



**iPAAC**  
INNOVATIVE PARTNERSHIP  
FOR ACTION AGAINST CANCER

# Challenges in early detection: Cervical cancer as a case

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Ahti Anttila

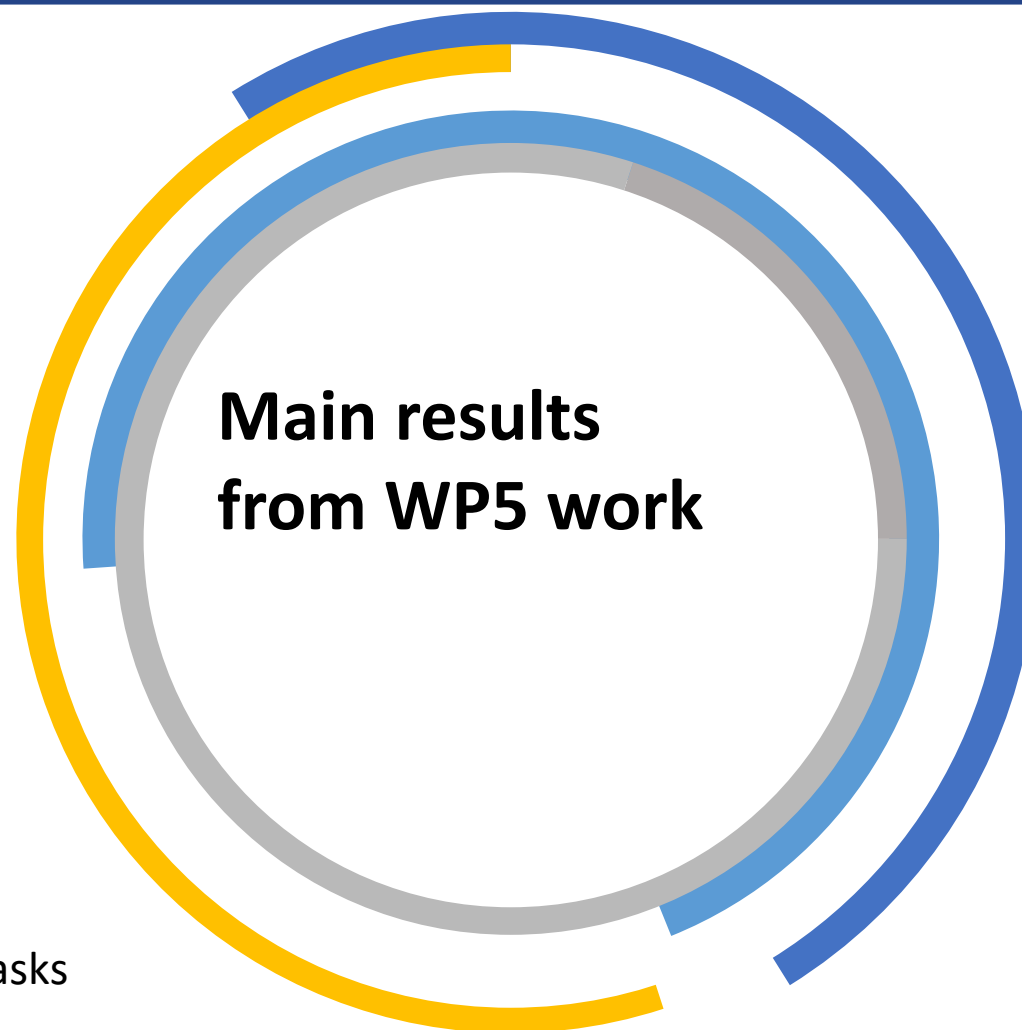
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the Health Programme  
of the European Union

- 1 Strategies for early detection of cancer
  - 2 Update of population-based screening programmes
  - 3 Cancer prevention & health promotion: implementation of the European Code Against Cancer, recommendations to further build capacity for cancer prevention
- Inequality a **cross-cutting** theme integrated in above mentioned tasks



