



**World Health  
Organization**

# **HPV vaccination and Adolescent Sexual & Reproductive Health**

**Paul Bloem**

**Expanded Programme of Immunization/IVB**

**World Health Organization, Geneva**

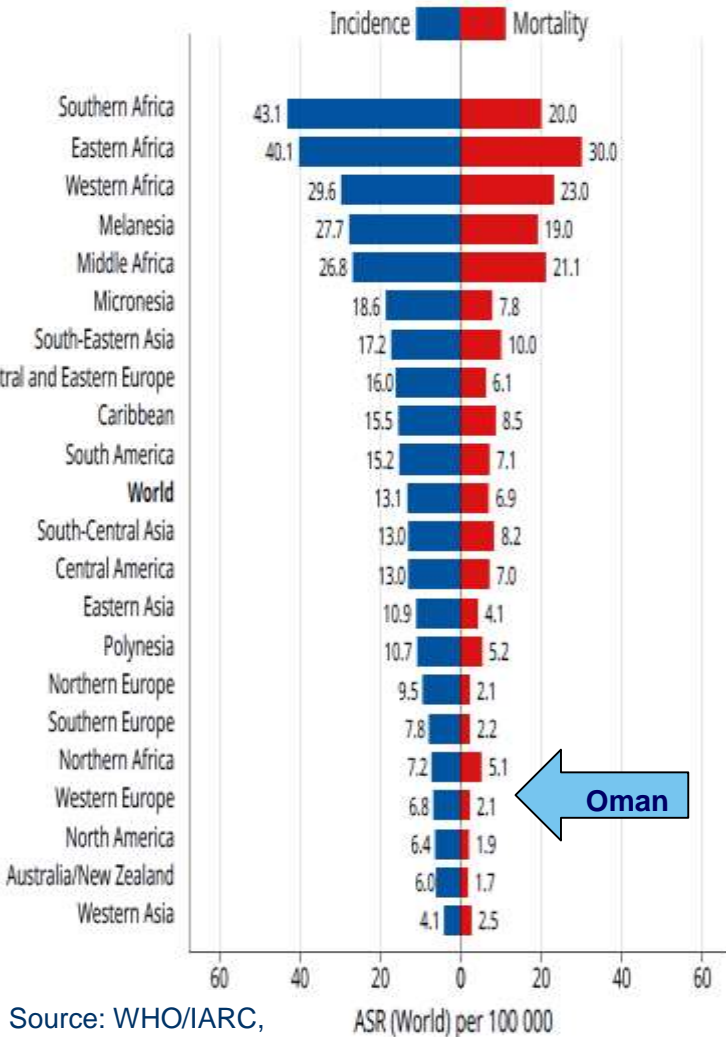
---

# Outline

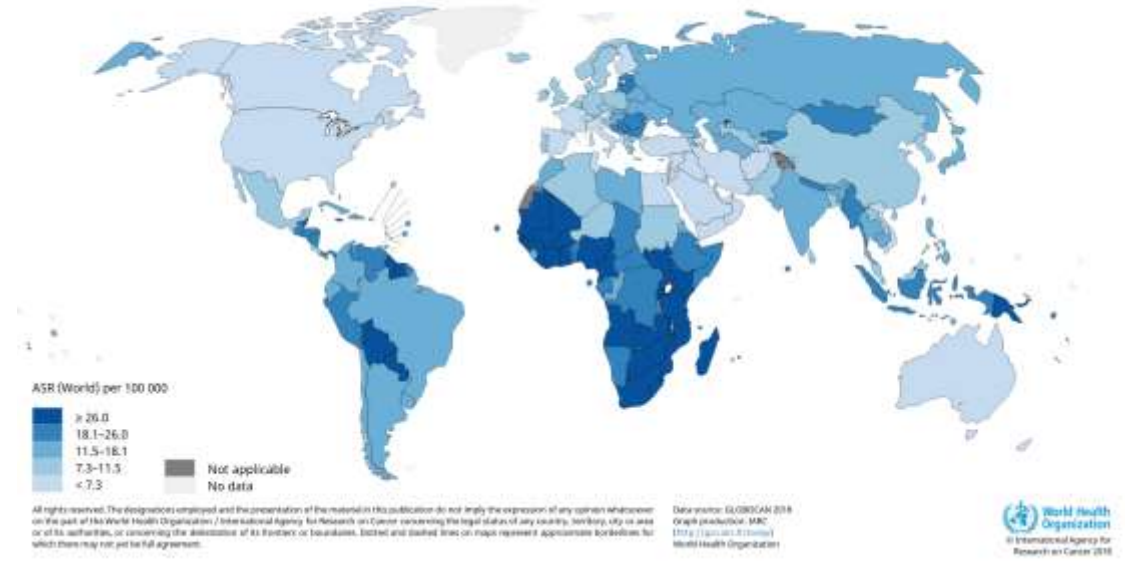
- (1) Why is the HPV vaccine needed and what impact evidence exists
- (ii) What is the current WHO policy and state of the roll out
- (iii) How could HPV link to other interventions.
- (iv) What is WHO doing with partners to extend the roll out the vaccine

