweigh the risk of radiation-induced cancer from mammography	Sufficient
Produces short-term negative psychological consequences when the result is false positive	Sufficient
Has a net benefit for women 50–69 yr of age who are invited to attend organized mammographic screening programs	Sufficient
Can be cost-effective among women 50–69 yr of age in countries with a high incidence of breast cancer	Sufficient
Can be cost-effective in low- and middle-income countries	Limited

Population	Recommendation	Grade (What's This?)
Women aged 50 to 74 years	The USPSTF recommends biennial screening mammography for women aged 50 to 74 years.	B
Women aged 40 to 49 years	The decision to start screening mammography in women prior to age 50 years should be an individual one. Women who place a higher value on the potential benefit than the potential harms may choose to begin biennial screening between the ages of 40 and 49 years. • For women who are at average risk for breast cancer, most of the benefit of mammography results from biennial screening during ages 50 to 74 years. Of all of the age groups, women aged 60 to 69 years are most likely to avoid breast cancer death through mammography screening. While screening mammography in women aged 40 to 49 years may reduce the risk for breast cancer death, the number of deaths averted is smaller than that in older women and the number of false-positive results and unnecessary biopsies is larger. The balance of benefits and harms is likely to improve as women move from their early to late 40s. • In addition to false-positive results and unnecessary biopsies, all women undergoing regular screening mammography are at risk for the diagnosis and treatment of noninvasive and invasive breast cancer that would otherwise not have become a threat to their health, or even apparent, during their lifetime (known as "overdiagnosis"). Beginning mammography screening at a younger age and screening more frequently may increase the risk for overdiagnosis and subsequent overtreatment. • Women with a parent, sibling, or child with breast cancer are at higher risk for breast cancer and thus may benefit more than average-risk women from beginning screening in their 40s. Go to the Clinical Considerations section for information on implementation of the C recommendation.	C

U.S. Preventive Services TASK FORCE

Breast Cancer: Screening
Release Date: January 2016

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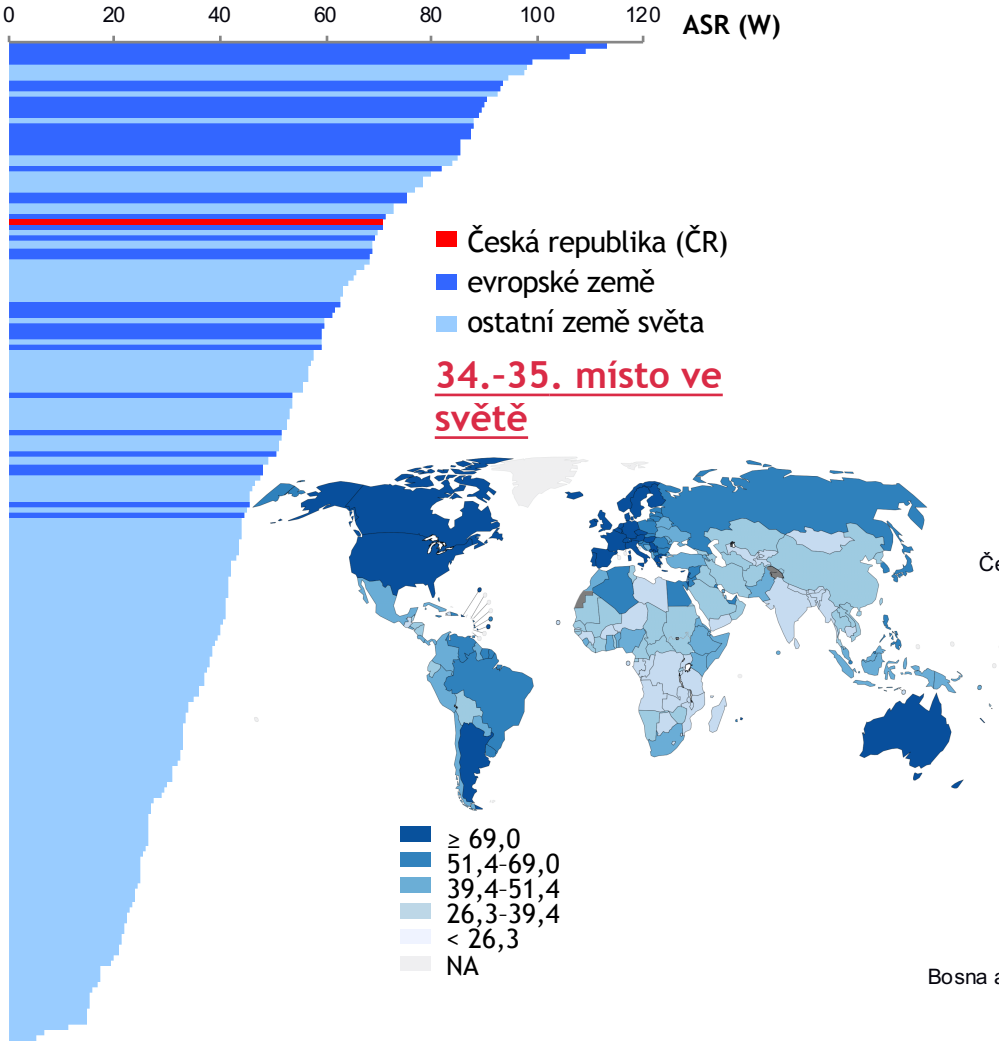
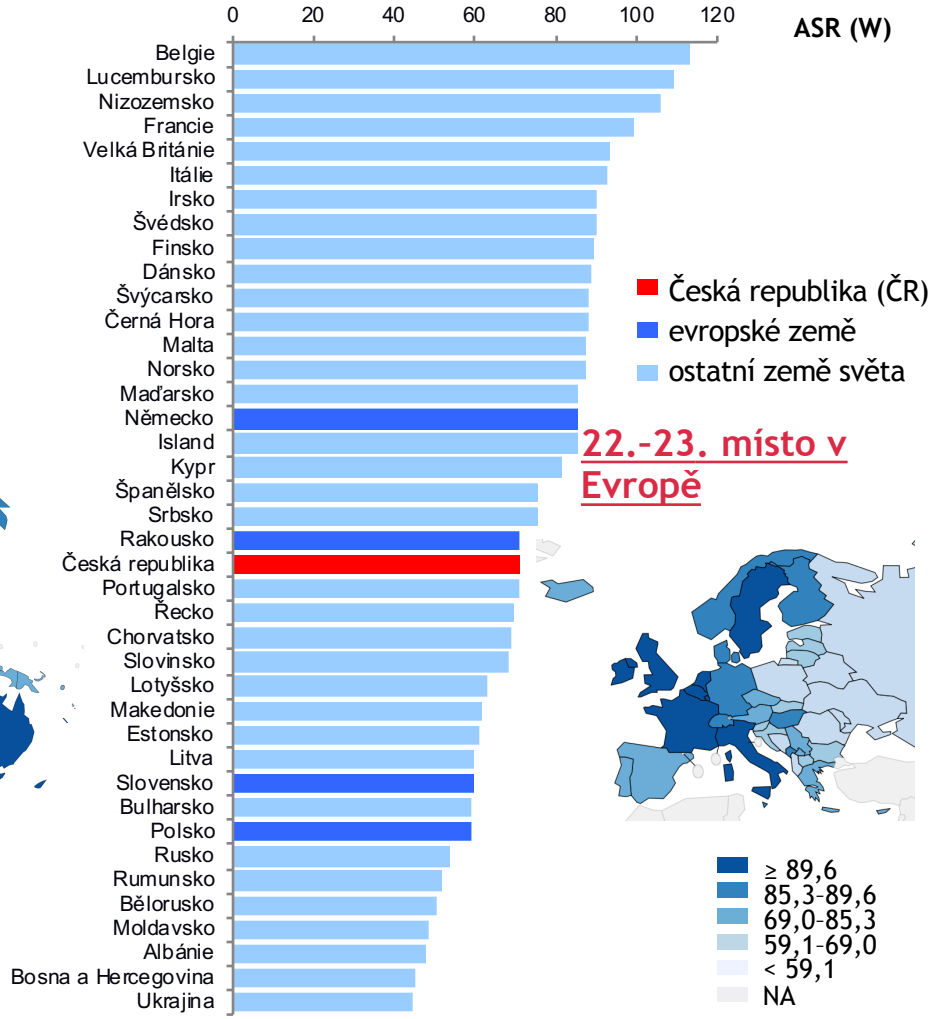
Mezinárodní údaje o epidemiologii karcinomu prsu

