OČKOVÁNÍ PROTI HPV INFEKCI – POHLED GYNEKOLOGA

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Prohlášení

Uvedená prezentace **NENÍ** sponzorována žádnou společností.

Počet HPV asociovaných karcinomů (2008)

Estimated number of new cancer cases occurring in 2008 attributable to HPV infection by geographic region.

REGION	Total All cancer sites	Total HPV-related cancer sites[a]	Total attributable to HPV	PAF (%)	Cervix uteri
AFRICA					
Sub-Saharan Africa	550,000	82,000	78,000	14.2	75,000
Northern Africa and Western Asia	390,000	12,000	11,000	2.8	9,200
ASIA					
India	950,000	170,000	150,000	15.5	130,000
Other Central Asia	470,000	48,000	43,000	9.0	39,000
China	2,800,000	85,000	80,000	2.8	75,000
Japan	620,000	12,000	11,000	1.8	8,900
Other Eastern Asia	1,000,000	62,000	55,000	5.4	51,000
AMERICA					
Central and Southern America	910,000	84,000	75,000	8.3	68,000
Northern America	1,600,000	35,000	26,000	1.6	12,000
EUROPE					
Europe	3,200,000	110,000	80,000	2.5	55,000
OCEANIA					
Australia/New Zealand	130,000	2,100	1,600	1.2	800
Other Oceania	8,800	920	840	9.4	800
Less developed regions	7,100,000	550,000	490,000	6.9	450,000
More developed regions	5,600,000	150,000	120,000	2.1	77,000
WORLD	12,700,000	700,000	610,000	4.8	530,000

Forman et. al. Global Burden of Human Papillomavirus and Related Diseases. Vaccine 30S (2012) F12– F23.

Incidence ca cervicis ve světě

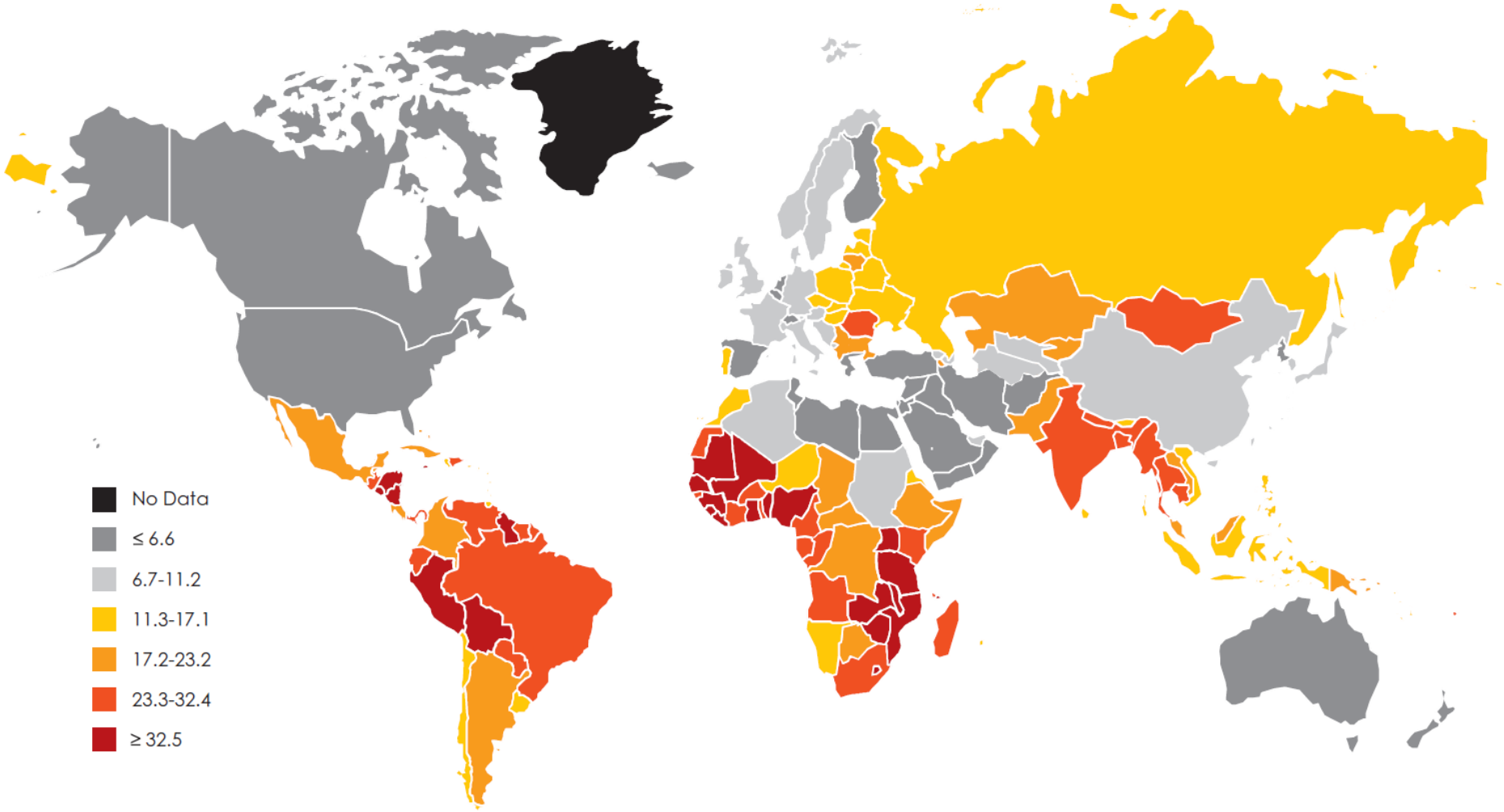
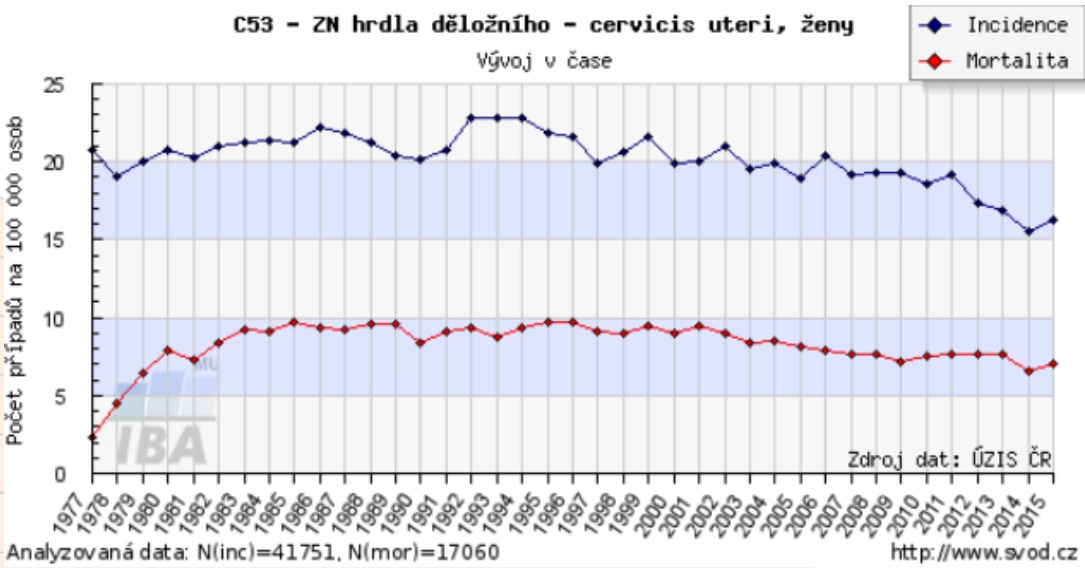