# Global Cervical Cancer Incidence and Mortality 2018

Age standardized (World) incidence and mortality rates, cervix uteri



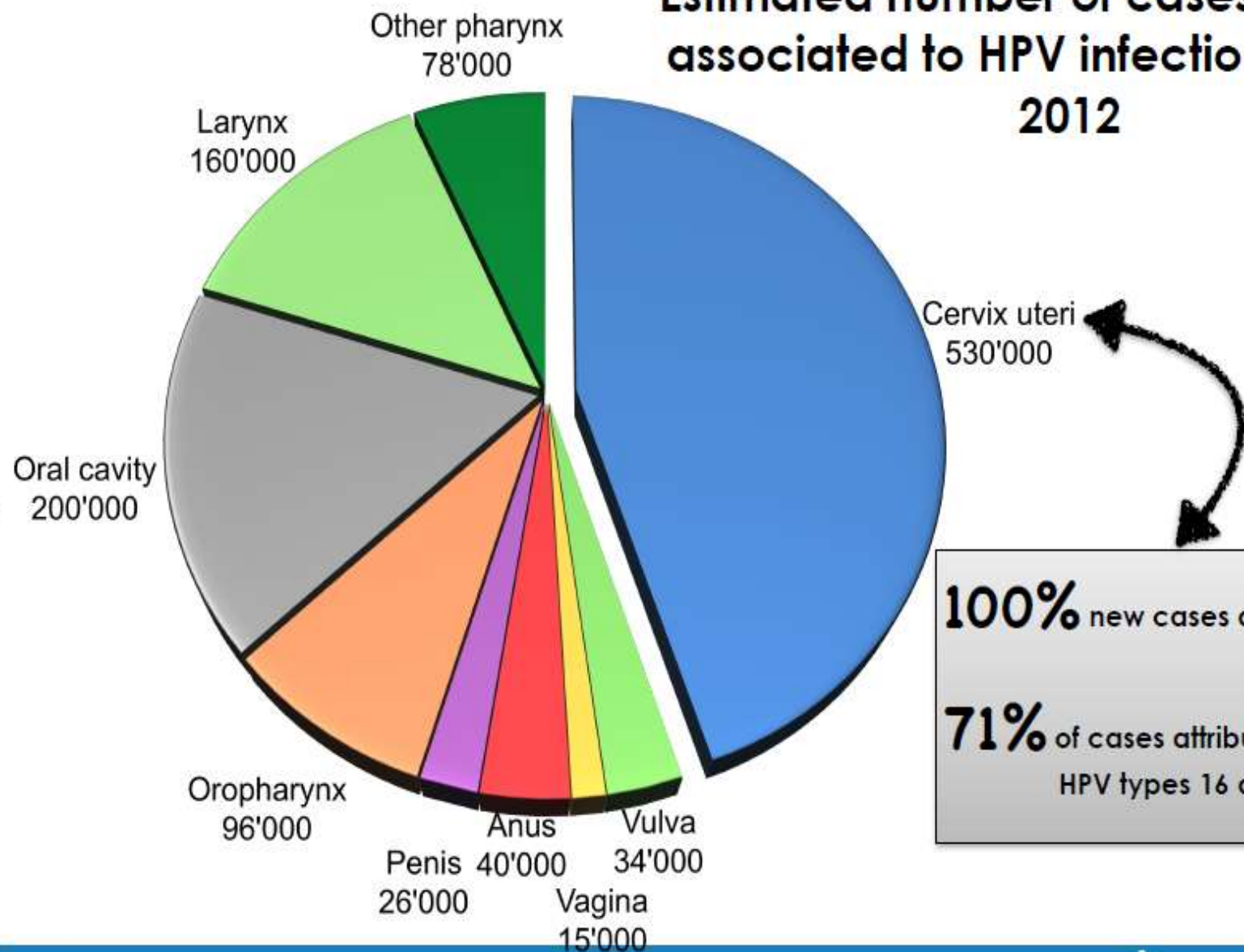
Estimated age-standardized incidence rates (World) in 2018, cervix uteri, all ages