# EARLY DETECTION, CERVICAL CANCER



## Screening programmes

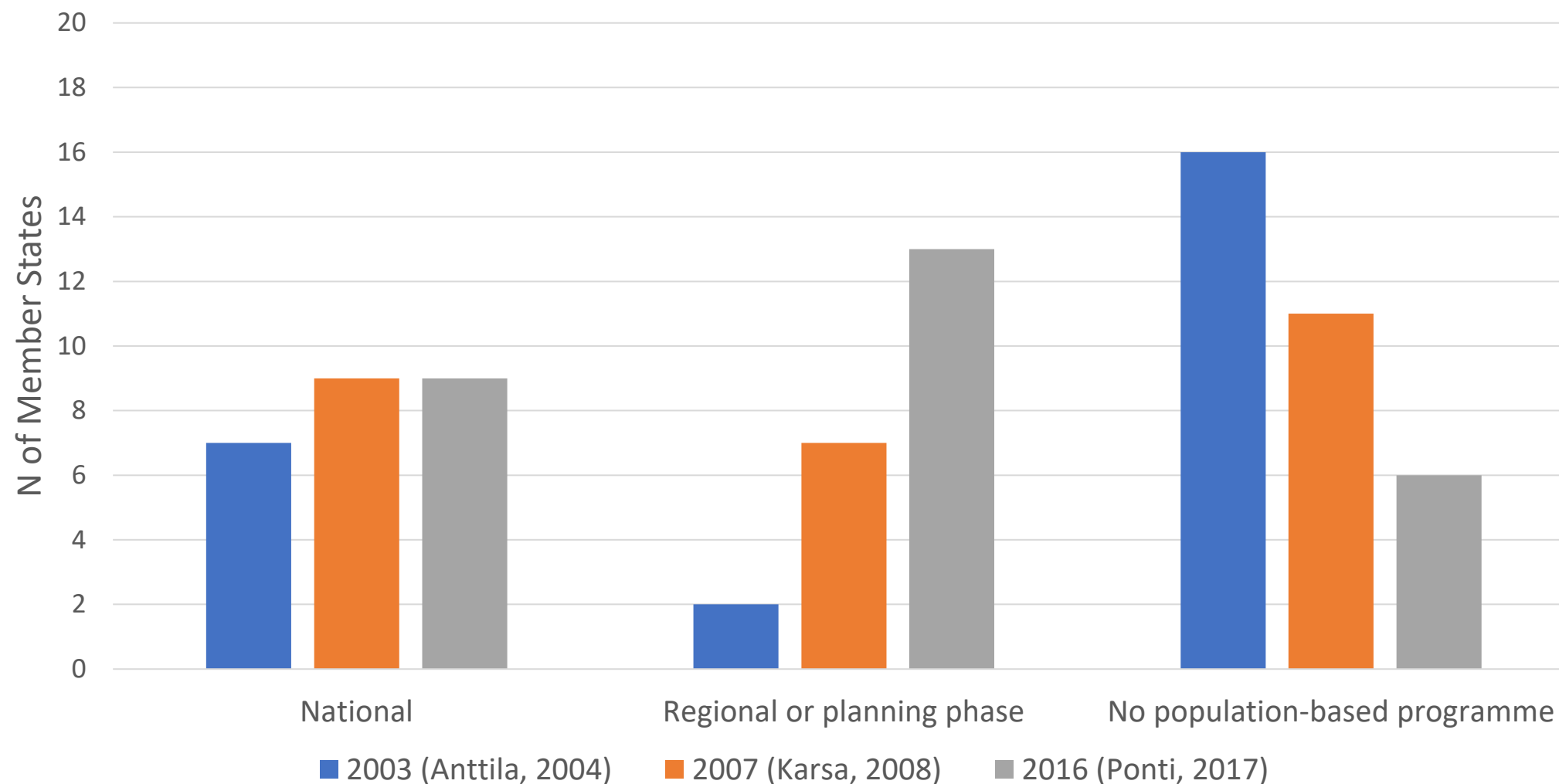
- Guidelines and recommendations already exist, but implementation to national policies suboptimal > resources available, both social and technological innovations important
- Modifying screening policies by HPV screening and vaccination
- Developing risk-stratified screening strategies

## Other services for early/timely detection

- Better awareness and information-base for other fields of early detection such as *testing outside the screening programme*
  - 'Opportunistic' testing of asymptomatic, and diagnostic testing based on indications often not separated