Figure 5. Cervical cancer, global map showing estimated age-standardized (world standard) incidence rate per 100,000 in 2008 (all ages). Based on GLOBOCAN 2008 [

Ca cervicis v Evropě



Forman et. al. Global Burden of Human Papillomavirus and Related Diseases. Vaccine 30S (2012) F12– F23.

Global estimates of human papillomavirus vaccination coverage by region and income level: a pooled analysis

Laia Bruni, Mireia Diaz, Leslie Barrionuevo-Rosas, Rolando Herrero, Freddie Bray, F Xavier Bosch, Silvia de Sanjosé, Xavier Castellsagué

Summary

Background Since 2006, many countries have implemented publicly funded human papillomavirus (HPV) immunisation programmes. However, global estimates of the extent and impact of vaccine coverage are still unavailable. We aimed to quantify worldwide cumulative coverage of publicly funded HPV immunisation programmes up to 2014, and the potential impact on future cervical cancer cases and deaths.

Methods Between Nov 1 and Dec 22, 2014, we systematically reviewed PubMed, Scopus, and official websites to identify HPV immunisation programmes worldwide, and retrieved age-specific HPV vaccination coverage rates up to October, 2014. To estimate the coverage and number of vaccinated women, retrieved coverage rates were converted into birth-cohort-specific rates, with an imputation algorithm to impute missing data, and applied to global population estimates and cervical cancer projections by country and income level.

Findings From June, 2006, to October, 2014, 64 countries nationally, four countries subnationally, and 12 overseas territories had implemented HPV immunisation programmes. An estimated 118 million women had been targeted through these programmes, but only 1% were from low-income or lower-middle-income countries. 47 million women (95% CI 39–55 million) received the full course of vaccine, representing a total population coverage of 1·4% (95% CI 1·1–1·6), and 59 million women (48–71 million) had received at least one dose, representing a total population coverage of 1·7% (1·4–2·1). In more developed regions, 33·6% (95% CI 25·9–41·7) of females aged 10–20 years received the full course of vaccine, compared with only 2·7% (1·8–3·6) of females in less developed regions. The impact of the vaccine will be higher in upper-middle-income countries (178 192 averted cases by age 75 years) than in high-income countries (165 033 averted cases), despite the lower number of vaccinated women (13·3 million *vs* 32·2 million).

Interpretation Many women from high-income and upper-middle-income countries have been vaccinated against HPV. However, populations with the highest incidence and mortality of disease remain largely unprotected. Rapid roll-out of the vaccine in low-income and middle-income countries might be the only feasible way to narrow present inequalities in cervical cancer burden and prevention.

Funding PATH, Instituto de Salud Carlos III, and Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR).