Source: <http://globocan.iarc.fr>

Globally (2018): 569.847 cases  
311.365 deaths

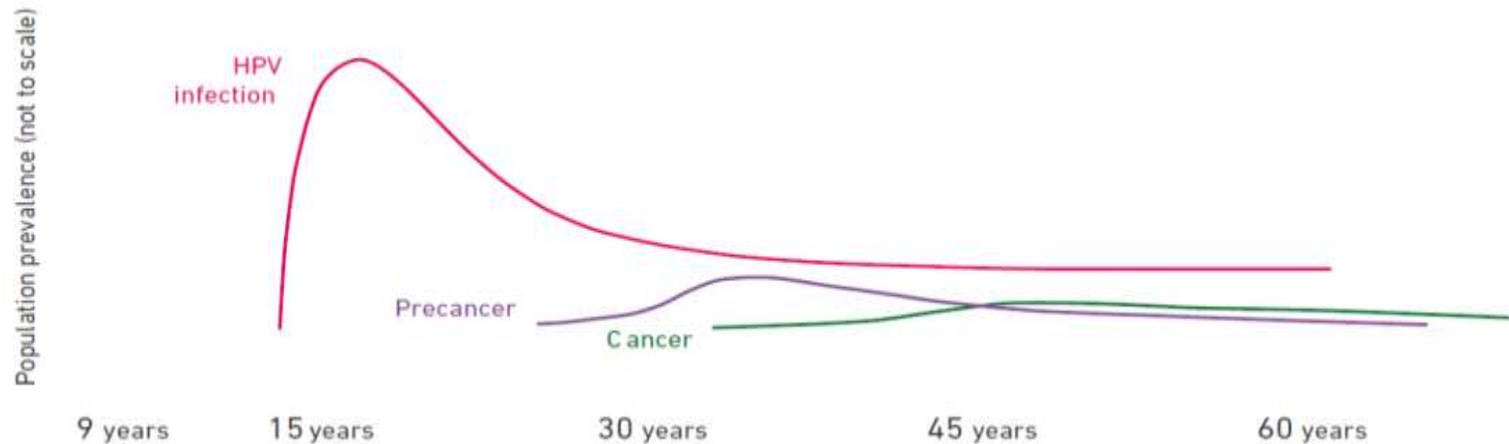
# Estimated number of cases of cancer associated to HPV infection globally, 2012



**100%** new cases attributable to HPV

**71%** of cases attributable to HPV types 16 and 18

# WHO comprehensive approach: programmatic intervention over the life course



## PRIMARY PREVENTION

### Girls 9-14 years

- HPV vaccination

### Girls and boys, as appropriate

- Health information and warnings about tobacco use\*
- Sexuality education tailored to age & culture
- Condom promotion/provision for those engaged in sexual activity
- Male circumcision

## SECONDARY PREVENTION

### Women >30 years of age

Screening and treatment as needed

- "Screen and treat" with low cost technology VIA followed by cryotherapy
- HPV testing for high risk HPV types (e.g. types 16, 18 and others)