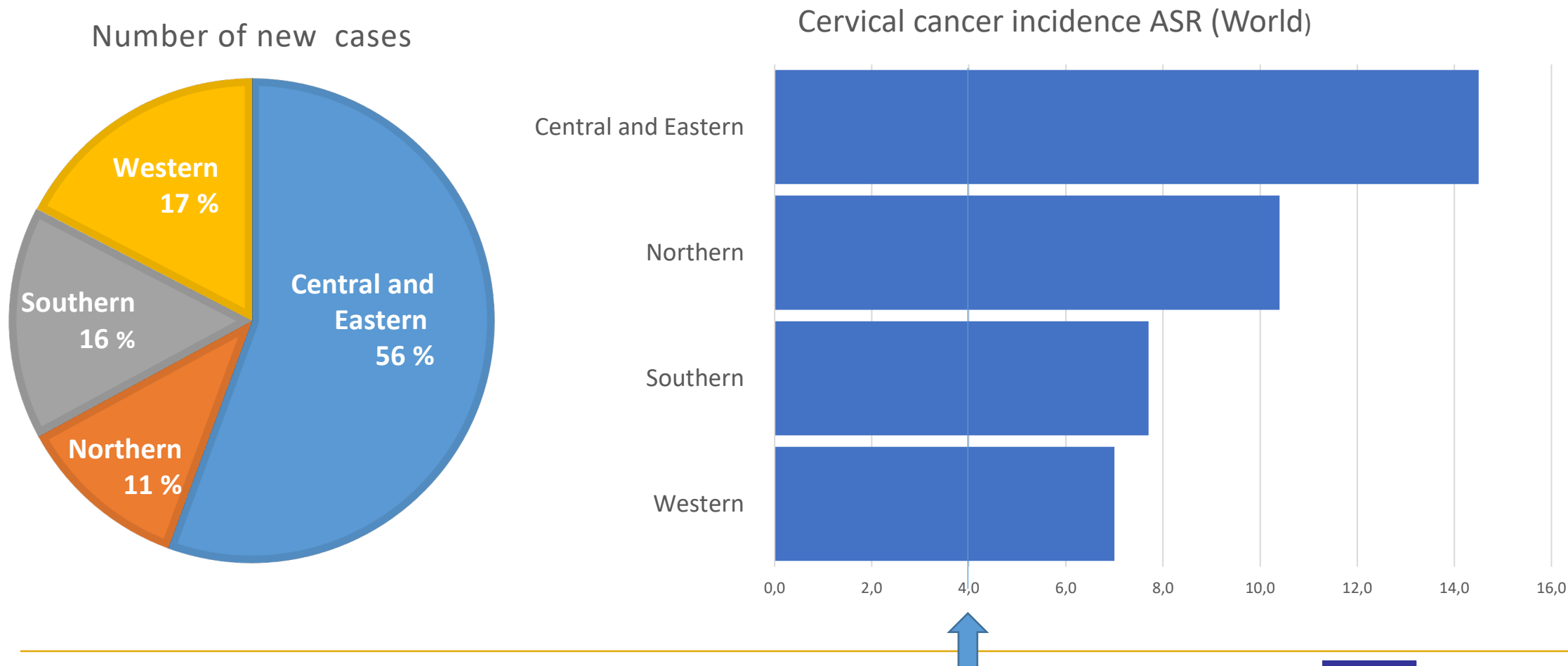


# EMERGING POPULATION-BASED CERVICAL CANCER SCREENING PROGRAMMES

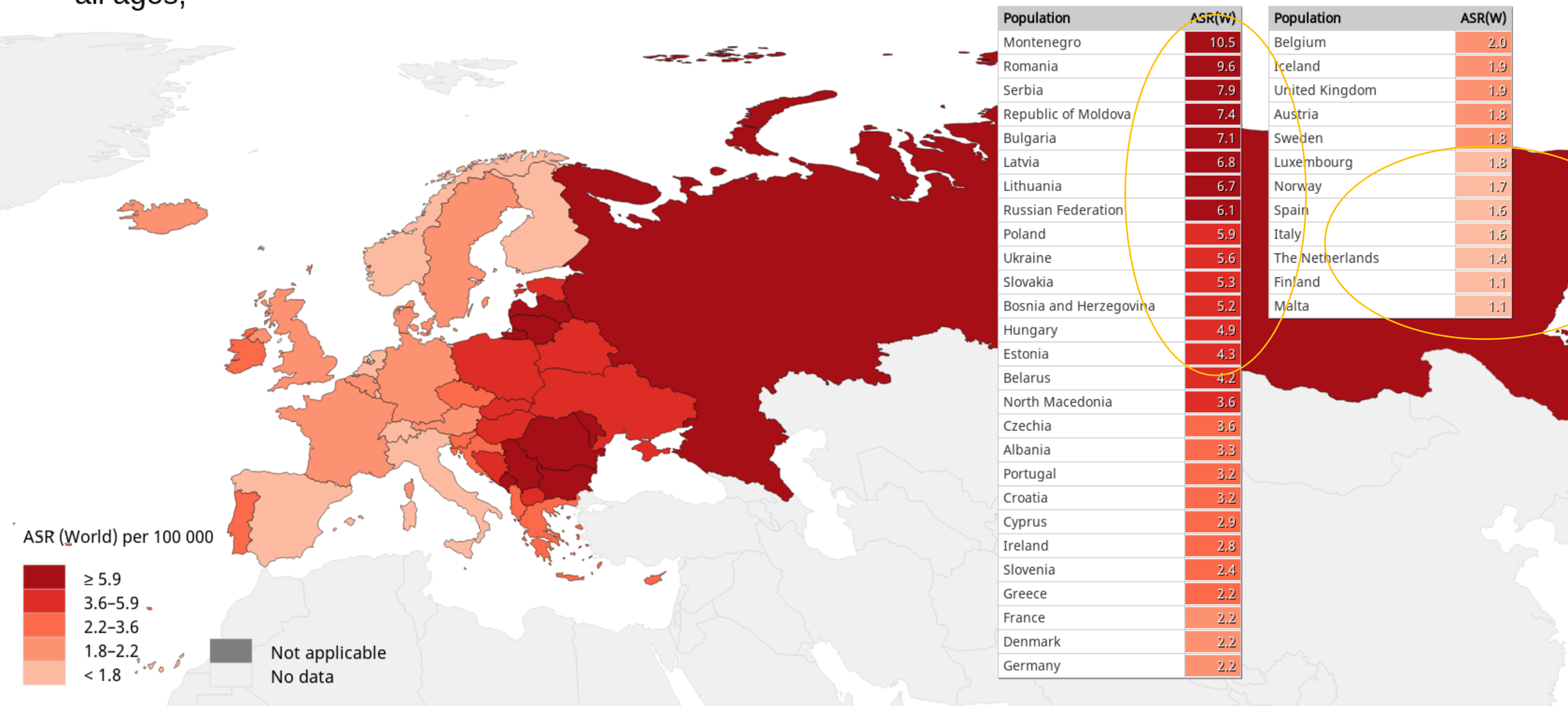