Incidence C50 v mezinárodním srovnání

SVĚT



EVROPA

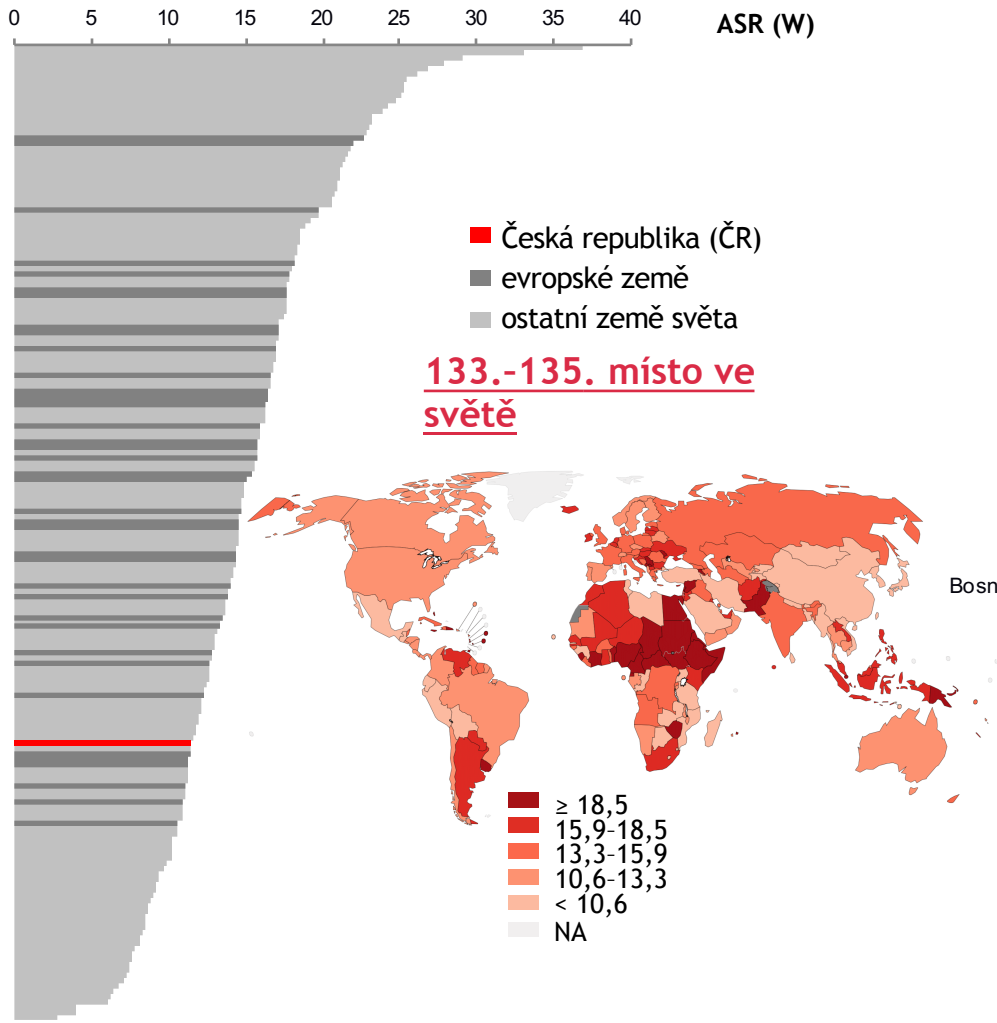


ASR (W): věkově standardizovaná incidence na světový standard

Zdroj: Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2018). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: https://gco.iarc.fr/today, accessed on 4 October 2018.

Mortalita C50 v mezinárodním srovnání

SVĚT



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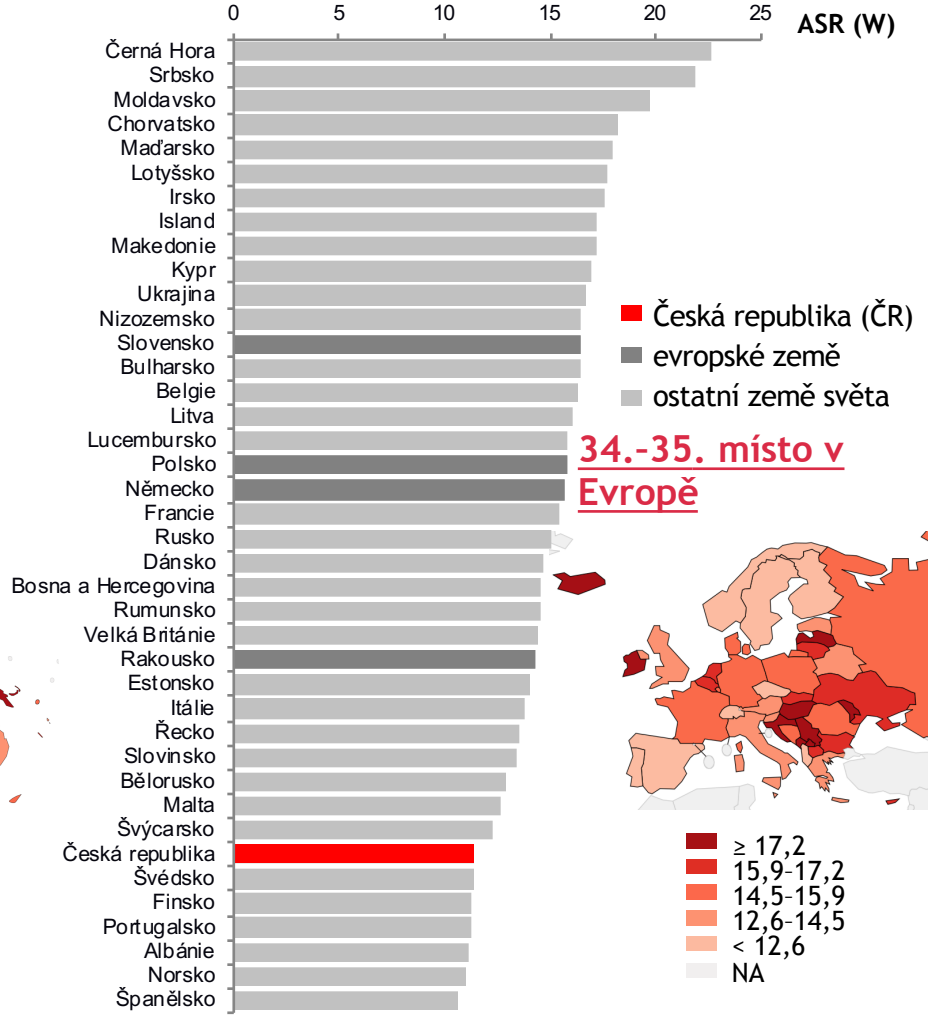
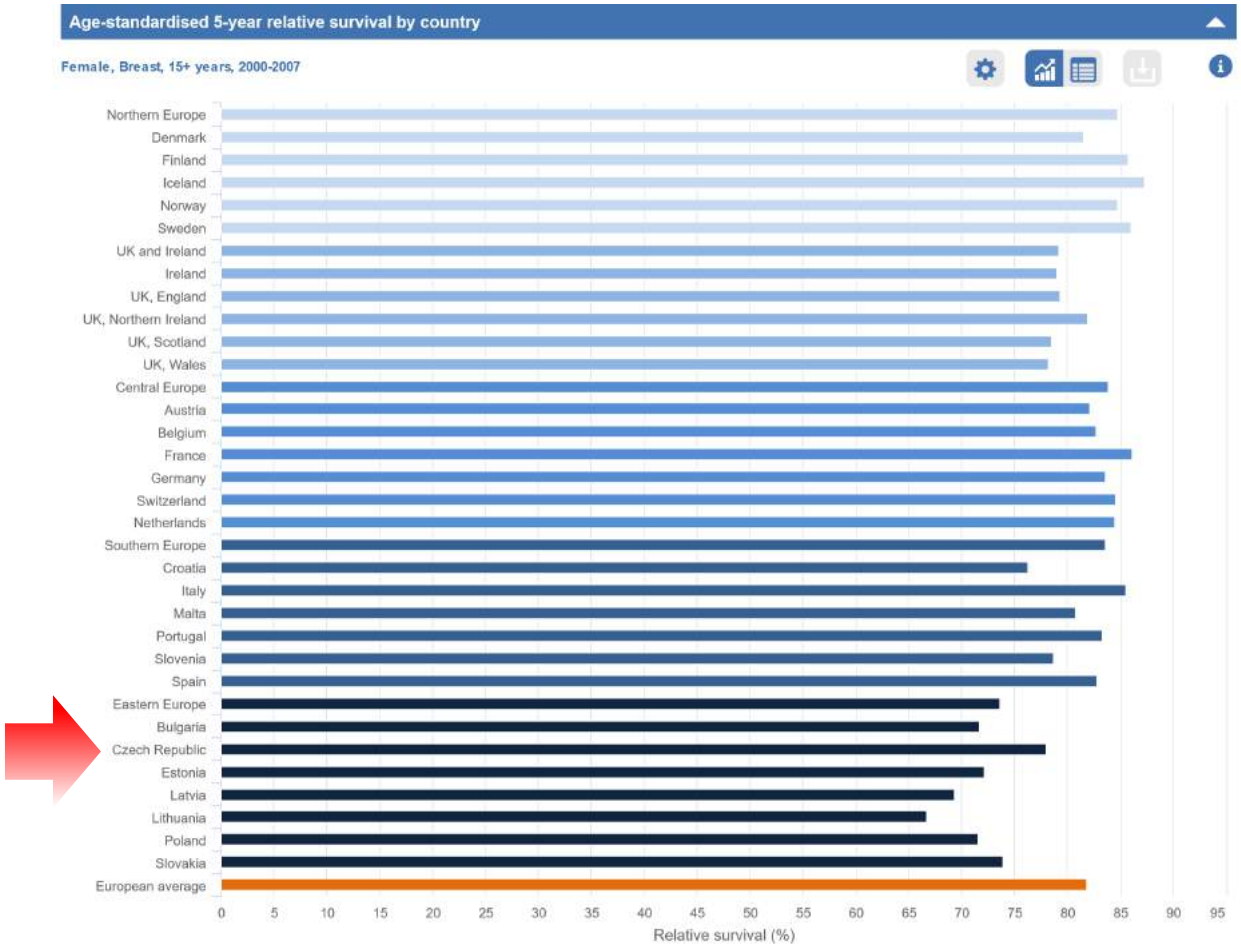


