

# HPV screening and treatment challenges in Eastern and Central Europe:

part of Europe with highest burden of cervical cancer



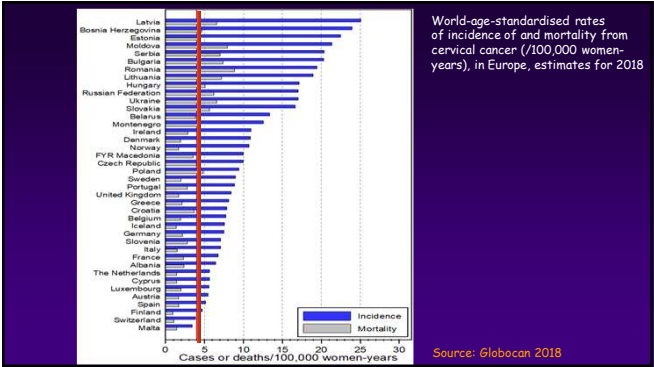
Mario Poljak

Institute of Microbiology and Immunology  
Faculty of Medicine, University of Ljubljana, Slovenia

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No conflicts of interest to declare.

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Comprehensive Control of HPV Infections and Related Diseases in the Central and Eastern Europe and Central Asia Region

Guest Editor: P. A. Boon  
Co-Editors: M. Poljak, A. Hračková, P. Luchinskas, M. Braken, and S. Syrjänen

# Vaccine

HPV AND DISEASE PREVENTION 2013

CENTRAL AND EASTERN EUROPE AND CENTRAL ASIA REPORT

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31 DECEMBER 2013

Вакцинация против ВПЧ и ассоциированных заболеваний в Регионах Центральной и Восточной Европы, Центральной Азии

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# Vaccine

ПРОФИЛАКТИКА ВПЧ И АССОЦИИРОВАННЫХ ЗАБОЛЕВАНИЙ 2013

ДАННЫЕ ЦЕНТРАЛЬНОЙ И ВОСТОЧНОЙ ЕВРОПЫ, ЦЕНТРАЛЬНОЙ АЗИИ

The Official Journal of the Edward Jenner Society  
The Official Journal of the International Society for Vaccines  
The Official Journal of the Japanese Society for Vaccinology

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28 countries included in the regional report

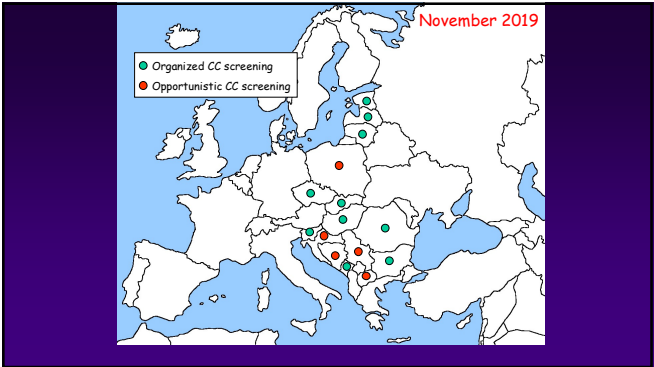
"Comprehensive Control of HPV Infections and Related Diseases in the Central and Eastern Europe and Central Asia Region"



Vaccine 31S (2013) vii–ix

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- 10 countries organized cervical screening
- 5 countries opportunistic cervical screening
- cervical screening mainly based on conventional cytology

Nov 2019

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**Slovenia**

- national organized screening programme since 2003
- the coverage reached 82.1% in the first 5-year period

**Hungary**

- implemented organized screening in 2004
- low coverage of target population in organized settings and more than 60% attendance outside the programme
- pilot programme started in 2011 aiming to improve the coverage

**Czech Republic, Estonia, Lithuania, Latvia**

- at least partially functioning organized screening programs
- low coverages reported

**Romania**

- organized screening started in 2012, low coverage reported

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- 10 countries organized cervical screening
- 5 countries opportunistic cervical screening
- cervical screening mainly based on conventional cytology

Nov 2019

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**Montenegro**

- implemented population based nationwide organized screening programme in February 2018 (pilot started in July 2016)
- target population: 30-42 years
- HPV-based (the only HPV-based screening programme in the region)
- the coverage reached 5.2 % in the first 2-year period

**Bulgaria**

- implemented organized screening programme at the end of 2018
- target population: 30-60 years; coverage rates not available

**Slovakia**

- implemented organized screening programme in November 2019
- target population: 23 - 64 years; coverage rates not available

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- 10 countries organized cervical screening
- 5 countries opportunistic cervical screening
- cervical screening mainly based on conventional cytology

Nov 2019

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**Croatia**

- implemented organized screening in December 2012
- the coverage reached 29.8 % in 2015
- stopped organized screening in January 2016 and has been since then reorganizing it
- widespread opportunistic screening

**Poland**

- started organized screening in 2004
- coverage around 17%
- invitations stopped in 2016 by the decision of the Ministry of Health
- widespread opportunistic screening