# CERVICAL CANCER INCIDENCE ESTIMATES IN 2020 IN THE WHO REGIONS IN EUROPE

Data source: <https://gco.iarc.fr/>



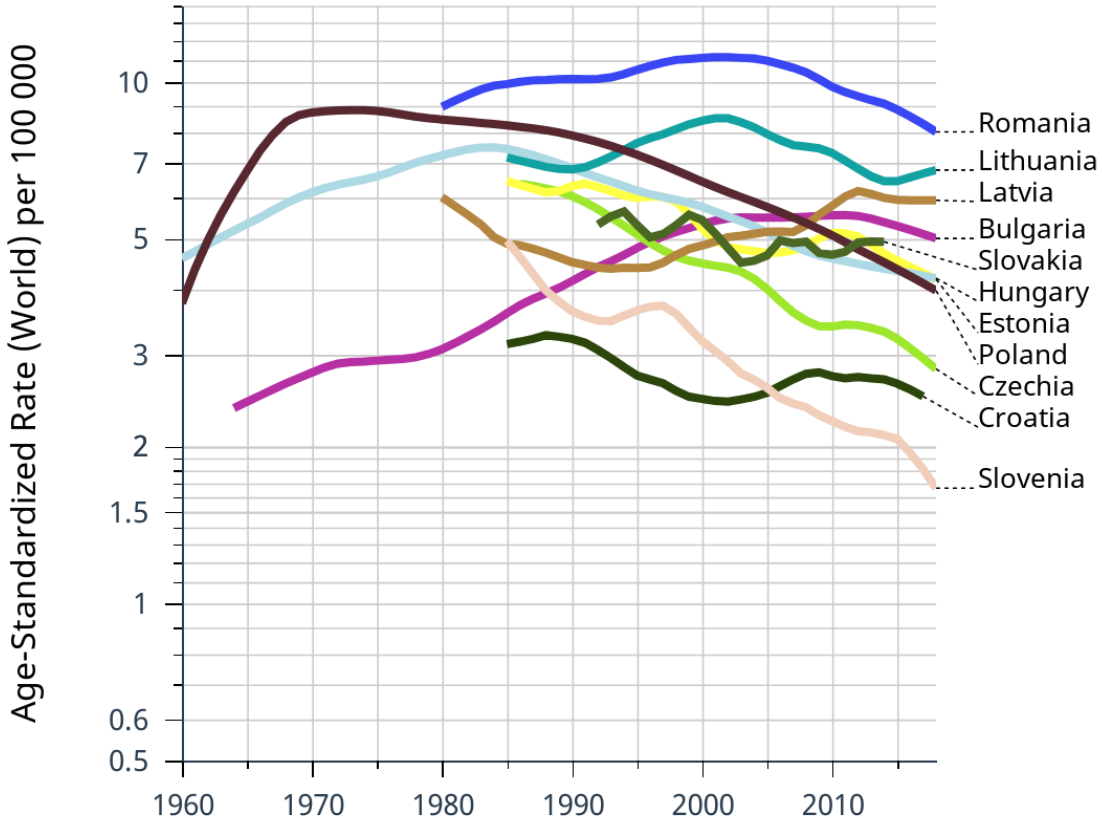