ASR (W): věkově standardizovaná incidence na světový standard

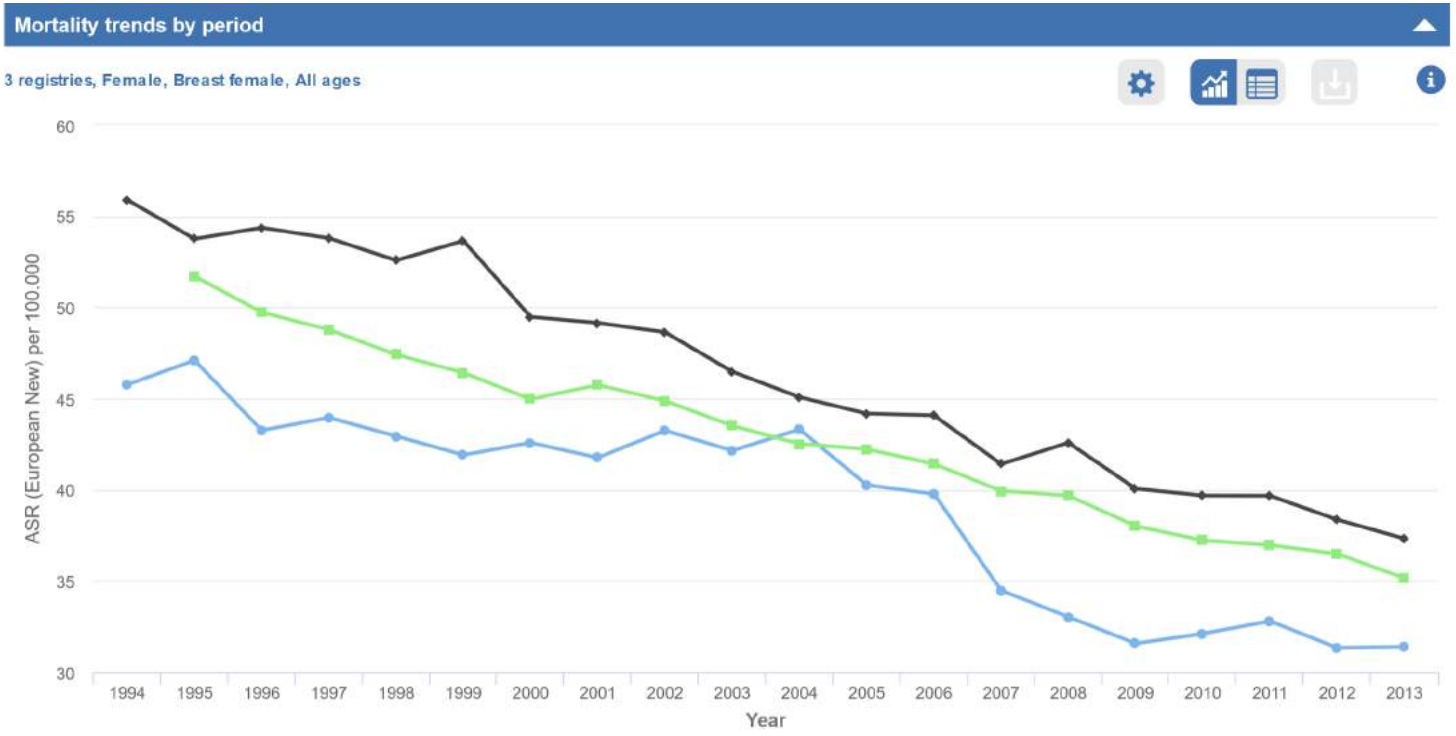
Zdroj: Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2018). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: https://gco.iarc.fr/today, accessed on 4 October 2018.

Pětileté relativní přežití pacientek se ZN prsu



Source: ECIS - European Cancer Information System
From https://ecis.jrc.ec.europa.eu, accessed on 15/11/2018

Úmrtnost na ZN prsu, trendy dle vybraných registrů



Indicator	Registry	Sex	Cancer	Age Group
Mortality	CZ Czech Republic	Female	Breast female	0-85+
Mortality	NL Netherlands	Female	Breast female	0-85+
Mortality	UK England	Female	Breast female	0-85+

Source: ECIS - European Cancer Information System
From https://ecis.jrc.ec.europa.eu, accessed on 15/11/2018

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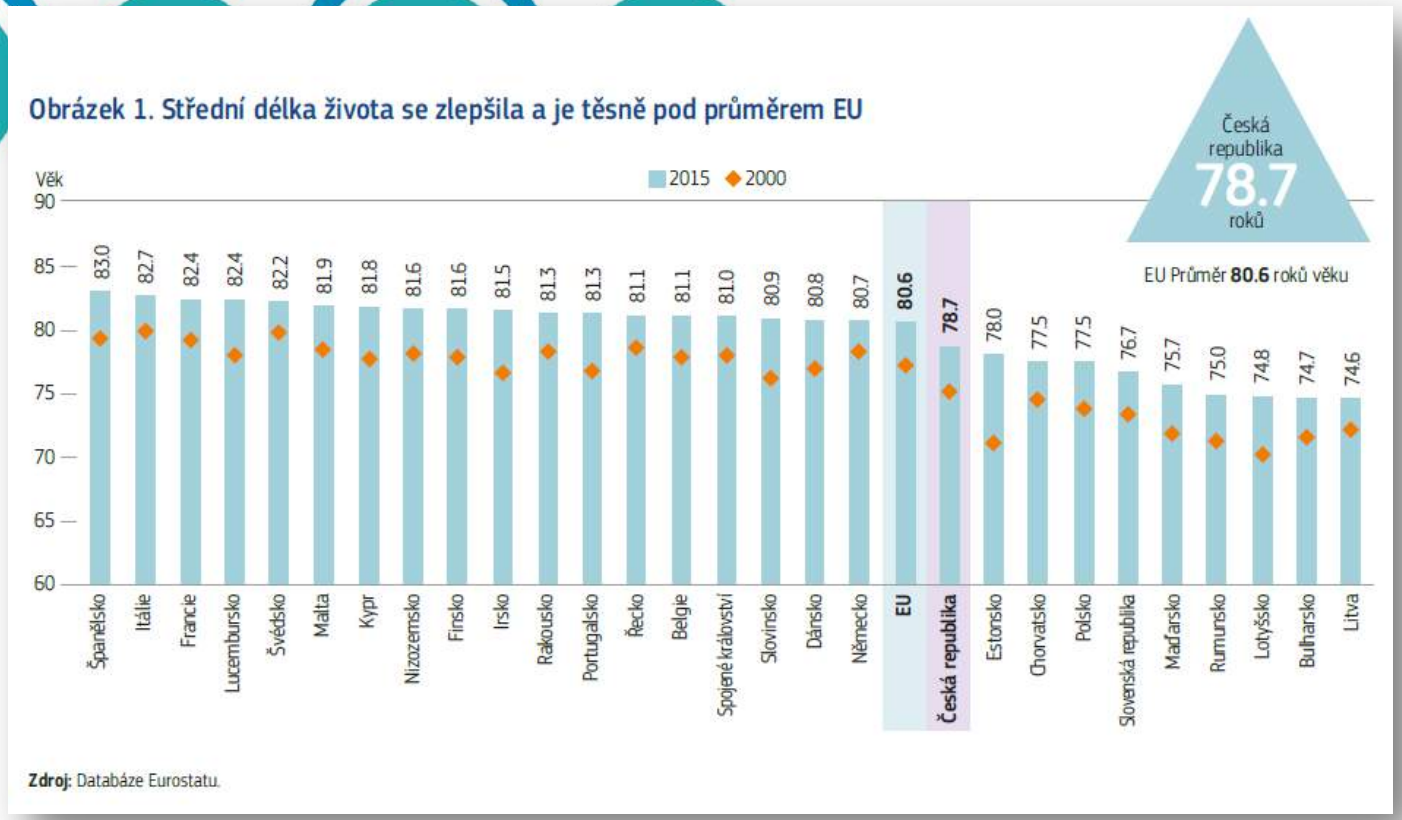
State of Health in the EU

State of Health in the EU: investice do prevence

Zdroj: State of Health in the EU: Companion Report 2017

State of Health in the EU: střední délka života

HEALTH AT A GLANCE: EUROPE



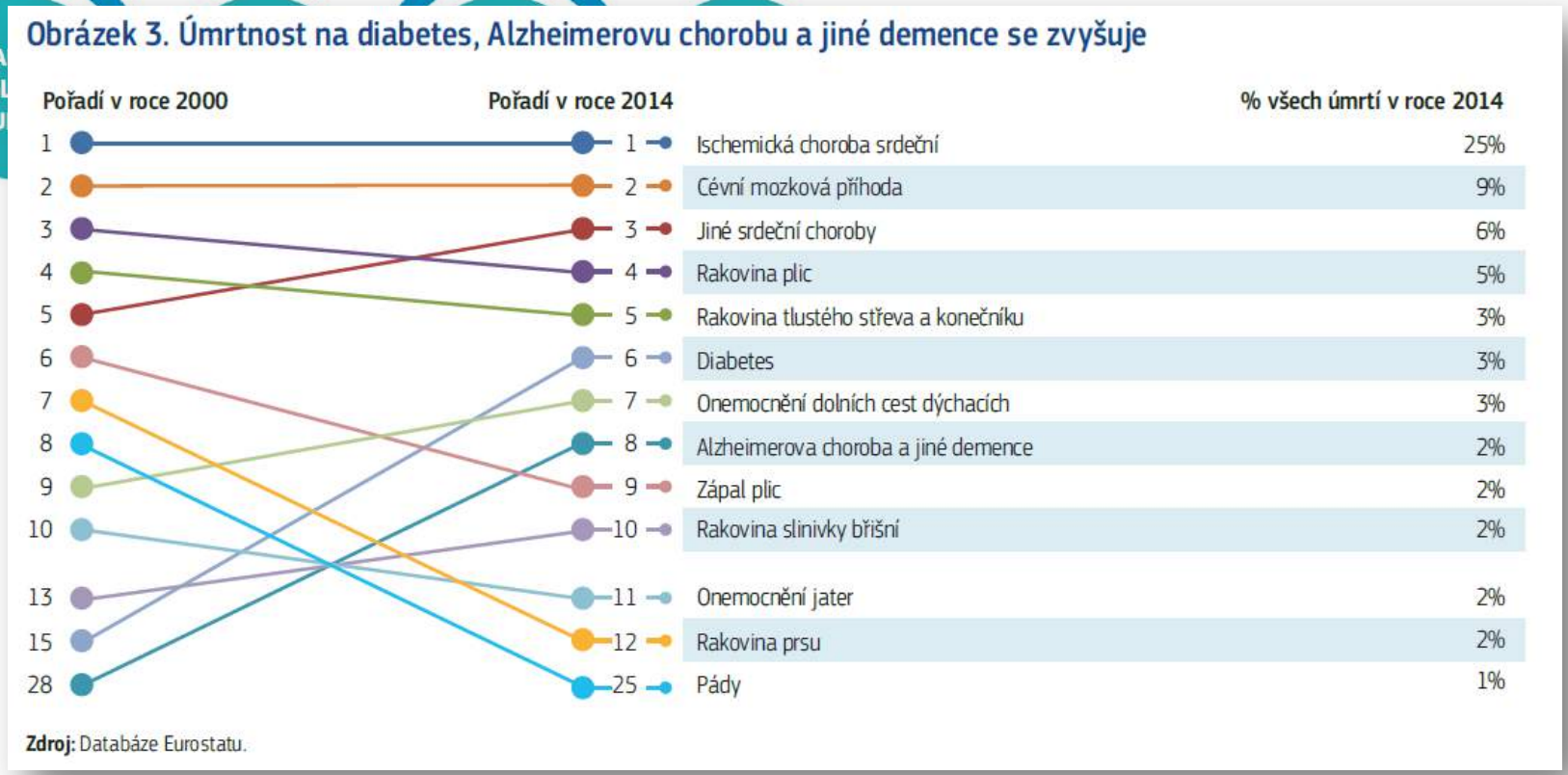
Zdroj: State Of Health in the EU: Zdravotní profil země 2017 – Česká republika