## TERTIARY PREVENTION

### All women as needed

Treatment of invasive cancer at any age

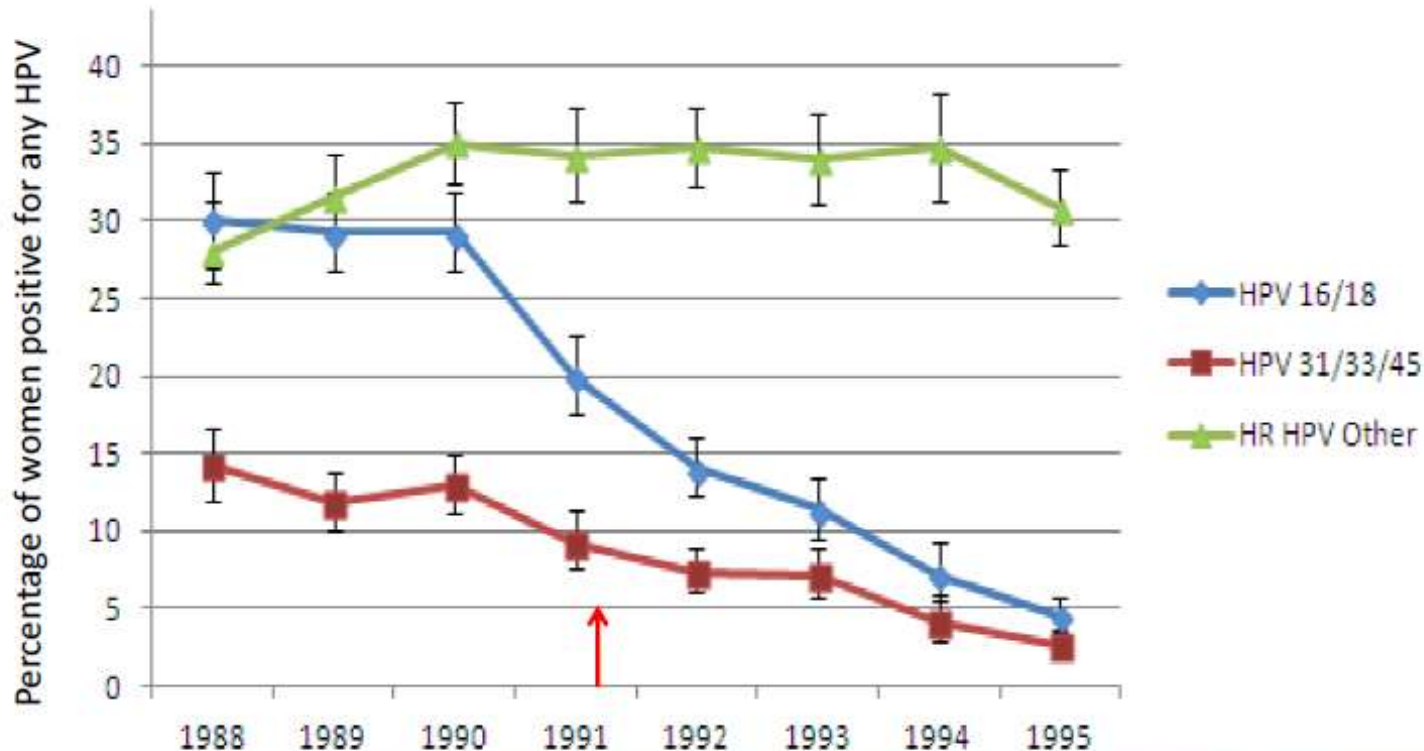
- Ablative surgery
- Radiotherapy
- Chemotherapy

Palliative care

\* Tobacco use is an additional risk factor for cervical cancer.

# Early impact

Pre- and post-vaccine HPV prevalence in 20 yo females



**HPV 16/18** prevalence reduced from 30.0% (26.9, 33.1%) in 1988 cohort to 4.5% (3.5, 5.7%) in the 1995 cohort

**HPV 31/33/45** prevalence reduced from 14.2% (12-16.7%) in the 1988 cohort to 2.6% (95% CI: 1.9-3.6%) in the 1995 cohort