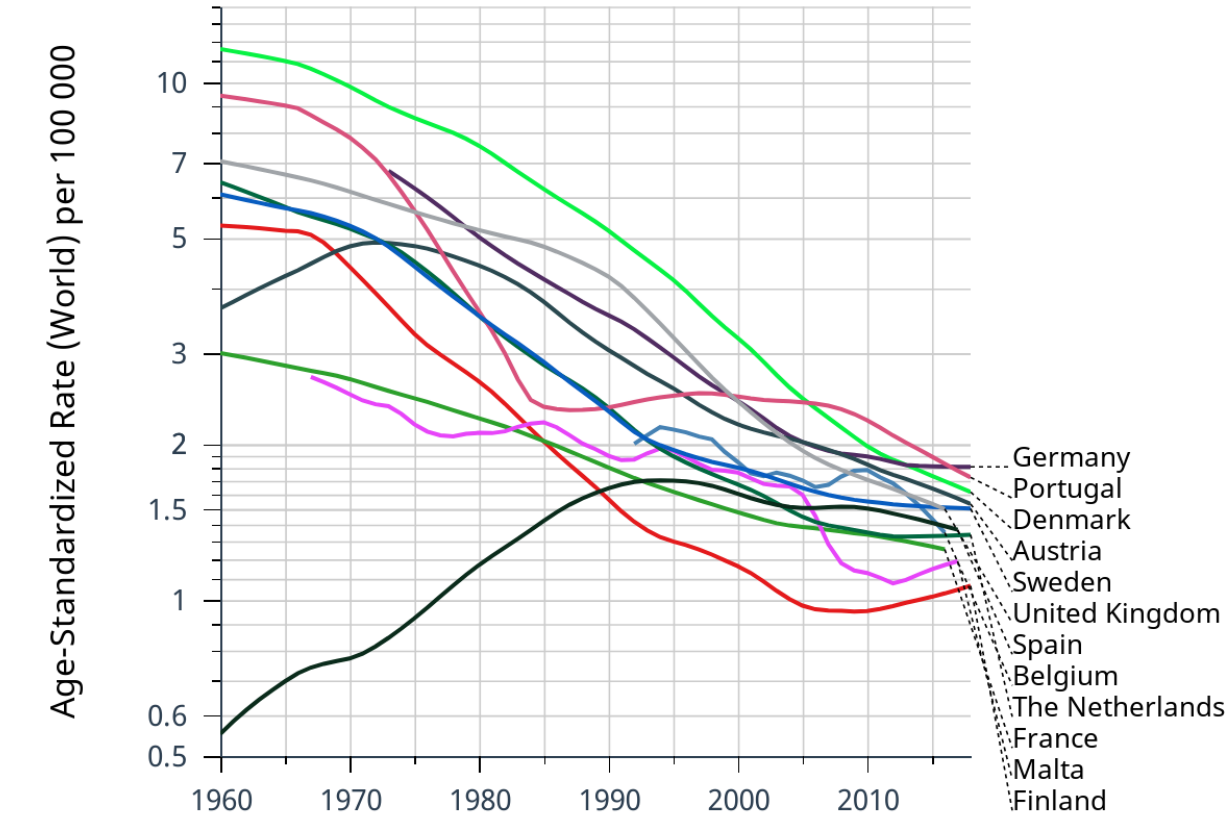
# Estimated age-standardized mortality rates (World) in 2020, cervix uteri, all ages,