ÚZIS

ČESKÝ STATISTICKÝ ÚŘAD

Evropská komise

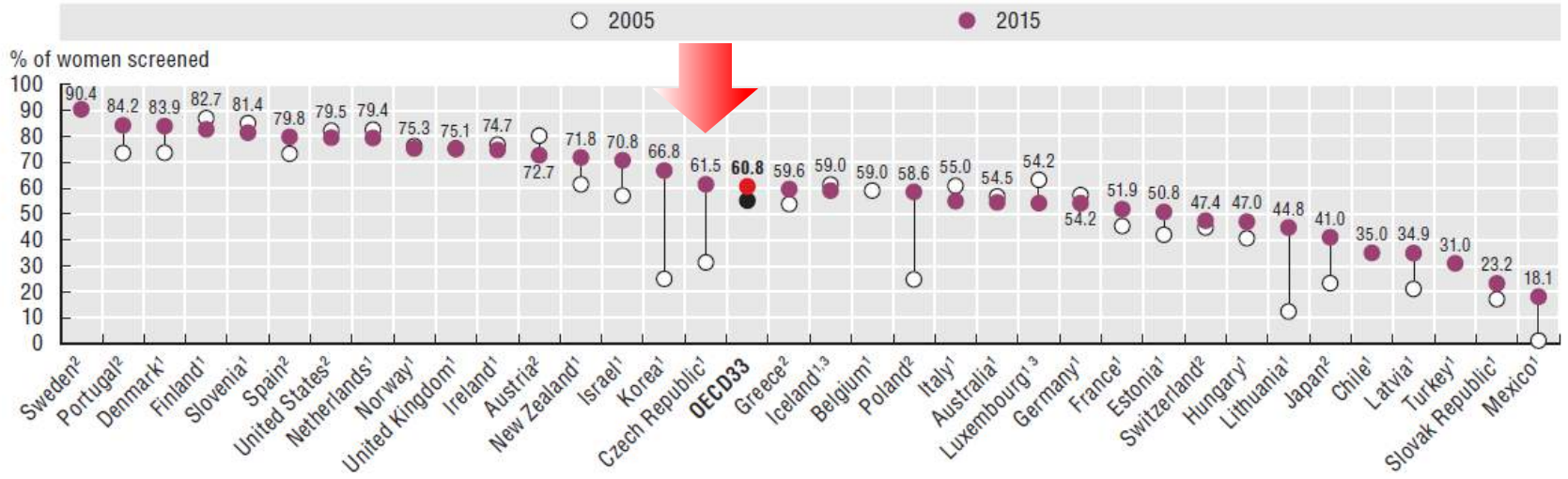
State of Health in the EU: úmrtnost na karcinom prsu



Zdroj: State Of Health in the EU: Zdravotní profil země 2017 – Česká republika

Health at a Glance 2017: pokrytí screeningem

6.33. Mammography screening in women aged 50-69 within the past 2 years, 2005 and 2015 (or nearest years)



1. Programme.
2. Survey.
3. Three-year average.

Source: OECD Health Statistics 2017 and EHIS Eurostat database.

StatLink http://dx.doi.org/10.1787/888933603963

Zdroj: OECD (2017), *Health at a Glance 2017: OECD Indicators*, OECD Publishing, Paris.
http://dx.doi.org/10.1787/health_glance-2017-en

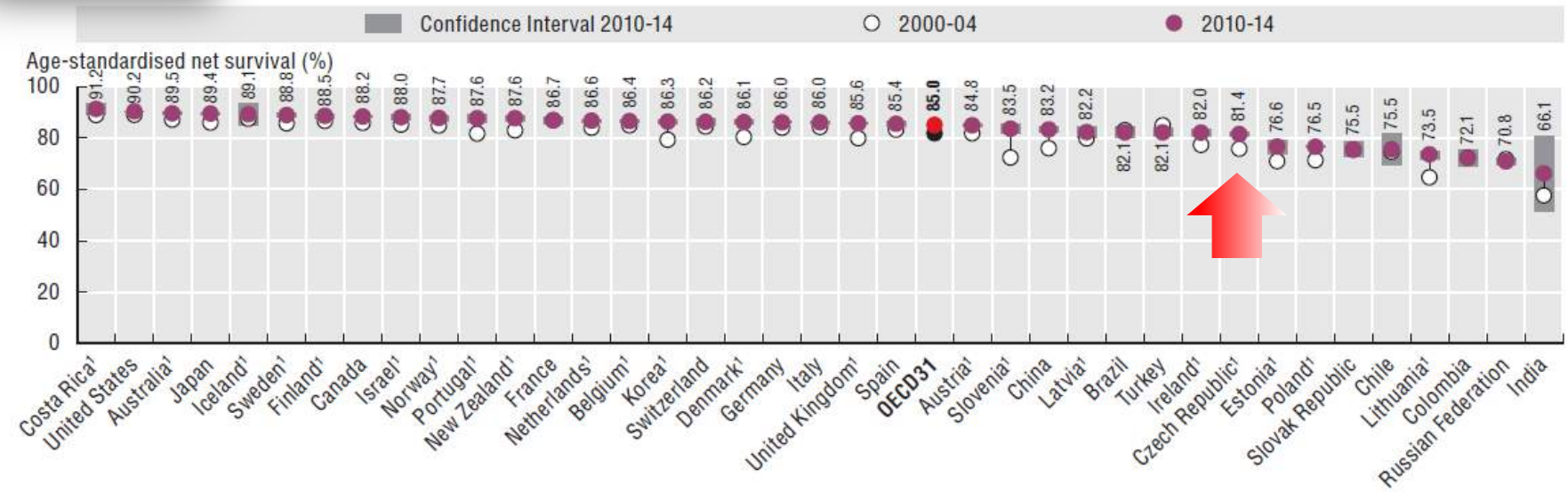
Health at a Glance 2017: pětileté přežití

OECD

CONCORD
Global surveillance
of cancer survival

ÚZIS

6.34. Breast cancer five-year net survival, 2000-2004 and 2010-2014



Note: 95% confidence intervals have been calculated for all countries, represented by grey areas. Expected updates in the data may reduce the survival estimate for Costa Rica.

1. Data with 100% coverage of the national population.

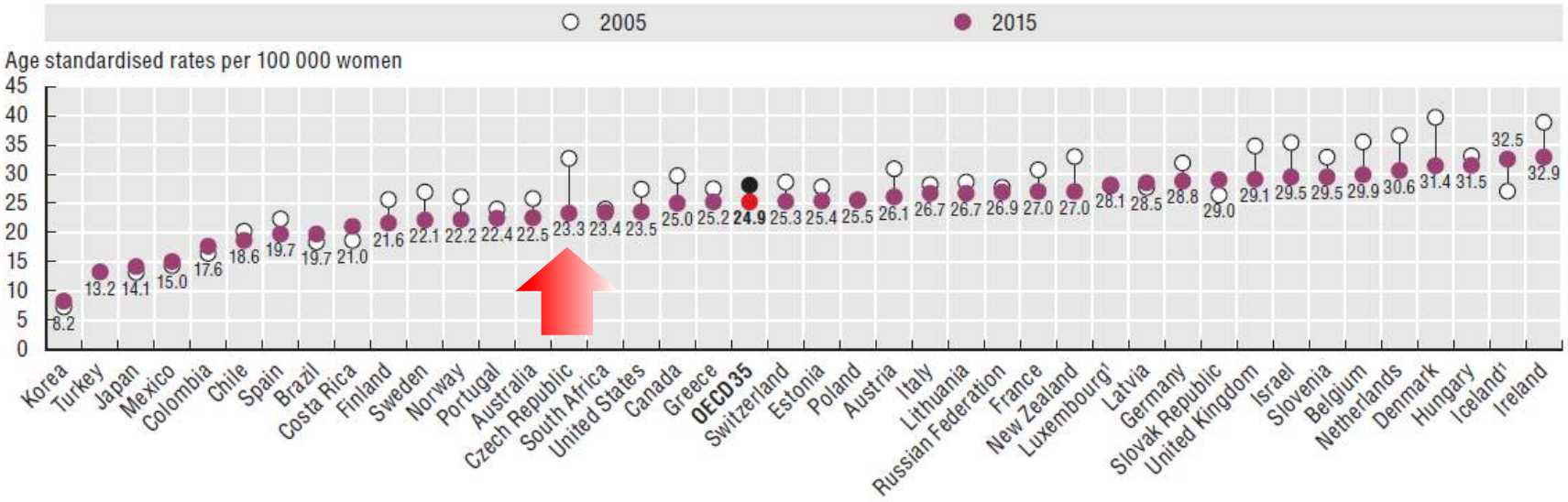
Source: CONCORD programme, London School of Hygiene and Tropical Medicine.