Lancet Glob Health 2016; 4: e453–63

See Comment page e428

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lbruni@iconcologia.net

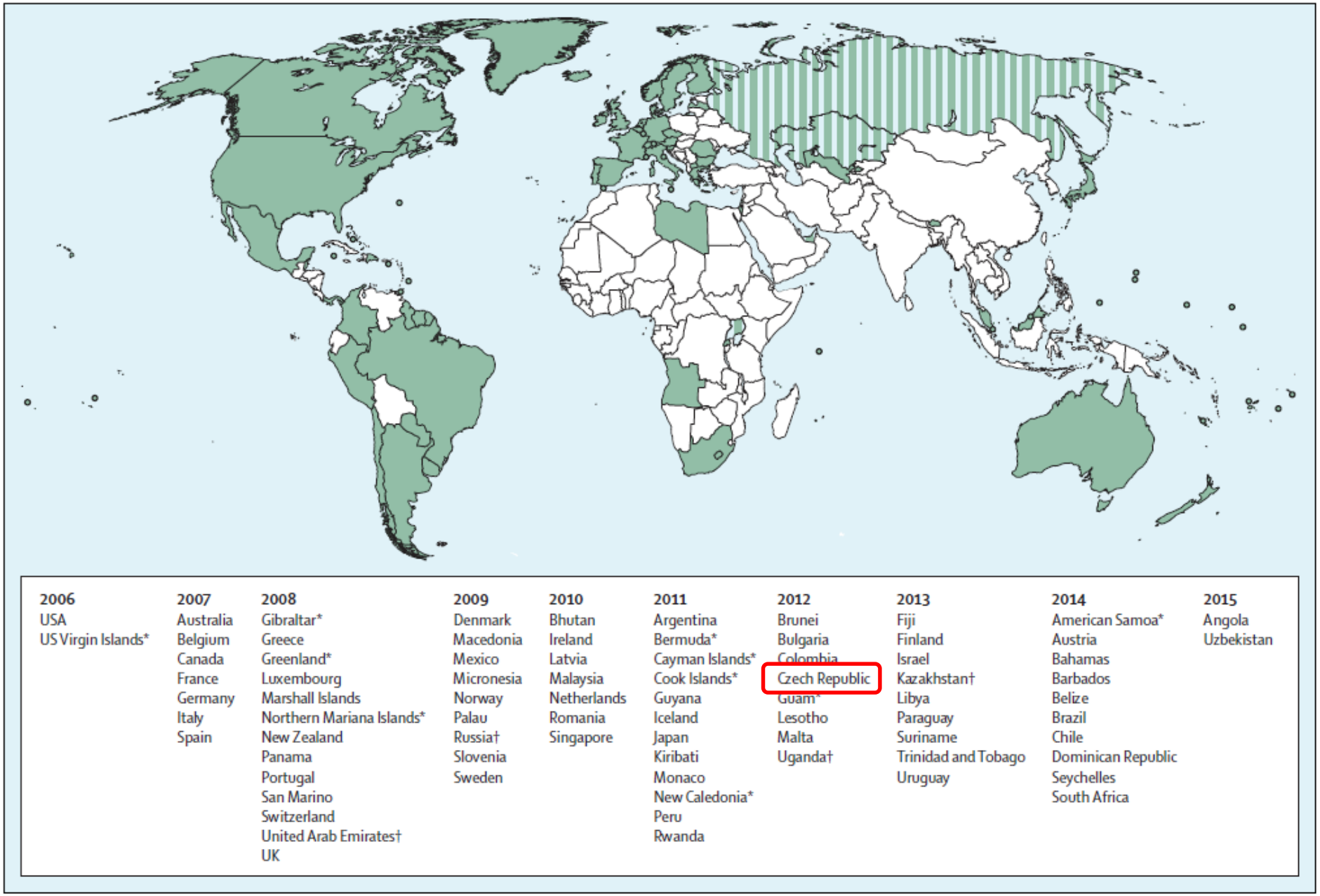

Figure 1: **Countries that have introduced a publicly funded national human papillomavirus vaccination programme since 2006, by year**
Striped sections indicate implementation in a part of the country. French Polynesia, Liechtenstein, and Niue have reported vaccine programmes, but no information was available about year of introduction. *Special territory. †Partial implementation.

	Number of vaccinated females (millions)	Coverage among the total female population		Coverage among the targeted population (all ages)		
		All ages	Aged 10–20 years	All	Primary target and organised catch-up	Opportunistic catch-up*
Full-course vaccination						
Worldwide	46·9 (39·0–55·3)	1·4% (1·1–1·6)	6·1% (4·9–7·4)	39·7% (33·0–46·8)	54·9% (45·1–65·4)	13·3% (6·8–21·0)
Less developed regions	15·0 (10·4–20·3)	0·5% (0·4–0·7)	2·7% (1·8–3·6)	71·3% (49·6–96·6)	73·7% (50·9–100·0)	21·2% (12·9–29·6)
More developed regions	31·9 (25·7–38·7)	5·4% (4·4–6·5)	33·6% (25·9–41·7)	32·9% (26·5–39·8)	48·0% (38·2–58·5)	13·1% (6·7–21·5)
Full-course vaccination by income						
High income	32·2 (26·2–38·9)	5·4% (4·4–6·5)	32·1% (25·0–39·9)	33·6% (27·3–40·6)	48·5% (38·6–59·3)	13·8% (7·3–22·4)
Upper middle income	13·3 (8·9–18·6)	1·1% (0·7–1·6)	7·2% (4·8–10·1)	64·6% (43·0–90·1)	70·8% (47·0–98·9)	3·5% (2·2–4·7)
Lower middle income	0·3 (0·2–0·5)	0·0% (0·0–0·0)	0·1% (0·1–0·2)	69·6% (42·1–100·0)	69·6% (42·1–100·0)	..
Low income	1·0 (0·7–1·4)	0·3% (0·2–0·4)	1·0% (0·7–1·4)	95·2% (60·3–100·0)	95·2% (60·3–100·0)	..
Full-course vaccination by geographical region						
Africa	1·6 (0·9–2·6)	0·3% (0·2–0·5)	1·2% (0·7–2·0)	88·0% (46·5–100·0)	88·0% (46·5–100·0)	..
Asia	4·2 (2·4–6·3)	0·2% (0·1–0·3)	1·1% (0·6–1·7)	57·2% (32·6–85·5)	62·5% (34·0–95·4)	21·4% (14·3–28·9)
Europe	14·0 (12·0–16·1)	4·3% (3·7–5·0)	31·1% (26·1–36·5)	39·2% (33·7–45·2)	52·8% (44·5–61·7)	11·7% (8·5–15·3)
Latin America and Caribbean	11·6 (7·1–16·6)	3·8% (2·3–5·4)	19·0% (11·6–27·3)	71·0% (43·6–100·0)	71·0% (43·6–100·0)	3·8% (2·1–5·8)
Northern America	13·1 (8·0–18·9)	7·3% (4·5–10·5)	35·6% (18·5–56·6)	24·6% (15·1–35·5)	39·3% (20·5–62·5)	13·7% (5·3–25·1)
Oceania	2·4 (1·6–3·3)	12·7% (8·6–17·3)	35·9% (18·8–56·0)	62·2% (42·1–84·6)	62·2% (42·1–84·6)	..
One-dose vaccination						
Worldwide	59·2 (48·1–70·9)	1·7% (1·4–2·1)	7·5% (5·9–9·2)	50·1% (40·7–60·0)	67·3% (53·9–81·7)	20·2% (10·5–31·6)
Less developed regions	17·0 (11·2–23·8)	0·6% (0·4–0·8)	3·0% (2·0–4·3)	80·6% (53·1–100·0)	83·2% (54·4–100·0)	25·5% (15·6–35·6)
More developed regions	42·3 (33·2–52·2)	7·1% (5·6–8·8)	43·3% (32·0–55·3)	43·5% (34·1–53·7)	61·5% (47·0–76·8)	20·1% (10·4–32·8)
One-dose vaccination by income						
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Low income	0·9 (0·5–1·4)	0·2% (0·1–0·3)	0·9% (0·5–1·4)	86·1% (43·9–100·0)	86·1% (43·9–100·0)	..
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Latin America and Caribbean	13·5 (7·8–19·9)	4·4% (2·5–6·4)	22·1% (12·7–32·6)	82·4% (47·8–100·0)	82·5% (47·8–100·0)	13·3% (7·2–20·1)
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Data in parentheses are 95% CIs. *Not implemented in some countries in a group.