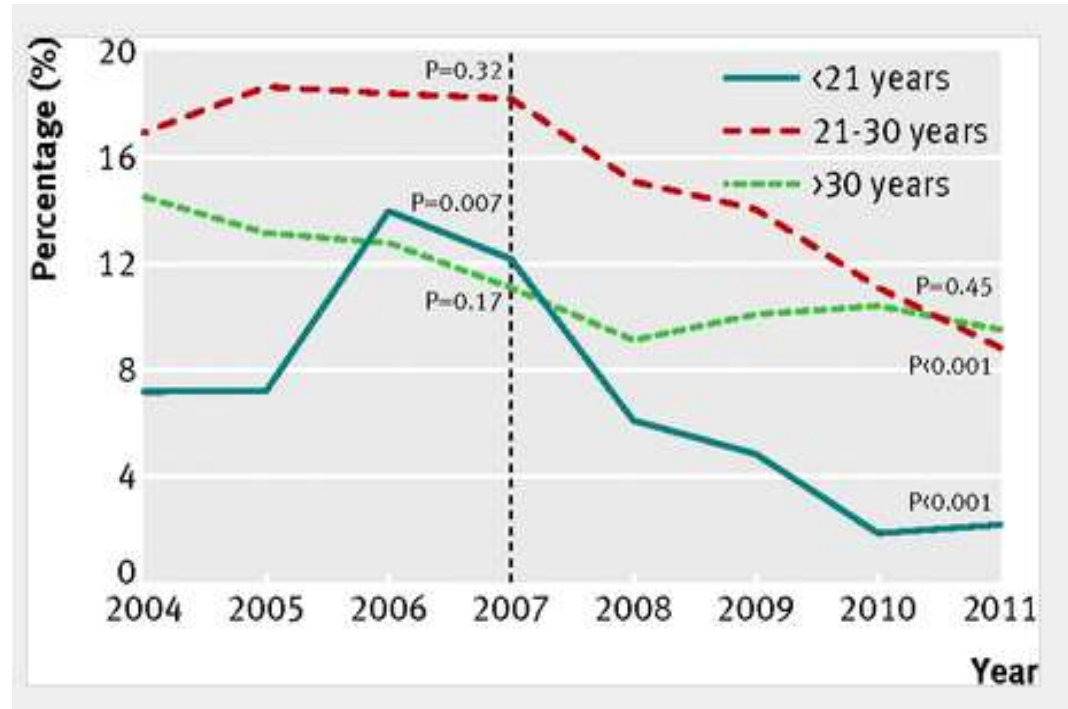
**Other HR-HPV** - no significant changes

*Kavanagh et al submitted*

# The vaccines are very effective: in the real world

## Herd immunity

Proportion of Australian born heterosexual men diagnosed as having genital warts at first visit



### See also

- Sando et al *Acta Derm Venereol* 2014
- Tabrizi and Brotherton et al, *Lancet Infect Dis* 2014
- Drolet et al, *Lancet Infect Dis*, 2015

**Males <21 years : 81.8% decline post vaccine introduction**  
**Males 21-30 yrs : 51.1% decline post vaccine introduction**

# “Excellent Safety profile”

2017, 92, 393–404

No 28



World Health  
Organization

Organisation mondiale de la Santé

Weekly epidemiological record  
Relevé épidémiologique hebdomadaire

14 JULY 2017, 92<sup>th</sup> YEAR / 14 JUILLET 2017, 92<sup>e</sup> ANNÉE

No 28, 2017, 92, 393–404

<http://www.who.int/wer>

## Statement on the continued safety of HPV vaccination (2017)

"Since licensure of HPV vaccines, GACVS has found no new adverse events of concern based on many very large, high quality studies. The new data presented at this meeting have strengthened this position."

**WHO Global Advisory Committee on Vaccine Safety (GACVS)**



# Outline

- (1) Why is the HPV vaccine needed and what impact evidence exists
- (ii) What is the current WHO policy and state of the roll out
- (iii) How could HPV link to other interventions.
- (iv) What is WHO doing with partners to extend the roll out the vaccine

# WHO Position paper on HPV vaccine



## WHO recommendations (May, 2017) :

**Primary Target:** Girls, between 9 and 14 yr old

**Doses:** 2 doses

**Interval :** 6 months minimum

No maximum interval - suggested until 12-15 months after first dose.