StatLink http://dx.doi.org/10.1787/888933603982

Zdroj: OECD (2017), *Health at a Glance 2017: OECD Indicators*, OECD Publishing, Paris.
http://dx.doi.org/10.1787/health_glance-2017-en

Health at a Glance 2017: úmrtnost na karcinom prsu

6.35. Breast cancer mortality in women, 2005 and 2015 (or nearest years)



1. Three-year average.

Source: OECD Health Statistics 2017.

StatLink http://dx.doi.org/10.1787/888933604001

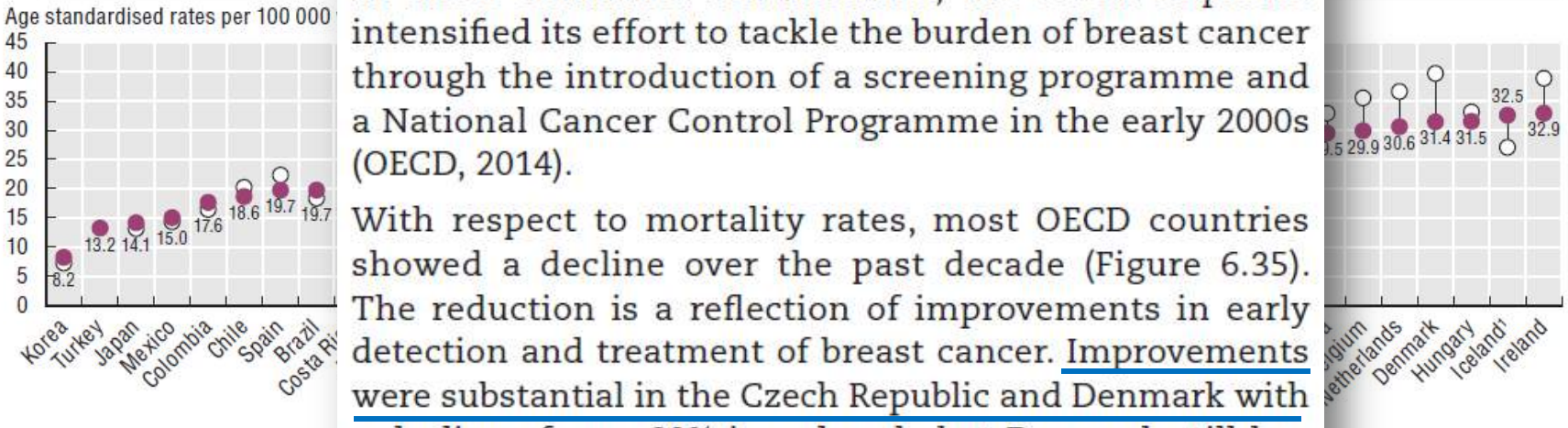
Zdroj: OECD (2017), *Health at a Glance 2017: OECD Indicators*, OECD Publishing, Paris.
http://dx.doi.org/10.1787/health_glance-2017-en

Health at a Glance 2017: úmrtnost na karcinom prsu

Over the last decade, the five-year net breast cancer survival has improved in OECD countries. Net survival has increased considerably in some Central and Eastern European countries such as Estonia and the Czech Republic, although survival after breast cancer diagnosis is still below the OECD average. Improvements may be related to strengthening of cancer care governance in these countries. For instance, the Czech Republic intensified its effort to tackle the burden of breast cancer through the introduction of a screening programme and a National Cancer Control Programme in the early 2000s (OECD, 2014).

With respect to mortality rates, most OECD countries showed a decline over the past decade (Figure 6.35). The reduction is a reflection of improvements in early detection and treatment of breast cancer. Improvements were substantial in the Czech Republic and Denmark with a decline of over 20% in a decade but Denmark still has one of the highest rates. On the other hand, within the

6.35.



1. Three-year average.
Source: OECD Health Statistics 2017.

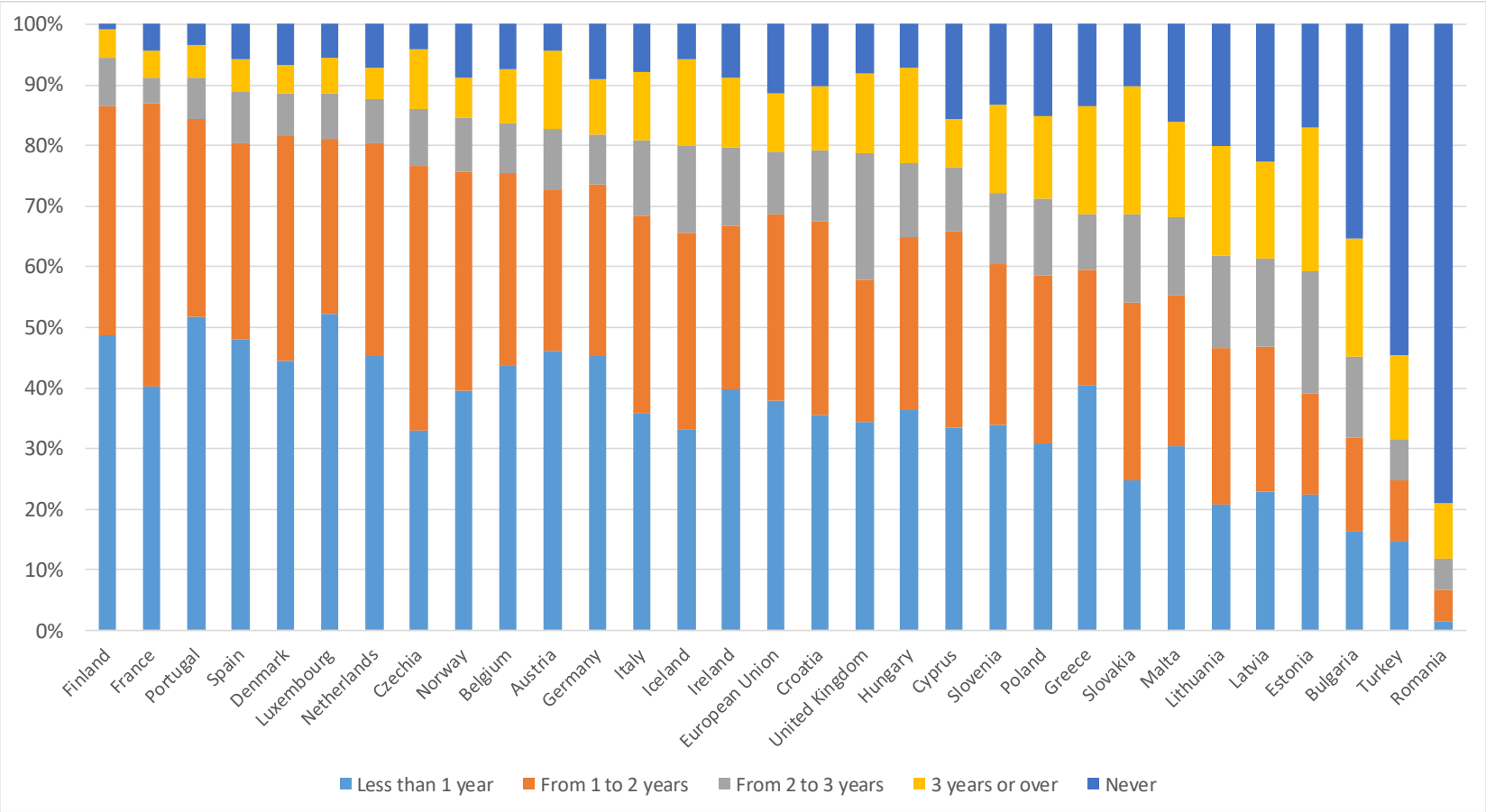
StatLink http://dx.doi.org/10.1787/888933604001

Zdroj: OECD (2017), *Health at a Glance 2017: OECD Indicators*, OECD Publishing, Paris.
http://dx.doi.org/10.1787/health_glance-2017-en