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Data source: GLOBOCAN 2020  
Graph production: IARC  
(<http://gco.iarc.fr/today>)  
World Health Organization

Age-standardized rate (World) per 100 000, mortality, females  
Cervix uteri



Rates are shown on a semi-log scale  
Lines are smoothed by the LOESS regression algorithm (bandwidth: 0.25)  
CANCER OVER TIME | IARC - All Rights Reserved 2021 - Data version: 1.0

# CERVICAL CANCER SCREENING VS TESTING IN THE EU COUNTRIES

	EHIS 2014, tested %	EHIS 2019, tested %	Programme monitoring, coverage %		EHIS 2014, tested %	EHIS 2019, tested %	Programme monitoring, coverage %
Austria	86.6	85.0	No data	Italy	69.9	71.7	31
Belgium	75.4	69.6	No data	Latvia	78.4	79.1	26
Bulgaria	52.2	66.8	No data	Lithuania	61.9	69.2	48
Croatia	76.9	76.1	11	Luxembourg	83.6	85.6	No data
Cyprus	64.6	73.8	No data	Malta	62.2	66.4	No data
Czech Republ	87.3	91.7	49	Netherlands	48.8	48.1	63
Denmark	63.5	67.1	82	Poland	71.6	74.3	21
Estonia	57.7	60.5	44	Portugal	71.1	69.5	No data
Finland	79.8	85.6	66	Romania	26.9	38.9	9
France	81.9	76.3	65	Slovakia	69.0	73.4	No data
Germany	80.3	77.9	No data	Slovenia	77.4	78.9	77
Greece	75.6	81.6	No data	Spain	69.0	71.4	No data
Hungary	70.6	74.5	51	Sweden	80.1	91.7	86
Ireland	68.4	69.7	80	UK	62.8	No data	63