To maximize impact, vaccinate multiple age cohorts at introduction:

- All 9 -14 yr old girls
- 15-18 yr old girls (if feasible/affordable)

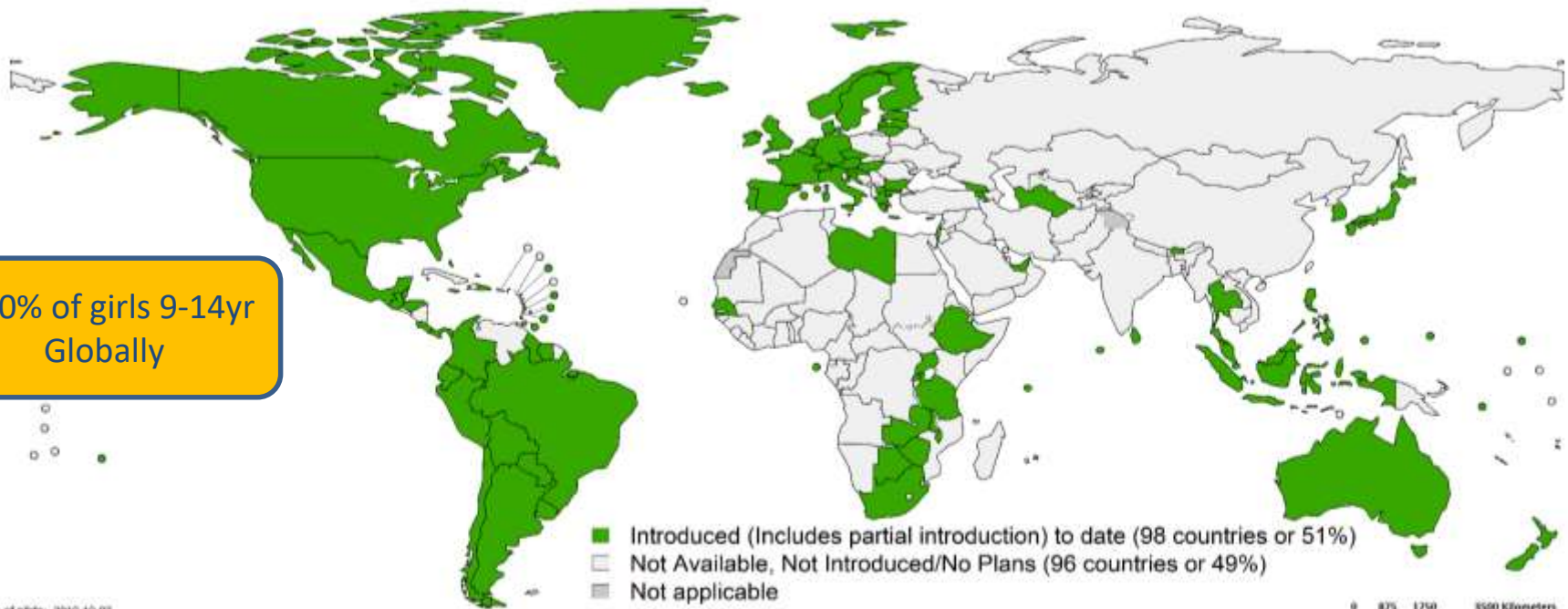
Source: WER May, 2017

([www.who.int/immunization/documents/positionpapers/en/](http://www.who.int/immunization/documents/positionpapers/en/))



World Health Organization

# Countries with HPV vaccine in the National Immunization Programme



Date of slide: 2019-10-02

Map production: Immunization, Vaccines and Biologicals (IVB), World Health Organization (WHO)