***Table*: Estimated number of vaccinated females and human papillomavirus vaccine coverage by October, 2014**

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Oceania	2·4 (1·6–3·3)	12·7% (8·6–17·3)	35·9% (18·8–56·0)	62·2% (42·1–84·6)	62·2% (42·1–84·6)	..
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Low income	0·9 (0·5–1·4)	0·2% (0·1–0·3)	0·9% (0·5–1·4)	86·1% (43·9–100·0)	86·1% (43·9–100·0)	..
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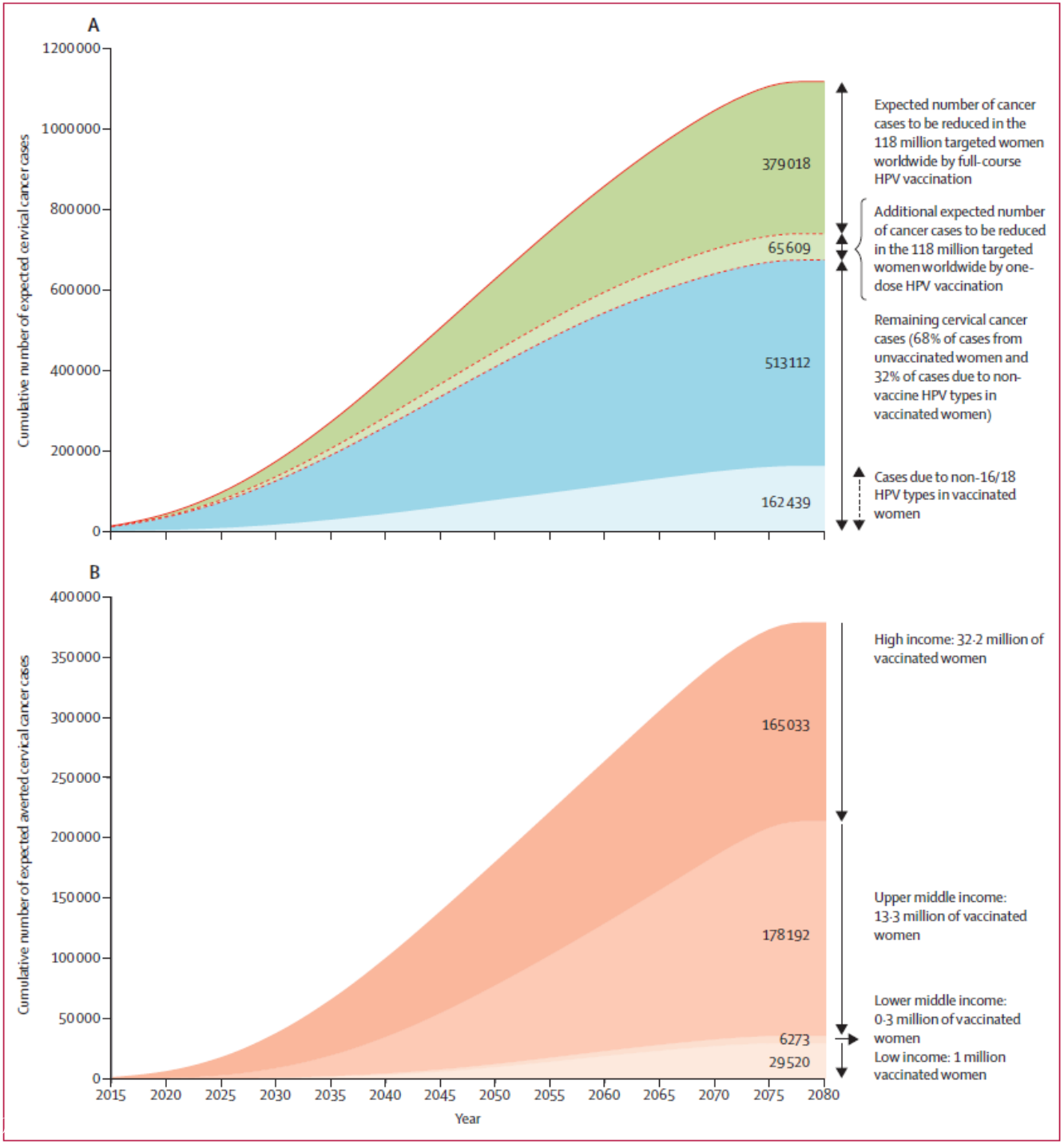
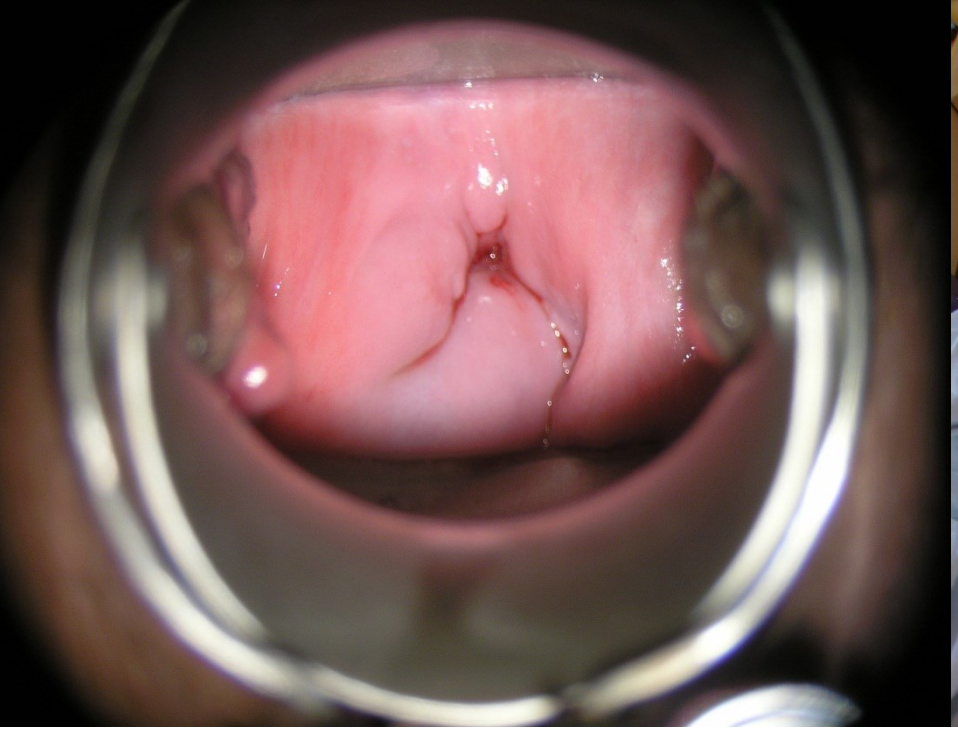
***Table*: Estimated number of vaccinated females and human papillomavirus vaccine coverage by October, 2014**