EHIS data source: <https://ec.europa.eu/eurostat/web/health/data/database>; Programme monitoring data source: Ponti et al., 2017



# CERVICAL CANCER SCREENING VS TESTING:

Current Cervical Cancer Mortality Estimate  $\geq 6.0/100,000$  ASR (World)

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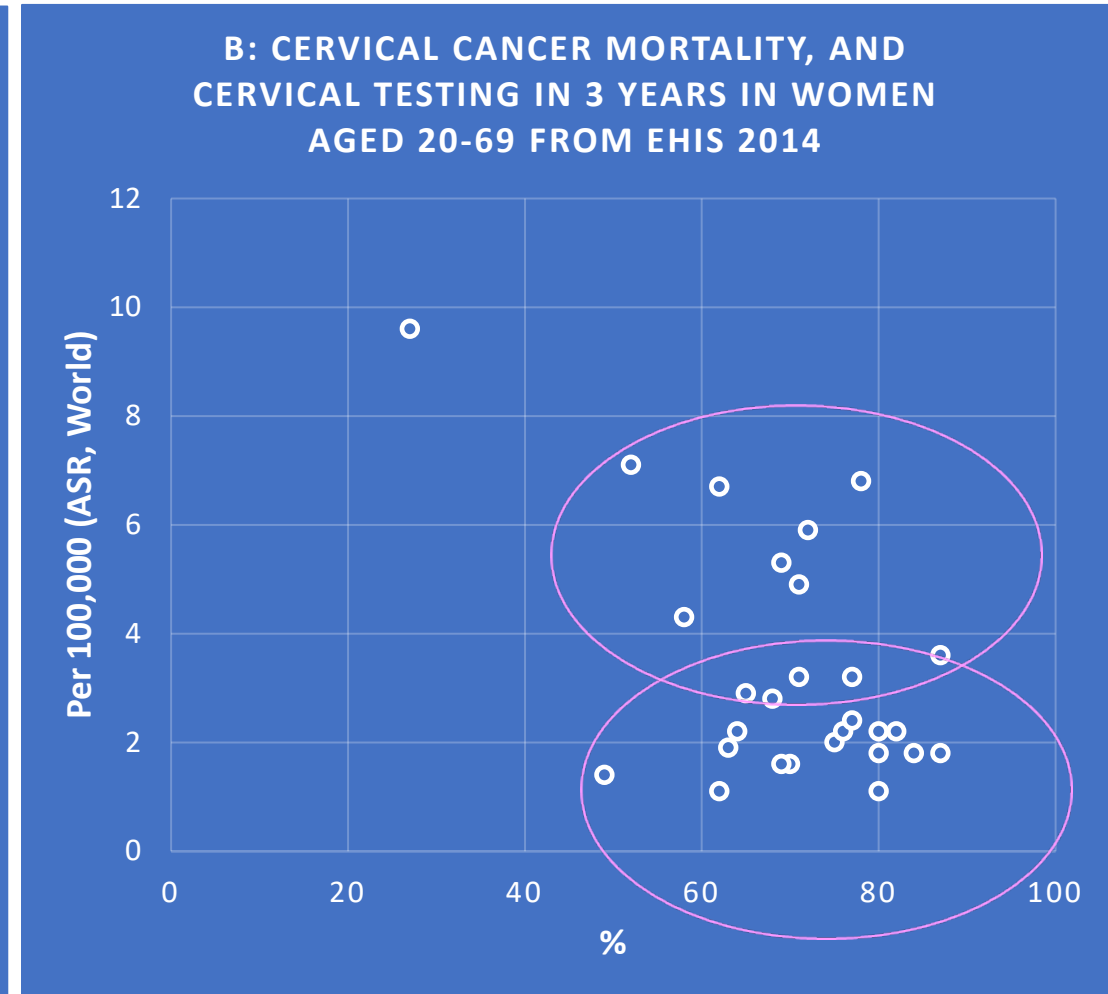
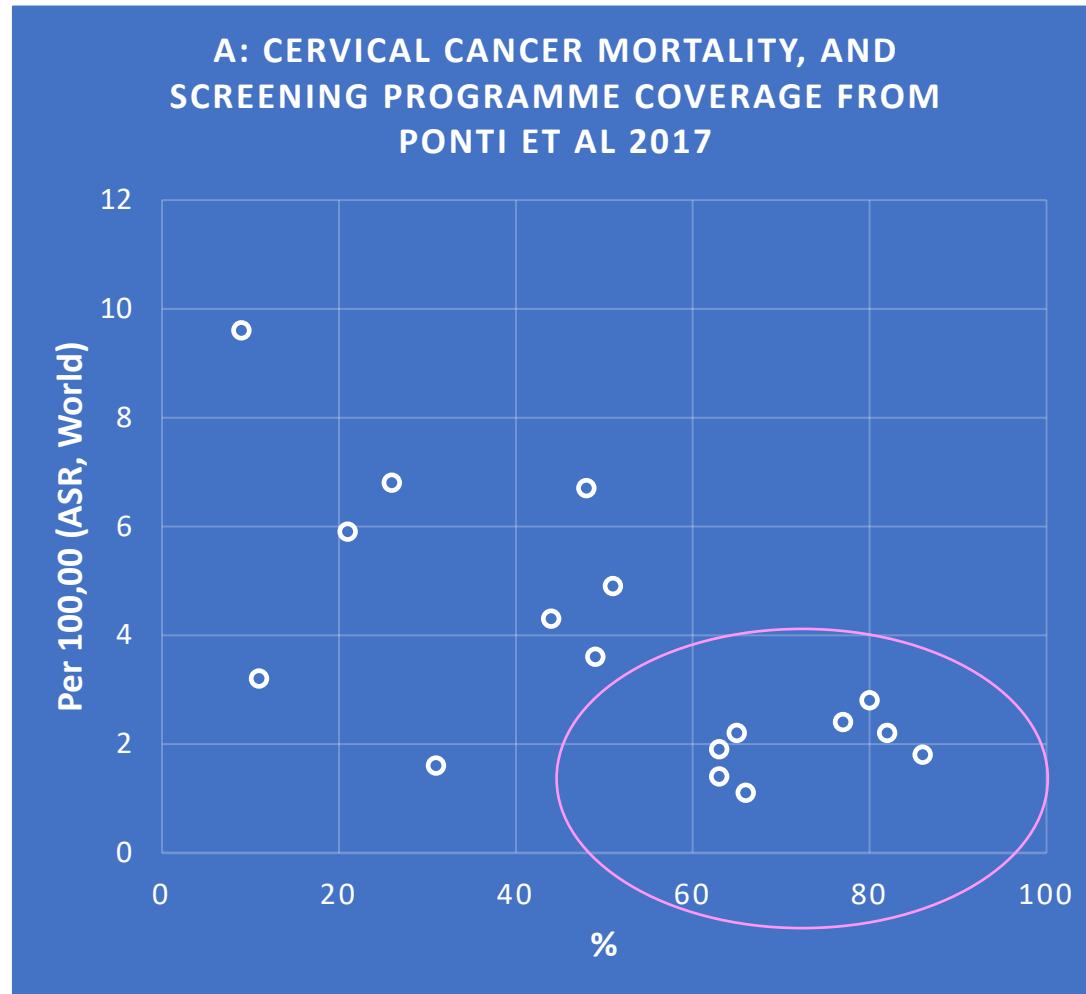
Current Cervical Cancer Mortality Estimate  $\geq 6.0/100,000$  ASR (World)