Data source: IVB database as at 2nd October 2019

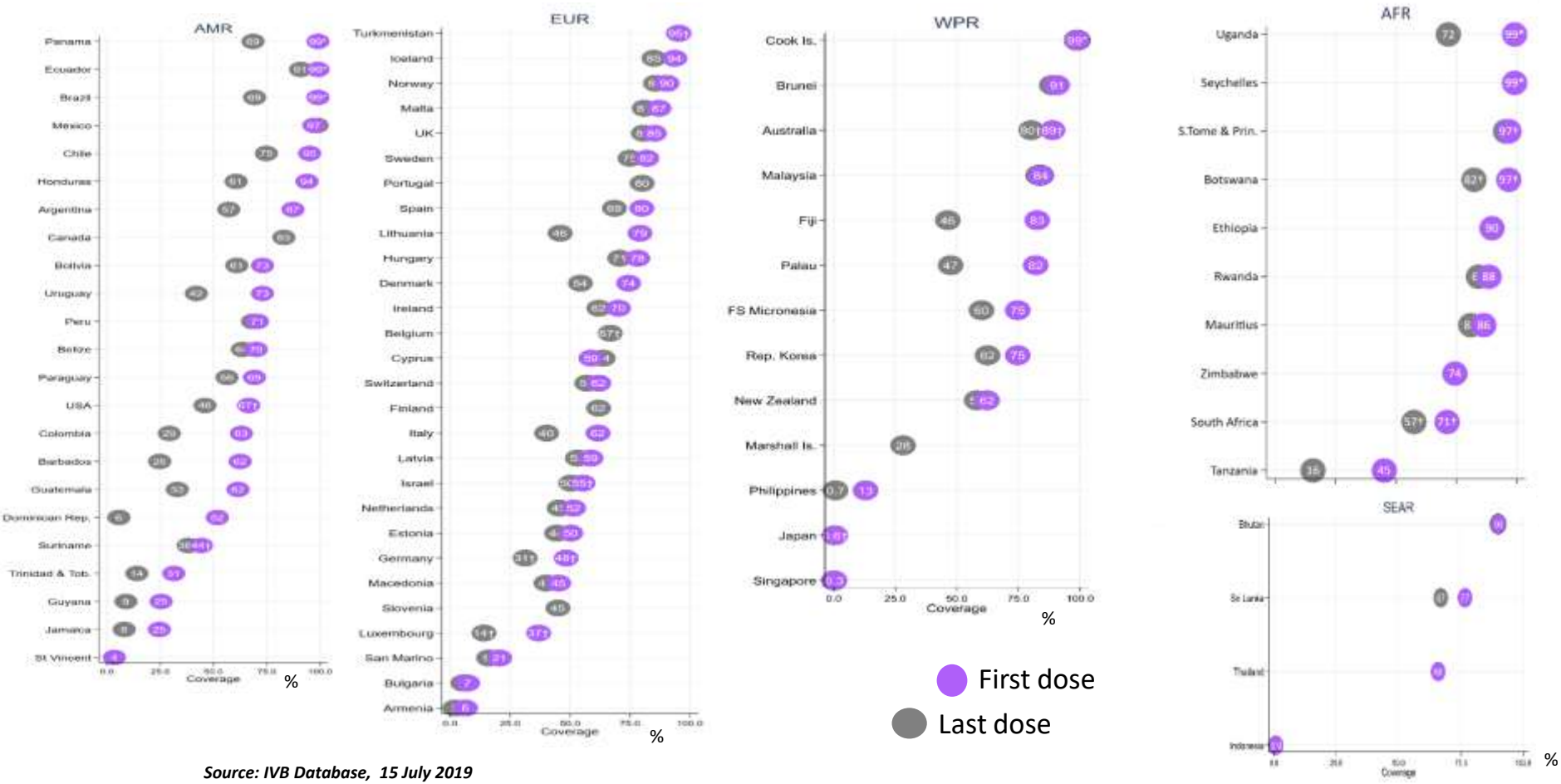
#### Disclaimer:

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.  
World Health Organization, WHO, 2019. All rights reserved.

0 875 1750 3500 Kilometers



# WHO ESTIMATES : HPV PROGRAM COVERAGE, FEMALES 2018



Source: IVB Database, 15 July 2019

# Outline

- (1) Why is the HPV vaccine needed and what impact evidence exists
- (ii) What is the current WHO policy and state of the roll out
- (iii) How could HPV link to other interventions.
- (iv) What is WHO doing with partners to extend the roll out the vaccine

# 1. Comprehensive Cervical Cancer Prevention & Control

2. ADOLESCENT HEALTH



## PRIMARY PREVENTION

### Girls 9-13 years

- HPV vaccination

### Girls and boys, as appropriate

- Health information and warnings about tobacco use\*
- Sexuality education tailored to age & culture
- Condom promotion/provision for those engaged in sexual activity
- Male circumcision

## SECONDARY PREVENTION

### Women >30 years of age

#### Screening and treatment as needed

- "Screen and treat" with low cost technology VIA followed by cryotherapy
- HPV testing for high risk HPV types (e.g. types 16, 18 and others)

## TERTIARY PREVENTION

### All women as needed

#### Treatment of invasive cancer at any age

- Ablative surgery
- Radiotherapy
- Chemotherapy

\* Tobacco use is an additional risk factor for cervical cancer.