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**Conclusions - November 2019 situation**

officially proclaimed "organized" cervical cancer screening in 10/15 countries; only in single country coverage over 70%; in great majority of countries with "organized" screening coverage data not available; assumed substantial attendance outside the official national screening program (opportunistic settings)

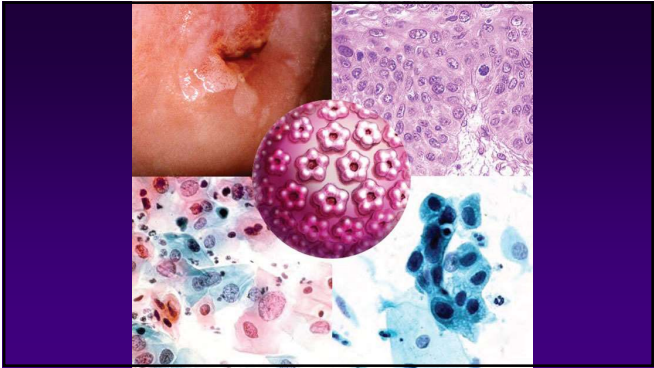
5/15 countries opportunistic screening only; insufficient funding and infrastructure; low population coverage; moderate to poor quality cytology

national HPV-based organized cervical screening implemented in single country, but with extremely low coverage; in the remaining countries still cytology-based

over-screening and under-screening: relatively high coverage in women below 40 and poor coverage in older women

lack of financial resources; cervical cancer (women health) not high on political agenda; several country-specific problems e.g. population registry lacking (BiH)

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## Slovenia

effective nationally organized cervical cancer screening programme  
with the three years coverage over 70%

+

HPV vaccination integrated into national immunization programme and provided  
free of charge to the primary target population with coverage over 60%

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## ZORA

(Zgodnje odkrivanje raka materničnega vratu)

- screening women 20-64 years
- screening every three years (after two consecutive negative results in one year period)
- conventional cytology, cytology interpreted by certified cytologists
- cross sectional sensitivity of cytology : CIN2+ = 66.2 %; CIN3+ = 80.6%
- HPV reflex testing for five indications

Integration of:

1. Central national registry of cytology, histology and HPV-test results
2. Central national population registry
3. National cancer registry

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### Incidence of cervical cancer in Slovenia 2003-2018

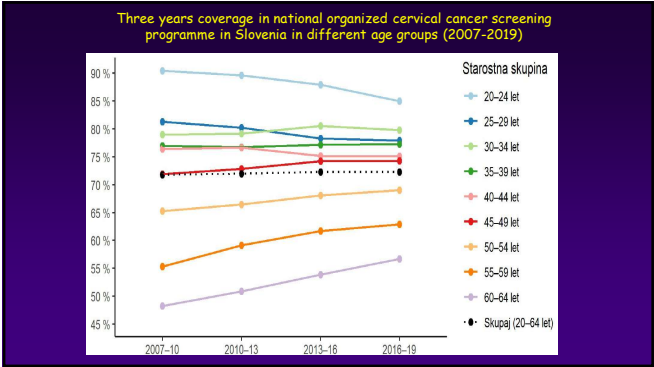
year	annual number of new cases	crude incidence rate/100,000	ASR (W)
2003	211	20.7	15.3
2004	198	19.4	13.7
2005	182	17.8	12.7
2006	162	15.8	11.3
2007	154	15.0	10.5
2008	130	12.6	8.8
2009	131	12.6	8.8
2010	142	13.7	9.4
2011	142	13.7	9.0
2012	118	11.4	7.7
2013	124	11.9	8.0
2014	114	11.0	6.8
2015	119	11.4	7.4
2016	123	11.8	7.8
2017	85	8.2	4.9
2018	106	10.2	6.6

ASR (W): age-standardized rate by world population

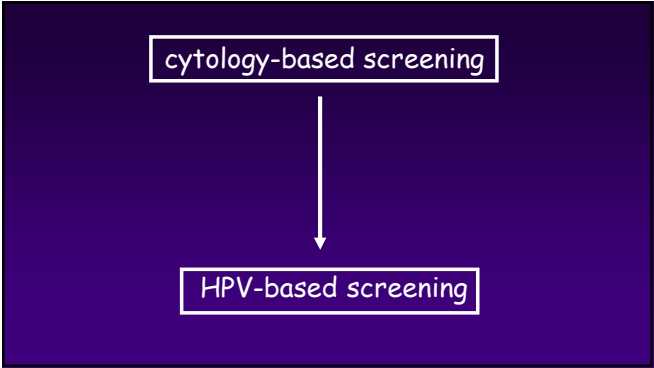
opportunistic screening  
- coverage app. 40%  
- 170,000 smears/year

organised screening  
- coverage above 70%  
- 170,000 smears/year

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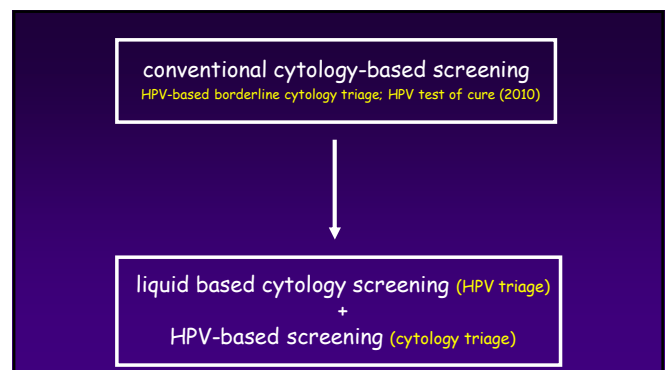