4

Evropské dotazníkové šetření o zdraví

Podíl populace, poslední mamografie, ženy od 50 do 69 let



Zdroj dat: Eurostat

Coverage by invitation and participation rates: breast cancer screening

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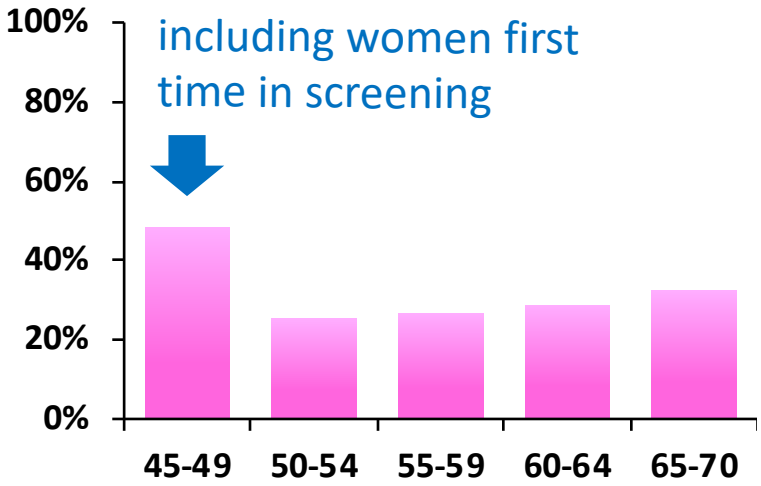
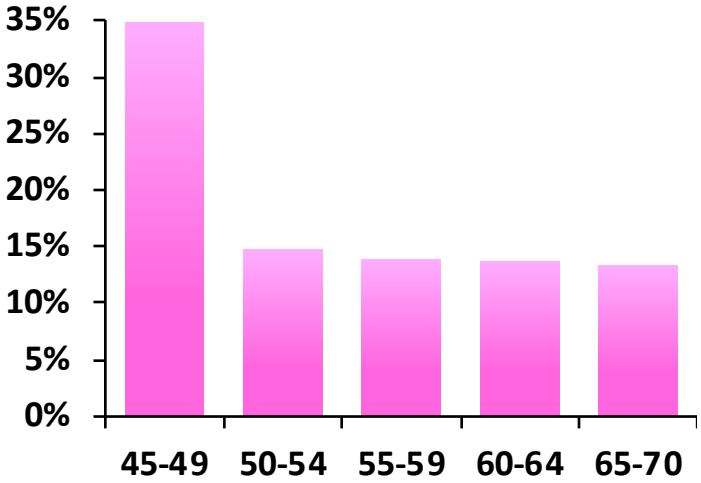
Coverage by invitation by age



Participation rate by age



First invitations 01/2014-06/2015, N = 587,130

Invitations were sent to women aged 45-70 who had not attended mammography in the last 3 years AND who had never undergone breast cancer treatment or mastectomy

The total coverage by invitation was 32% (i.e. 68% of women had already been covered)

The overall participation rate was 20%

The previous coverage by breast care had been substantially lower in the youngest women (including first-attenders) and decreased with higher age. Apart from the youngest age group, the participation was homogenous (13-15%)

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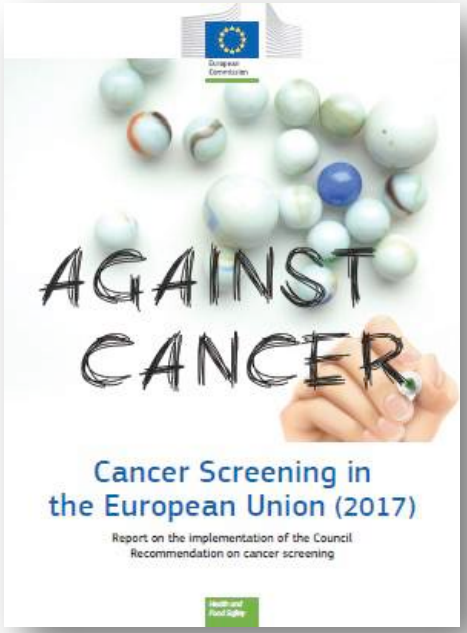
EU screening report

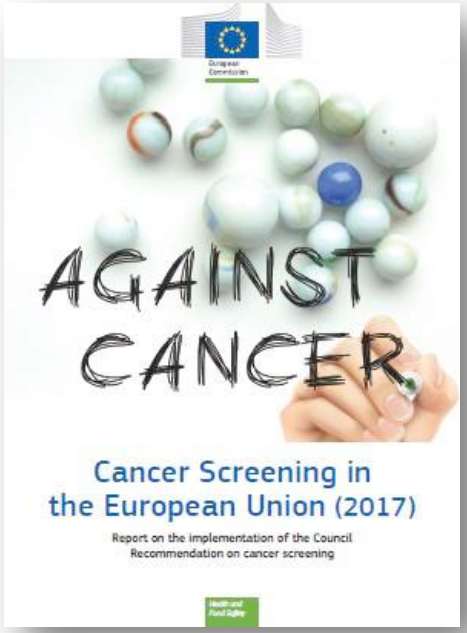
EU Screening Report – definice



2.10.1.'Programme' vs. 'non-programme' screening

To qualify as a programme there should be a public screening policy documented in a law, or an official regulation, decision, directive or recommendation. The policy should define, as a minimum, the screening test, the examination intervals and the group of persons eligible to be screened; and the screening examinations should be financed by public sources (apart from a possible co-payment).

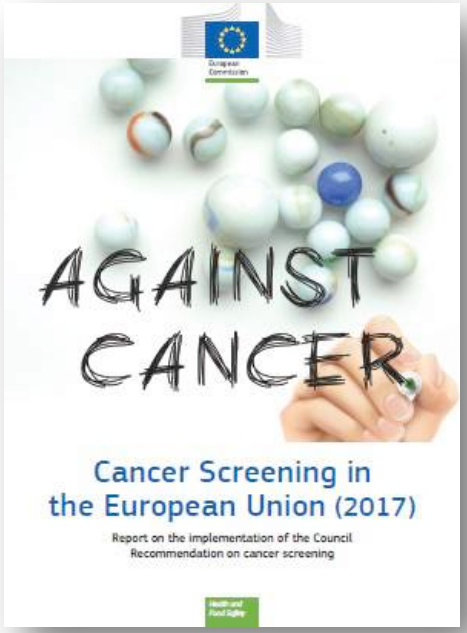
EU Screening Report – definice



2.10.2. Organized screening

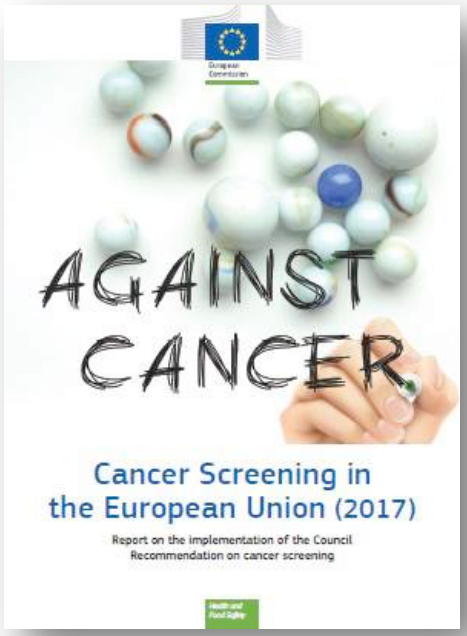
'Organized' programmes for delivery of screening services generally require a higher degree of programme management than the minimum expected to distinguish between 'programme screening' as opposed to 'non-programme screening'. In an 'organized' programme, in addition to the targeted population group(s), the screening test and the screening interval(s), the programme policy and protocols specifying management procedures and indications for these are based on firm evidence on the effectiveness and appropriate balances between benefits and harm. The screening programme organization also requires a team at the national or regional level which is responsible for implementing the policy, i.e., for coordinating the delivery of the screening services, maintaining requisite quality, and reporting on performance and results. Such elements generally provide for supervision and monitoring of most steps in the screening process, as well as comprehensive guidelines and rules defining standard operating procedures. In addition, a quality assurance structure is required and a means of ascertaining the population burden of the disease should be available. In light of the importance of programme organization for effective quality assurance, data providers for the second report were encouraged to indicate whether programmes fulfilled the above minimal organizational criteria. Additional descriptive data on the level of programme organisation were also collected to illustrate the gradient of organization of screening programmes in the EU and complement the assessment of implementation status.