# Global Strategy towards the Elimination of Cervical Cancer

**VISION:** A world without cervical cancer

**THRESHOLD:** All countries to reach < 4 cases 100,000 women years

## 2030 CONTROL TARGETS

**90%**

of girls fully  
vaccinated with HPV  
vaccine by 15 years  
of age

**70%**

of women screened  
with a high precision  
test at 35 and 45 years  
of age

**90%**

of women identified  
with cervical disease  
receive treatment and  
care

### Timeline

Submitted to EB  
2020 (Oct 2019)  
for discussion at  
WHA May 2020

**SDG 2030:** Target 3.4 – 30% reduction in mortality from cervical cancer

# Integrating HPV vaccination with adolescent health interventions and programs

An opportunity for reaching girls and boys with additional health interventions.



TYPE	POSSIBLE HEALTH INTERVENTIONS
Screening	<ul style="list-style-type: none"> <li>• Vision screening, if referral and glasses available and affordable</li> </ul>
Commodities and treatment	<ul style="list-style-type: none"> <li>• Anthelmintic treatment for schistosomiasis and soil-transmitted helminths (STH)</li> <li>• Insecticide-treated bednet for malaria prevention</li> <li>• Iron and folic acid supplementation</li> </ul>
Information and life skills	<ul style="list-style-type: none"> <li>• Promotion of physical activity</li> <li>• Prevention of mosquito-borne diseases</li> <li>• Menstrual hygiene education</li> <li>• Sexual and reproductive health education, HIV prevention and condom promotion</li> </ul>
Other vaccines	<ul style="list-style-type: none"> <li>• Td, Hep B, co-administration with other vaccines under investigation</li> </ul>



OPTIONS FOR LINKING  
HEALTH INTERVENTIONS  
FOR ADOLESCENTS  
WITH HPV VACCINATION

World Health  
Organization





Ministry of Health Malaysia

# Malaysia : HPV vaccine delivery in school health package



\* HPV - Human Papilloma Virus

Service provider	Pre-school	Standard 1	Standard 2	Form 3
Ministry of Health	health education			
	deworming	immunization (DT, OPV, MMR)	immunization HPV @ 13 years	immunization (TT)
	nutritional status			
	physical examination			
Ministry of Education		school milk programme		
		food supplementary programme		



World Health Organization

# Outline

- (1) Why is the HPV vaccine needed and what impact evidence exists
- (ii) What is the current WHO policy and state of the roll out
- (iii) How could HPV link to other interventions.
- (iv) What is WHO doing with partners to extend the roll out the vaccine

# WHO roles

1. Update Policies on HPV vaccine
2. Developed technical guidance materials
3. Assist National Immunization Authorities to decide on HV introduction
4. Assist EPI programmes with introduction planning
5. Track introduction and coverage as well as HPV vaccine prices and supply to ensure health markets



## WHO HPV Vaccine introduction Clearing house

Visit each area for related resources:

-  **POLICY & DECISION-MAKING**  
Informing national decision-making for HPV vaccine introduction
-  **PLANNING**  
Planning for HPV vaccine introduction
-  **FINANCING**  
Budgeting and financing for HPV vaccine introduction
-  **VACCINES & SAFETY**  
Characteristics, presentations and safety profiles of HPV vaccines
-  **COMMUNICATION**  
Communicating effectively using research-based approaches
-  **IMPLEMENTATION**  
Delivering HPV vaccination programmes
-  **MONITORING & SURVEILLANCE**  
Monitoring the coverage and impact of HPV vaccine programmes
-  **HPV PARTNERS**  
Links to HPV partners and resources



### Alliance functions:

1. GAVI price of 4.5\$ dose for eligible countries. UNICEF handles purchases.
2. Finance eligible countries (GNI<1500) to introduce HPV vaccine.
3. Technical Partners jointly provide technical support at planning, introduction and evaluation stages

BILL & MELINDA  
GATES foundation