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conventional cytology-based screening

HPV-based borderline cytology triage: HPV test of cure (2010)

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**Fighting against wrong perception concerning HPV-based cervical cancer screening in Central and Eastern Europe**

- more genotypes = better HPV test
- higher price = better HPV test
- manufacturers' rumors (bizarre case reports, biased evaluations, L1 deletion story...)
- long screening rounds are unsafe (even with shorter rounds they missed carcinomas...)
- lobbies (cytologists, gynecologists, colposcopists...new role for all should be identify)
- experiment serving diagnostic companies
- general mistrust in the ineffective public health system

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**Before we start...**

performing local HPV genotype distribution studies in women with normal cytology, HSIL and/or cervical cancer prior implementation of primary HPV screening is **not necessary any more** - use available regional data

performing additional local evaluation of already clinically validated HPV tests (other than feasibility studies) prior implementation is **not necessary any more** for any of the approved indications of HPV testing (including primary HPV screening) - use available general and regional data

do not complicate, do not reinvent wheel, trust more experienced colleagues and their results

avoid use of non-validated HPV tests: non-validated HPV tests should not be used in clinical management and primary HPV screening

do not wait time - in several CEECA countries at least one woman in 50 will develop cervical cancer in 2020

COVID-19-related problems arising: shifted interest of public and politicians ("nothing is important but COVID-19"), temporary pause of cervical cancer screening programs; manufacturer's shift toward new niche market with unprecedented market growth opportunity: "new normal" with unclear future

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**Preventable fractions of cervical cancer via effective screening in six Baltic, central, and eastern European countries 2017-40: a population-based study**

Salvatore Vaccarella, Silvia Franceschi, David Zandić, Mario Poljak, Pirot Veerus, Martyn Plummer, Freddie Bray

**Summary** **Lancet Oncol 2016; 17: 1445-1452**

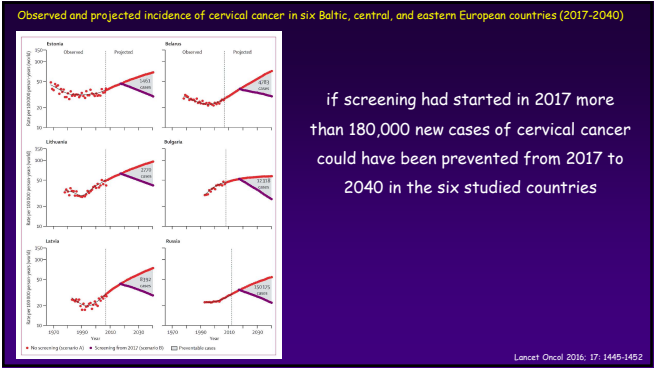
**Background** Cervical cancer incidence remains high in several Baltic, central, and eastern European (BCEE) countries, mainly as a result of a historical absence of effective screening programmes. As a catalyst for action, we aimed to estimate the number of women who could be spared from cervical cancer across six countries in the region during the next 25 years, if effective screening interventions were introduced.

**Methods** In this population-based study, we applied age-period-cohort models with spline functions within a Bayesian framework to incidence data from six BCEE countries (Estonia, Latvia, Lithuania, Belarus, Bulgaria, and Russia) to develop projections of the future number of new cases of cervical cancer from 2017 to 2040 based on two future scenarios: continued absence of screening (scenario A) versus the introduction of effective screening from 2017 onwards (scenario B). The time span of available data varied from 16 years in Bulgaria to 40 years in Estonia. Projected rates up to 2040 were obtained in scenario A by extrapolating cohort-specific trends, a marker of changing risk of human papillomavirus (HPV) infection, assuming a continued absence of effective screening in future years. Scenario B added the effect of gradual introduction of screening in each country, under the assumption period effects would be equivalent to the decreasing trend by calendar year seen in Denmark (our comparator country) since the progressive regional introduction of screening from the late 1960s.

**Findings** According to scenario A, projected incidence rates will continue to increase substantially in many BCEE countries. Very high age-standardised rates of cervical cancer are projected in Lithuania, Latvia, Belarus, and Estonia (up to 55 cases per 100,000). According to scenario B, the beneficial effects of effective screening will increase progressively over time, leading to a 50-60% reduction of the projected incidence rates by around 2040, resulting in the prevention of cervical cancer in 1500 women in Estonia and more than 150,000 women in Russia. The immediate launch of effective screening programmes could prevent almost 180,000 new cervical cancer diagnoses in a 25-year period in the six BCEE countries studied.

**Interpretation** Based on our findings, there is a clear need to begin cervical screening in these six countries as soon as possible to reduce the high and increasing incidence of cervical cancer over the next decades.

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