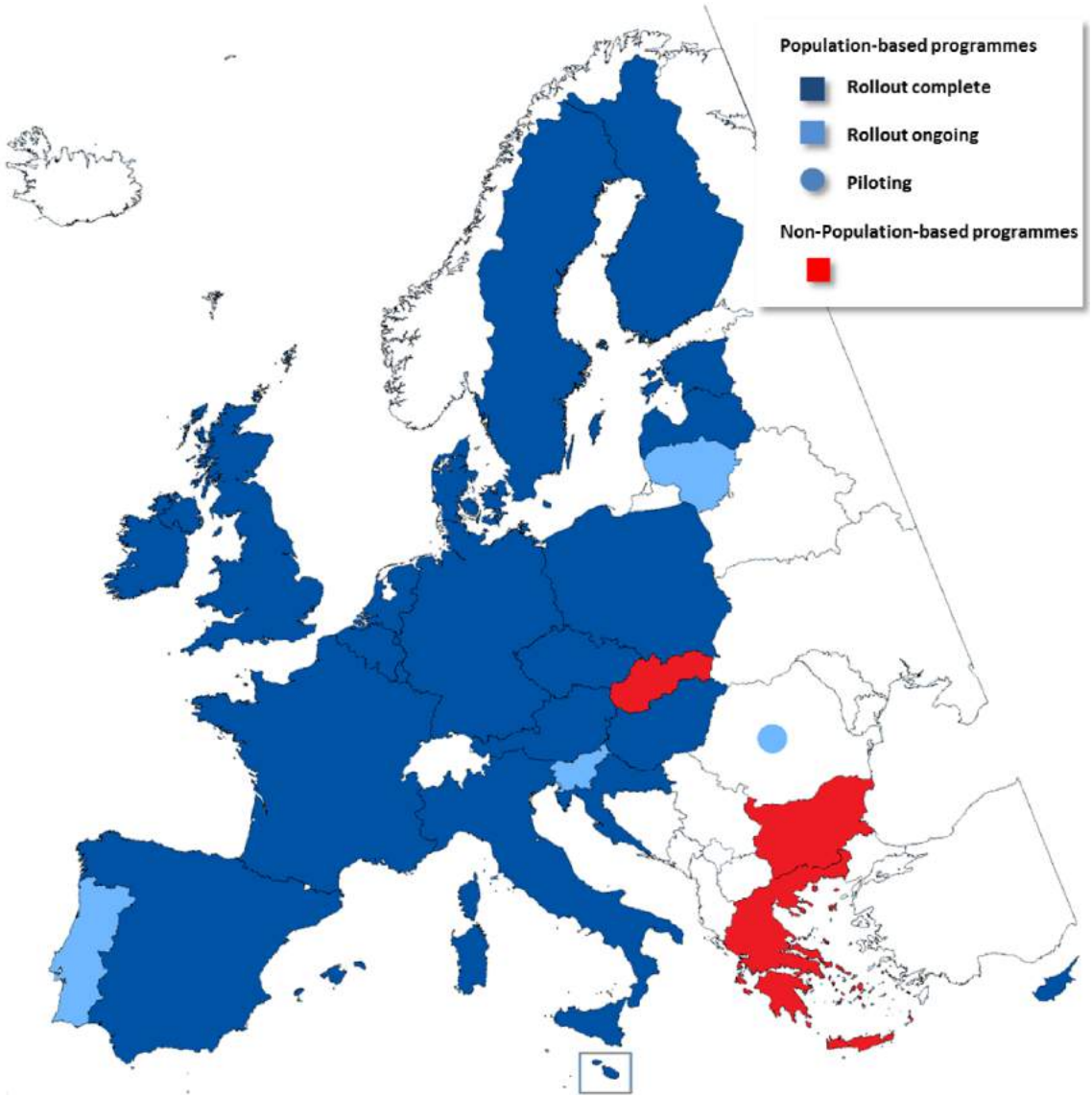
EU Screening Report – definice



2.10.3. Population-based screening

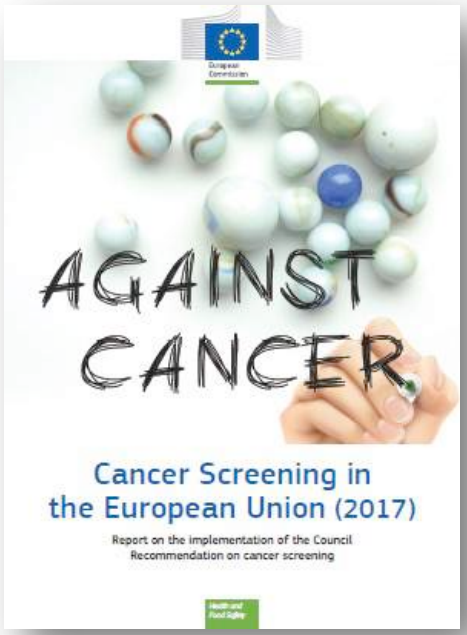
As explained in the first report, screening programmes were considered to be population-based only if they reported that in each round of screening, the people in the eligible target population in the area served by a programme are individually identified and personally invited to attend screening.[13] Moreover, population-based screening programmes generally require a high degree of organisation in order to assure that the invitational activities are performed reliably and effectively and are adequately coordinated with the subsequent steps in the screening process. In cervical cancer screening, some programmes register any tests (also opportunistic) performed in the female population, in order to run similar systematic quality assurance activities for those tests and respective management as run for the invitational programme. In such settings the whole target population are personally identified using the regular intervals and the invitations will be performed only on those who had not





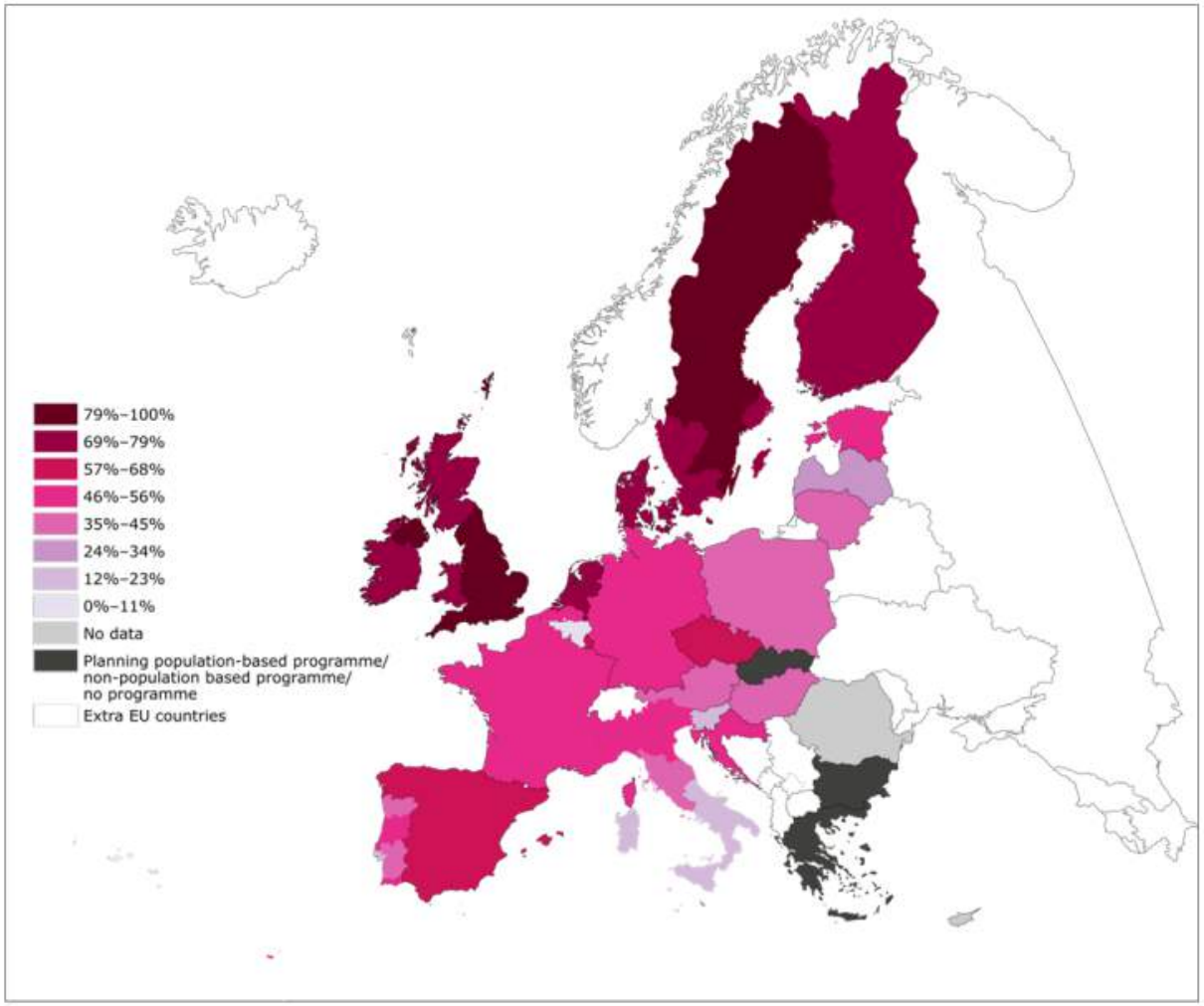
ČR zařazena mezi státy EU se zavedeným populačním screeningem

Charakteristiky screeningových programů



Member states	General information			
	Year of programme initiation	Target age (years)	Screening interval (years)	Is there a population based programme?
Austria	2014	45-69	2	✓
Belgium	2001[1]	50-69	2	✓
Bulgaria	NA	50-69	—	×
Croatia	2006	50-69	2	✓
Cyprus	2003	50-69	2	✓
Czech Republic	2002	45+[2]	2	✓
Denmark	2008	50-69	2	✓
Estonia	2003	50-64	2	✓
Finland	1987	50-69	2	✓
France	2004	50-74	2	✓
Germany	2005	50-69	2	✓
Greece	NA	40+	2 (40-49); 1 (50+)	×
Hungary	2001	45-64	2	✓
Ireland	2000	50-69	2	✓
Italy	1990	45-74[3]	1 (45-49); 2 (50-74)	✓
Latvia	2009	50-69	2	✓
Lithuania	2005	50-69	2	✓
Luxembourg	1992	50-69	2	✓
Malta	2009	50-69	3	✓
Netherlands	1989	50-75	2	✓
Poland	2006	50-69	2	✓
Portugal	1990	45-74[5]	2	✓
Romania	2015	50-69	—	✓
Slovak Republic	NA	—	—	×
Slovenia	2008	50-69	2	✓
Spain	1990	50-69[7]	2	✓
Sweden	1986	40-74	1.5-2	✓
United Kingdom	1988[8]	50-70	3	✓

Pokrytí screeningem karcinomu prsu

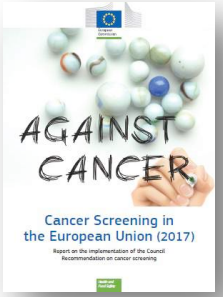


Pokrytí screeningem u žen 50–69 let, rok 2013

Zdroj: Cancer Screening in the European Union, Report on the implementation of the Council Recommendation on cancer screening. 2017.