Current Cervical Cancer Mortality Estimate 4.0-5.9/100,000 ASR (World)

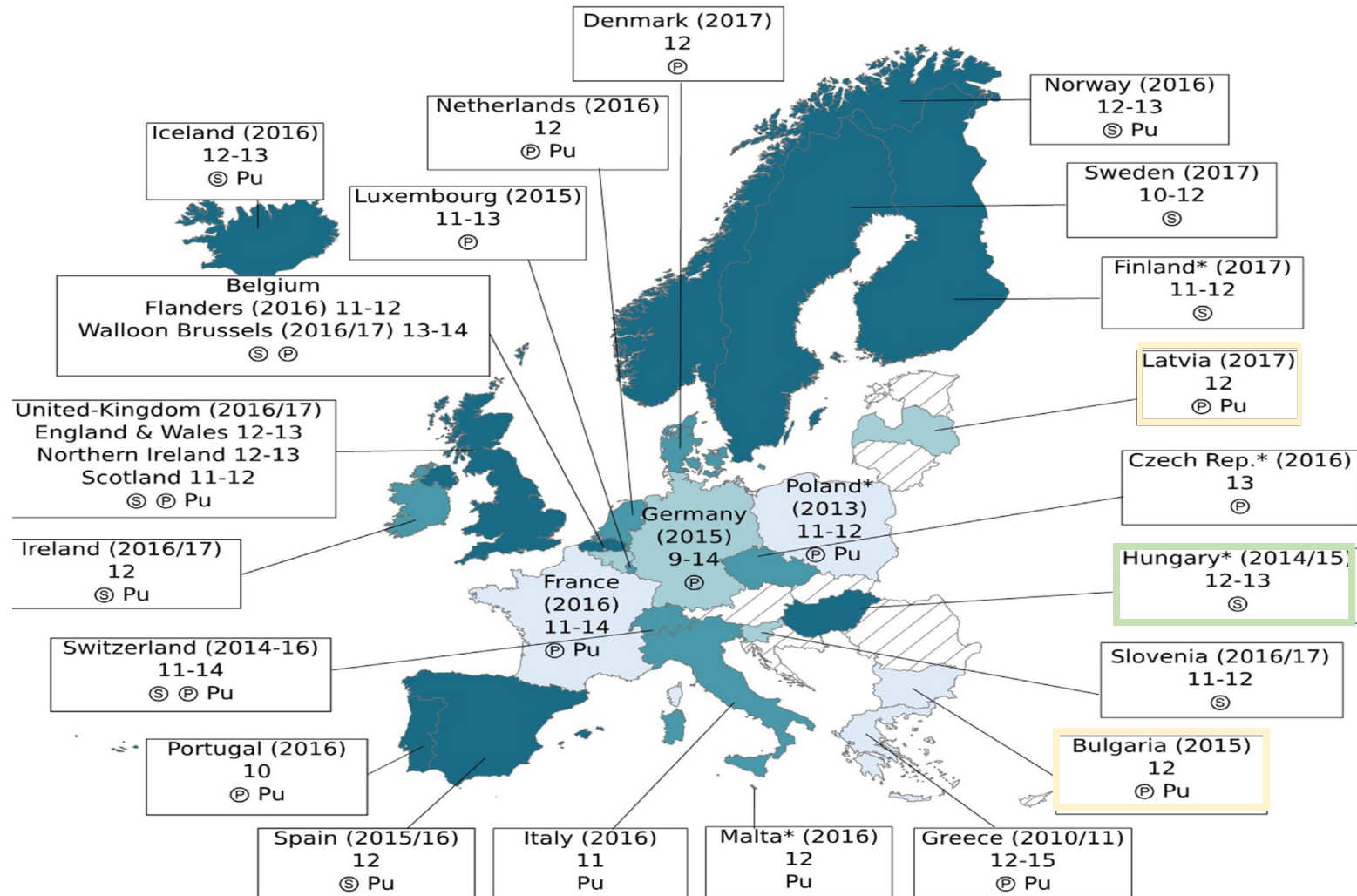
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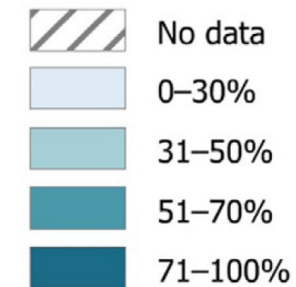
# Cervical cancer mortality estimate in 2020, and cervical screening (A) and testing (B) probabilities in MSs



# HPV VACCINATION COVERAGE IN TARGET AGE GROUPS IN FEMALES IN EUROPEAN COUNTRIES, 2010–2017 (NGUYEN-HUU ET AL., 2020)



**HPV VCR for 1 dose(\*) or complete schedule, from 2010-2017:**



**(Year of VCR)**

**Target age** (years)  
recommendation  
for female vaccination

**Vaccination settings:**

Ⓢ School immunisation  
Ⓟ Private practice  
Pu Public or community health clinics

# HPV VACCINATION EFFECTIVENESS AGAINST CERVICAL CANCERS

Reference, vaccine type, and age at vaccination	Comparison design & vaccine coverage by birth cohorts	Age at follow-up	N of observed cases	RR	95% CI
<b>Lei, 2020 (Sweden)</b> 4-valent	Vaccinated vs non-vaccinated individuals				
10–16 yrs	Not available	10–28 yrs	2	0.12	0.00–0.34
17–30 yrs	Not available	17–31 yrs	17	0.47	0.27–0.75
<b>Falcaro, 2021 (England)</b> 2-valent	Vaccinated vs non-vaccinated birth cohorts				
12–13 yrs	81-88%	20–24.4 yrs	7	0.13	0.06–0.28
14–16 yrs	71-76%	20–26 yrs	70	0.38	0.29–0.48
16–18yrs	39-48%	20–30 yrs	561	0.66	0.59–0.75

# CONCLUSIONS ON CERVICAL CANCER



- Efforts to implement effective, quality-assured population-based screening as recommended by the EU Council and the European quality assurance guidelines continue, pursuing towards
  - Good acceptance and adherence in population and service providers
  - Benefits and harms demonstrated and communicated appropriately: Evaluation *all services* for timely detection and management
    - Networking, capacity building & training for population-based services
- Challenges: Introduction of primary HPV tests with novel triage methods; and modifying screening in birth cohorts with a high HPV-vaccination coverage
- Important to support the WHO 90-70-90 long-term initiative to eliminate cervical cancer as a public health problem



Thank you for the enjoyable and very constructive collaborations in the Joint Action!