A
1200000
1000000
800000
600000
400000
200000
0
Cumulative number of expected cervical cancer cases
379018
65609
513112
162439
Expected number of cancer cases to be reduced in the 118 million targeted women worldwide by full-course HPV vaccination
Additional expected number of cancer cases to be reduced in the 118 million targeted women worldwide by one-dose HPV vaccination
Remaining cervical cancer cases (68% of cases from unvaccinated women and 32% of cases due to non-vaccine HPV types in vaccinated women)
Cases due to non-16/18 HPV types in vaccinated women
B
400000
350000
300000
250000
200000
150000
100000
50000
0
Cumulative number of expected averted cervical cancer cases
165033
178192
6273
29520
High income: 32·2 million of vaccinated women
Upper middle income: 13·3 million of vaccinated women
Lower middle income: 0·3 million of vaccinated women
Low income: 1 million vaccinated women
2015
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
Year



Ortopedie – otevřená biopsie: dlaždicobuněčný ca

kyretáž hrdla děložního: dlaždicobuněčný ca G3

Karcinom hrdla děložního IV. stadia

Paliativní chemoradioterapie

Meta-analýza 93 prací

Očkování proti HPV 16 / 18

80 % ca anu (80 % prekanceroz AIN 2/3)

60 % ca vaginy (60 % prekanceroz VaIN 2/3)

40 % vulvy (75 % prekanceroz VIN 2/3)

De Vuyst et al. Prevalence and type distribution of human papillomavirus in carcinoma and intraepithelial neoplasia of the vulva, vagina and anus: A meta-analysis. Int. J. Cancer, 2009 : 124, 1626–1636.

Kondylomata acuminata

Australie – Silgard od r. 2007

85 660 respondentů v letech 2004 – 2011

pod 21 let - 92,6 % dívek + 81,8 % chlapců

21 – 30 let - 72,6 % ženy + 51,1 % mužů

NE redukce u lidí na 30 let

NE u MSM (men having sex with men)

Ali H et al. Genital warts in young Australians five years into national human papillomavirus vaccination programme: national surveillance data. BMJ 2013; 346: f2032.

Kondylomata acuminata

Anglie – Cervarix od 9/2008 – 10/2012

80 % pokrytí; sledované období 2009 - 2014

30,6 % (ženy 15 – 19 let)

50,9 % dívky ve věku 15 let

25,4 % chlapci 15 – 19 let

Canvin M et al. Decline in genital warts diagnoses among young women and young men since the introduction of the bivalent HPV (16/18) vaccination programme in England: an ecological analysis

Sex Transm Infect. 2016 Jun 30. pii: sextrans-2016-052626. doi: 10.1136/sextrans-2016-052626.

SPC – změna indikací

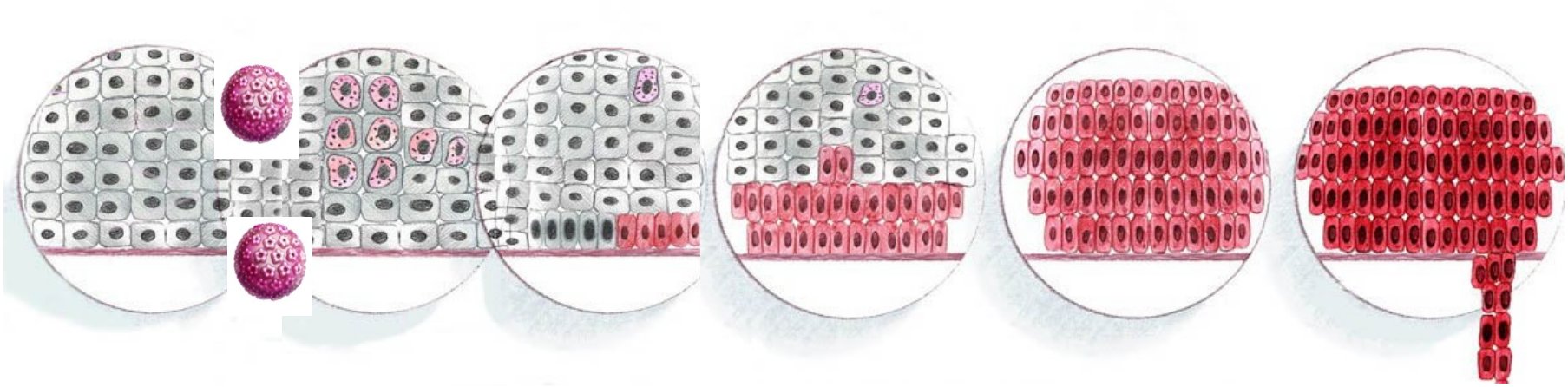
Silgard, Cervarix, Gardasil 9:

- cervikální, vulvální, vaginální a anální prekancerozy a karcinomy
- k podání jedincům

Silgard, Gardasil 9:

- \+ genitální bradavice způsobené specifickými HPV typy

Progrese prekacerozy



epitel

koilocytóza

CIN 1

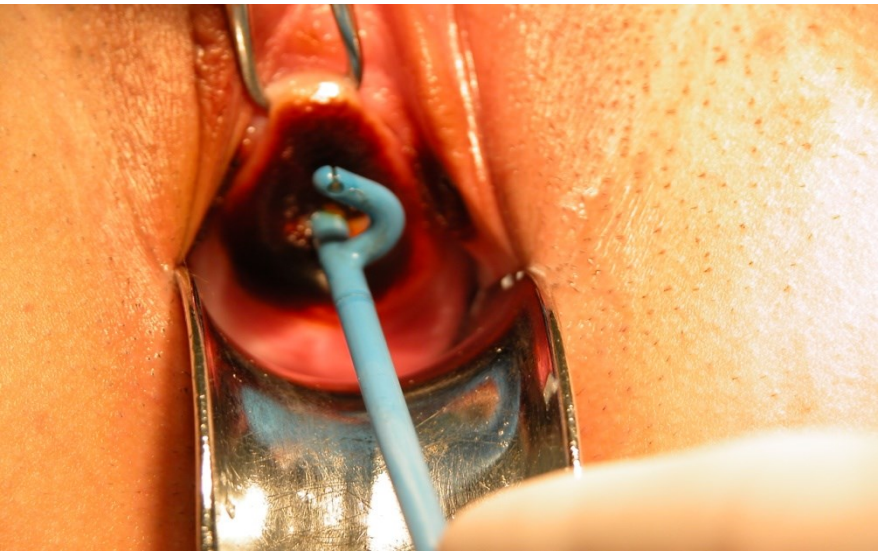
Skvamózní intraepiteliální léze nízkého stupně (**LSIL**)

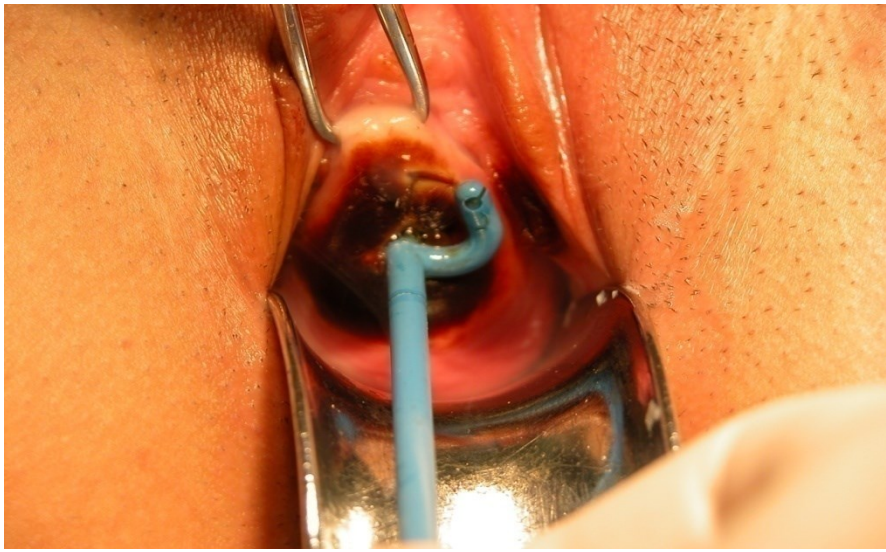
CIN 2 **CIN 3 / CIS**

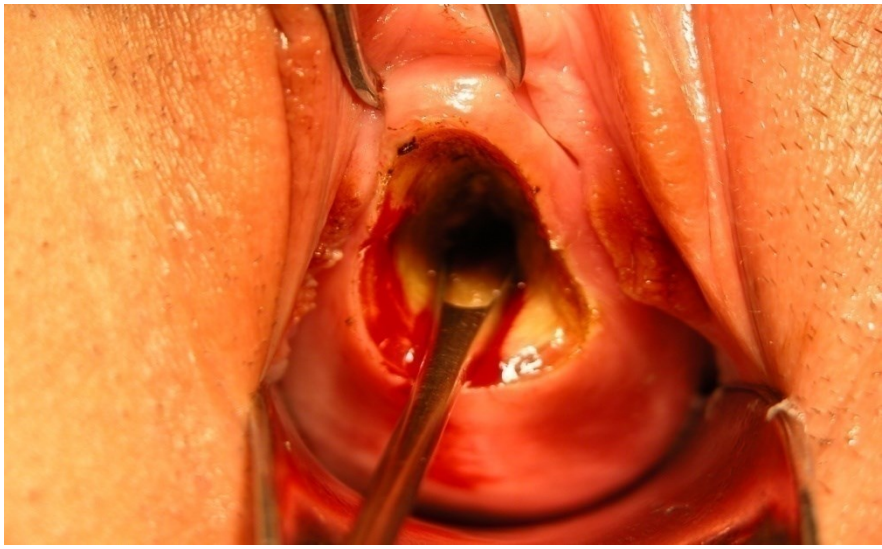
Skvamózní intraepiteliální léze vysokého stupně (**HSIL**)
těžké prekancerózy