Pokrytí screeningem na úrovní 60 procent patří v rámci Evropy mezi solidní výsledky

Srovnání programů v EU: podíl doplňujících vyšetření

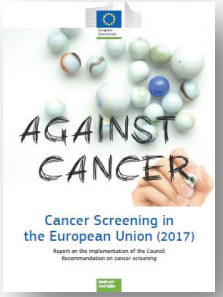


Tables 4.6.1. Breast cancer screening programmes in the EU: Other performance indicators
Further assessment rate (%)
Subsequent screening

Numerator (N) = Screening test positive
Denominator (D) = Information available on screening test result

	45-49 years			50-69 years			70-74 years			Notes
	N	D	%	N	D	%	N	D	%	
Austria										
Belgium Brussels				317	3294	**9.6%**				
Belgium Flanders				3538	166853	**2.1%**				
Belgium Wallonia				552	9701	**5.7%**				
Cyprus Nicosia				496	6435	**7.7%**				
Czech Republic	8484	64788	**13.1%**	24760	366328	**6.8%**	2198	48242	**4.6%**	
Denmark				4731	216054	**2.2%**				
Estonia										*1*
Finland				5724	249609	**2.3%**				
France				141896	1689138	**8.4%**	22374	301127	**7.4%**	
Germany				66968	2144159	**3.1%**				
Hungary										*2*
Ireland				3186	114447	**2.8%**				*1*
Italy	5070	103289	**4.9%**	57707	1209349	**4.8%**	3449	79185	**4.4%**	
Lithuania				4250	63690	**6.7%**				
Luxembourg				672	14363	**4.7%**				
Malta										
Netherlands				15889	784287	**2.0%**	2892	123429	**2.3%**	
Poland										
Portugal Alentejo	42	2315	**1.8%**	264	19156	**1.4%**				
Portugal Azores	43	1214	**3.5%**	162	6365	**2.5%**	21	826	**2.5%**	
Portugal Centre	423	10495	**4.0%**	1646	78027	**2.1%**				
Portugal Lisboa	55	2822	**1.9%**	310	22509	**1.4%**				
Portugal Norte	368	6004	**6.1%**	1489	48751	**3.1%**				
Slovenia				402	16406	**2.5%**				
Spain				30005	944739	**3.2%**				
Sweden Stockholm Gotland	1136	38064	**3.0%**	1943	82075	**2.4%**	305	10867	**2.8%**	
UK England										*3*
UK Northern Ireland				1216	46720	**2.6%**				*3*
UK Scotland				5051	137263	**3.7%**				*3*
UK Wales				3287	84415	**3.9%**				*3*
European total	**15,621**	**228,991**	**6.8%**	**376,461**	**8,524,133**	**4.4%**	**31,239**	**563,676**	**5.5%**	

Srovnání programů v EU: PPV pro karcinomy



Tables 4.4.7. Breast cancer screening programmes in the EU: Other performance indicators

PPV of further assessment to detect CIS & invasive cancer (%)

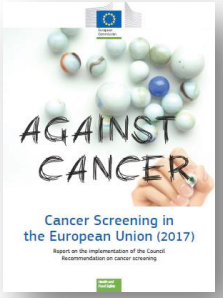
Overall = initial + subsequent screening

Numerator (N) = Carcinoma in situ (CIS) + Invasive breast cancers detected

Denominator (D) = Further assessment performed

	45-49 years			50-69 years			70-74 years			Notes
	N	D	%	N	D	%	N	D	%	
Austria										
Belgium Brussels				39	393	9.9%				
Belgium Flanders				1,085	4,799	22.6%				
Belgium Wallonia				115	1,354	8.5%				
Cyprus Nicosia				28	637	4.4%				
Czech Republic	357	21,890	1.6%	2,194	32,050	6.8%	514	2,963	17.3%	
Denmark				1,735	6,366	27.3%				
Estonia										
Finland				1,614	7,400	21.8%				
France				14,478	193,342	7.5%	3,113	23,126	13.5%	
Germany				17,311	128,285	13.5%				
Hungary				762	11,913	6.4%				*2*
Ireland				906	5,498	16.5%				*1*
Italy	524	10,934	4.8%	6,539	86,453	7.6%	751	3,648	20.6%	
Lithuania										
Luxembourg				114	1,047	10.9%				
Malta				44	730	6.0%				
Netherlands	349	3,148	11.1%	5,066	19,288	26.3%	1,126	2,864	39.3%	
Poland				6,863	44,041	15.6%				
Portugal Alentejo	5	162	3.1%	47	314	15.0%				
Portugal Azores	3	126	2.4%	27	227	11.9%	5	30	16.7%	
Portugal Centre	38	1,413	2.7%	217	1,999	10.9%				
Portugal Lisboa	19	206	9.2%	125	448	27.9%				
Portugal Norte	70	2,266	3.1%	354	4,680	7.6%				
Slovenia				142	791	18.0%				
Spain				2,202	23,670	9.3%				*4, 5*
Sweden Stockholm Gotland	103	1,147	9.0%	511	1,962	26.0%	119	306	38.9%	
UK England	1,198	14,105	8.5%	15,941	73,921	21.6%				*3*
UK Northern Ireland	11	116	9.5%	362	1,940	18.7%				*3*
UK Scotland				1,319	8,540	15.4%				*3*
UK Wales				1,034	4,850	21.3%				*3*
European Total	2,677	55,513	4.8%	81,174	666,938	12.2%	5,628	32,937	17.1%	

Srovnání programů v EU: % in situ karcinomů



Tables 4.4.8. Breast cancer screening programmes in the EU: Other performance indicators

% of total carcinomas which are CIS

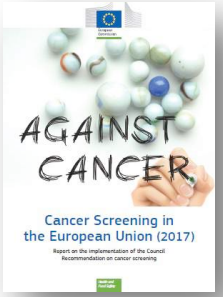
Overall = initial + subsequent screening

Numerator (N) = Carcinoma in situ (CIS) detected

Denominator (D) = Carcinoma in situ (CIS) + Invasive breast cancers detected

	45-49 years			50-69 years			70-74 years			Notes
	N	D	%	N	D	%	N	D	%	
Austria										
Belgium Brussels				6	39	15.4%				
Belgium Flanders				202	1,085	18.6%				
Belgium Wallonia				21	115	18.3%				
Cyprus Nicosia				8	28	28.6%				
Czech Republic	59	357	16.5%	249	2,194	11.3%	46	514	8.9%	
Denmark				145	1,735	8.4%				
Estonia				4	146	2.7%				*1*
Finland				202	1,614	12.5%				
France				2,189	14,478	15.1%	357	3,113	11.5%	
Germany				3,389	17,311	19.6%				
Hungary				90	762	11.8%				*2*
Ireland				189	906	20.9%				*1*
Italy	145	524	27.7%	1,040	6,539	15.9%	92	751	12.3%	
Lithuania										
Luxembourg				18	114	15.8%				
Malta				9	44	20.5%				
Netherlands	126	349	36.1%	1,186	5,066	23.4%	208	1,126	18.5%	
Poland				84	6,863	1.2%				
Portugal Alentejo				9	47	19.1%				
Portugal Azores	1	3	33.3%	2	27	7.4%				
Portugal Centre	5	38	13.2%	2	217	0.9%				
Portugal Lisboa	2	19	10.5%	11	125	8.8%				
Portugal Norte	16	70	22.9%	61	354	17.2%				
Slovenia				47	142	33.1%				
Spain				296	2,202	13.4%				*4, 5*
Sweden Stockholm Gotland	18	103	17.5%	75	511	14.7%	14	119	11.8%	
UK England	363	1,198	30.3%	3,255	15,941	20.4%				*3*
UK Northern Ireland	2	11	18.2%	56	362	15.5%				*3*
UK Scotland				198	1,319	15.0%				*3*
UK Wales				211	1,034	20.4%				*3*
European Total	737	2,672	27.6%	13,254	81,320	16.3%	717	5,623	12.8%	

Srovnání programů v EU: míra benigních operací



Tables 4.4.9. Breast cancer screening programmes in the EU: Other performance indicators

Benign surgical biopsy rate (/1,000)

Overall = initial + subsequent screening

Numerator (N) = Benign lesions or no lesion

Denominator (D) = Individuals screened in the year

	45-49 years			50-69 years			70-74 years			Notes
	N	D	‰	N	D	‰	N	D	‰	
Austria										
Belgium Brussels										
Belgium Flanders				34	204,076	0.17				
Belgium Wallonia				84	18,054	4.65				
Cyprus Nicosia										
Czech Republic	63	120,522	0.52	111	418,475	0.27	12	55,454	0.22	
Denmark				182	257,224	0.71				
Estonia										
Finland				335	284,433	1.18				
France				2,697	2,146,905	1.26	272	320,005	0.85	
Germany										
Hungary				150	210,887	0.71				*2*
Ireland				241	143,911	1.67				*1*
Italy	201	170,642	1.18	828	1,515,391	0.55	33	81,703	0.40	
Lithuania										
Luxembourg				8	17,839	0.45				
Malta				5	7,169	0.70				
Netherlands										
Poland										
Portugal Alentejo	2	4,812	0.42	2	20,589	0.10				
Portugal Azores	7	2,247	3.12	13	7,039	1.85	2	900	2.22	
Portugal Centre	50	18,878	2.65	77	82,561	0.93				
Portugal Lisboa	3	6,237	0.48	10	25,760	0.39				
Portugal Norte	77	20,738	3.71	177	82,740	2.14				
Slovenia				13	23,158	0.56				
Spain				201	491,734	0.41				
Sweden Stockholm Gotland	40	38,727	1.03	42	83,451	0.50	10	10,962	0.91	
UK England	405	184,743	2.19	1,309	1,894,528	0.69				*3*
UK Northern Ireland	6	1,586	3.78	23	57,110	0.40				*3*
UK Scotland				83	172,427	0.48				*3*
UK Wales				101	101,897	0.99				*3*
European Total	854	569,132	1.50	6,726	8,267,358	0.81	329	469,024	0.70	

4

Závěr

Shrnutí klíčových zdrojů dat

- **Vědecké studie – randomizované klinické studie, observační studie, a další**
- **Databáze mezinárodních organizací: EU (Eurostat, JRC), WHO (IARC), OECD**
- **Analytické publikace o zdravotnictví (EU/OECD: State of Health in the EU, Health at a Glance)**
- **Dedikované publikace (European Screening Report)**

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