Invazivní cervikální karcinom

Konizace děložního hrdla







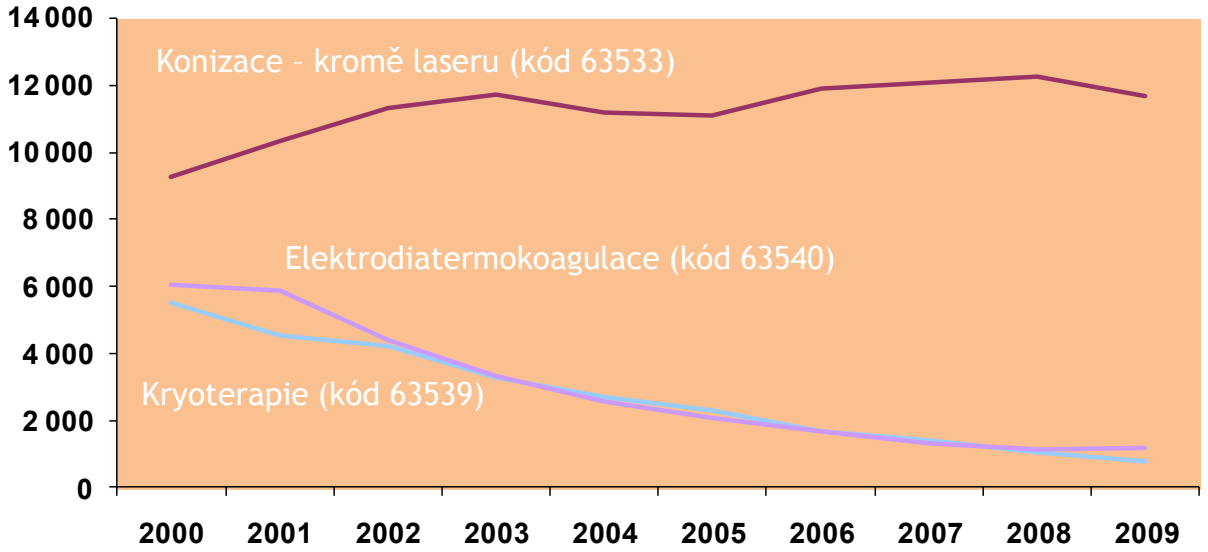
Riziko předčasného porodu po konizaci

2014 - 8,3 % předčasných porodů (9 121 dětí)

V roce 2002 6 % před.porodů (5 567 dětí)

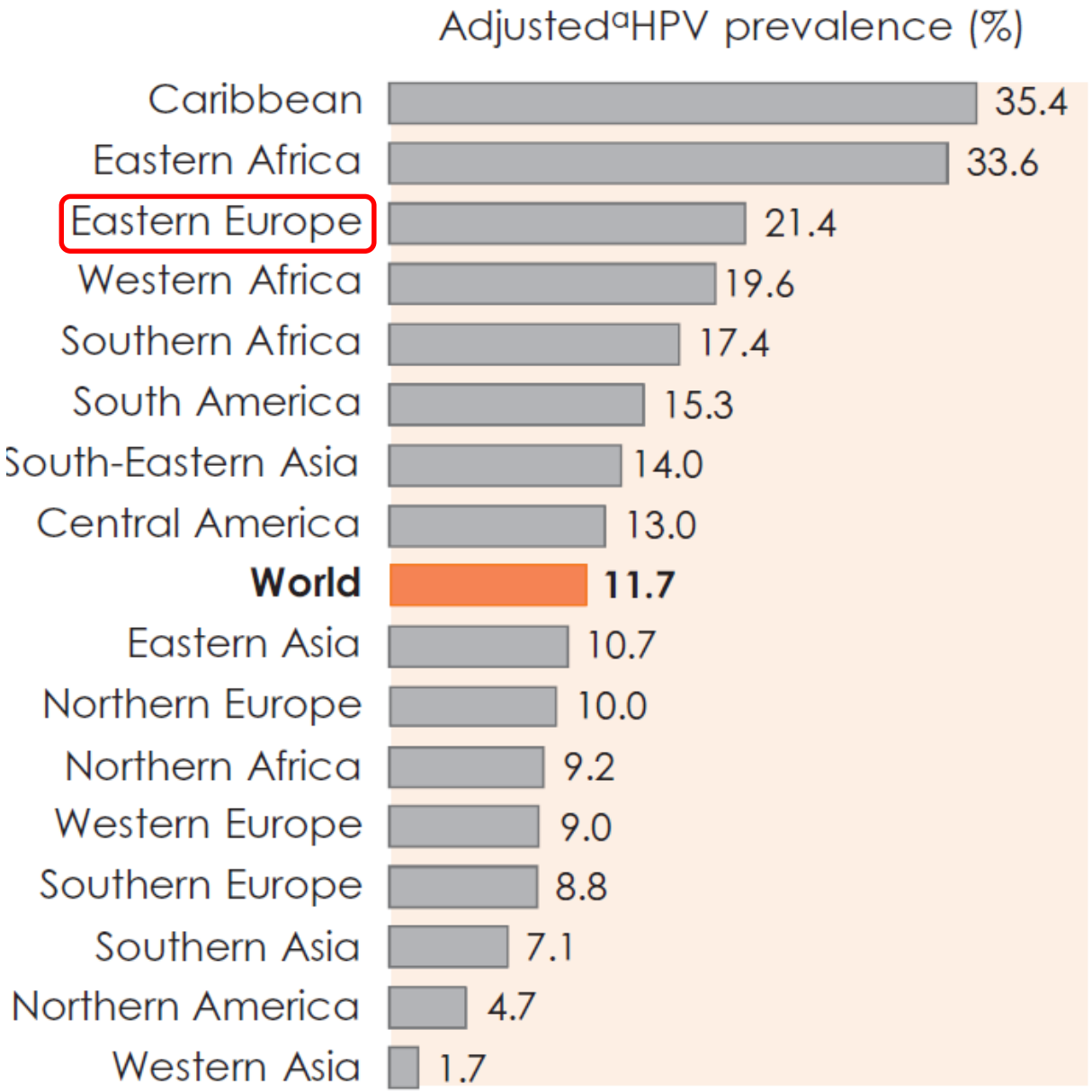
KONIZACE - cca 3x vyšší riziko předčasného porodu

cca 13 000 konizací



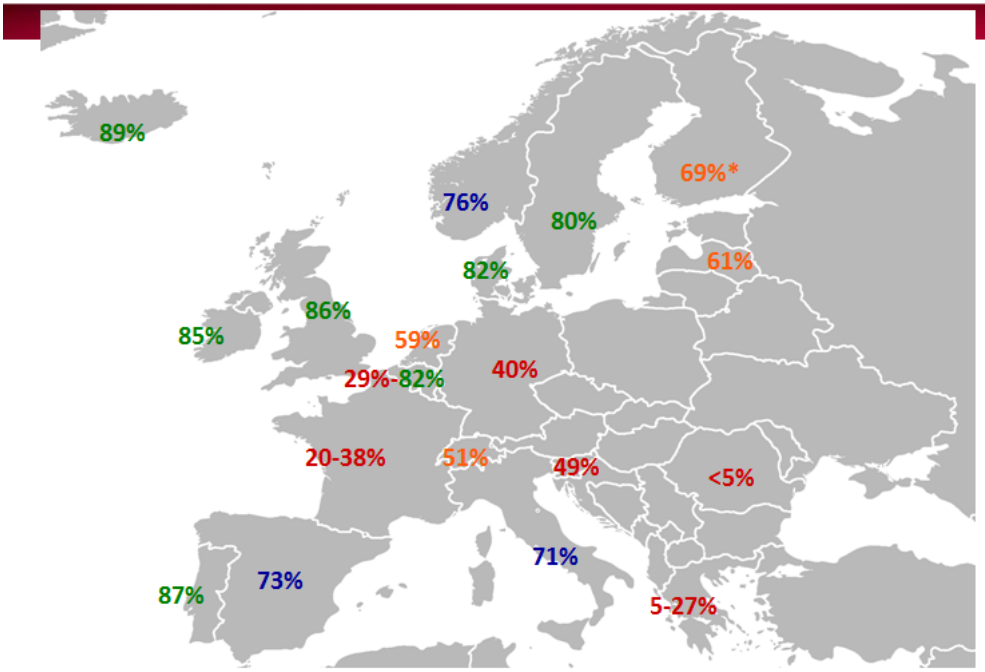
Watson et al. Intracervical procedures and the risk of subsequent very preterm birth: a case-control study. Acta Obstet. Gynecol. Scand. 2012.
Ortoft et al. After conisation of the cervix, theperinatal mortality as a result of preterm delivery increases in subsequent pregnancy. BJOG 117(3), 258-267 (2010).
Arbyn et al. Perinatal mortality and other severe adverse pregnancy outcomes associated with treatment of cervical intraepithelial neoplasia: meta-analysis. BMJ 2008)

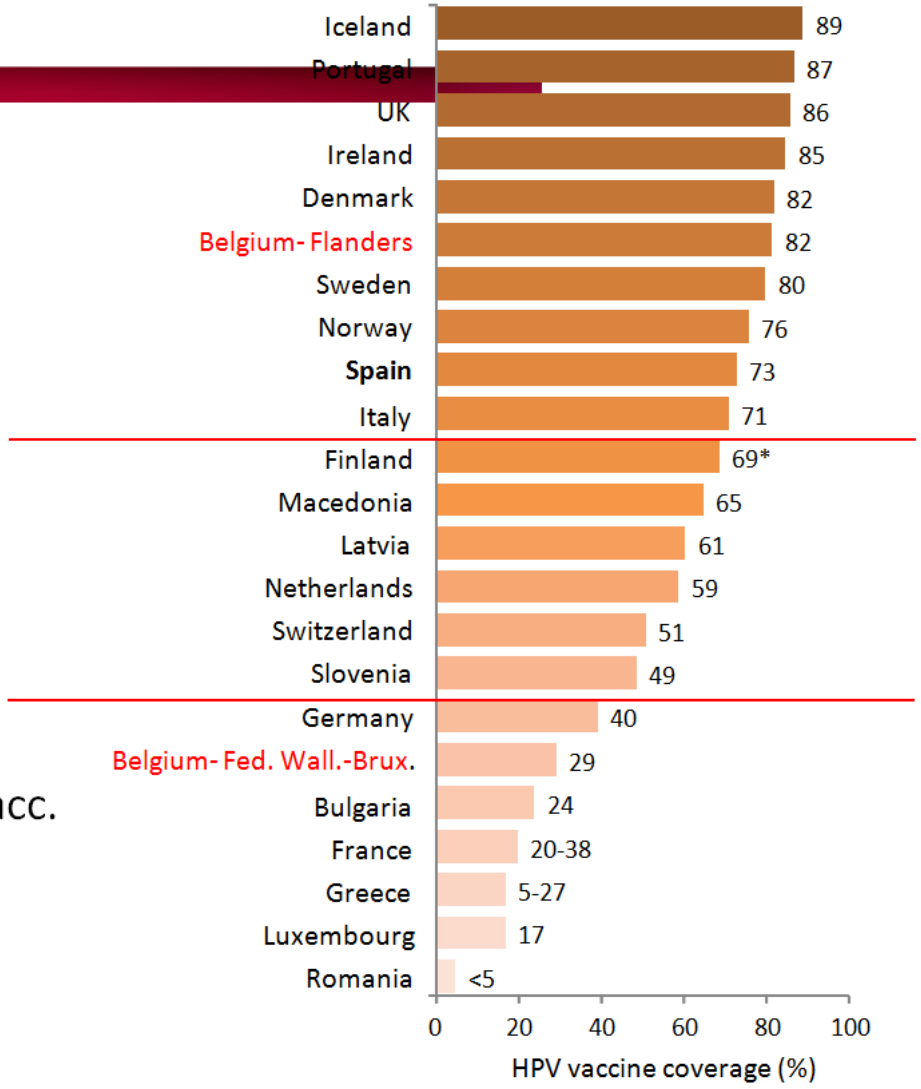
HPV prevalence u žen s norm. cytologií



***Forman** et. al.*
Global Burden of Human Papillomavirus and Related Diseases.
Vaccine 30S (2012) F12– F23.

HPV VACCINATION coverage IN EUROPE





23 countries from EU-28 have introduced HPV vacc.

Programs' primary targets are girls aged 10-14. Target age varies by country, but commonly is 12 years olds

* Finland: reported one dose coverage only

Updated November 2015

HPV očkování

Hlavním cílem snížení incidence ca děložního hrdla

„Vedlejší efekt“ na karcinomy jiných orgánů

Ovlivnění incidence prekanceroz (předčasných porodů)

Ovlivnění abnormálních onkologických cytologií

Snížení genitálních bradavic

Canvin M, et al . Decline in genital warts diagnoses among young women and young men since the introduction of the bivalent HPV (16/18) vaccination programme in England: an ecological analysis. Sex Transm Infect 2016;0:1–4

Děkuji za pozornost

Nemocnice Na Bulovce