

HPV Vaccines Uptake and Barriers

Paul Bloem
WHO IVB EPI

SAGE, 9 Oct 2019



Outline

- Context and Progress of HPV vaccine introduction
- How are HPV programmes performing? Coverage
- Key Barriers and Challenges
- Key messages

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

Timeline

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

90%

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

70%

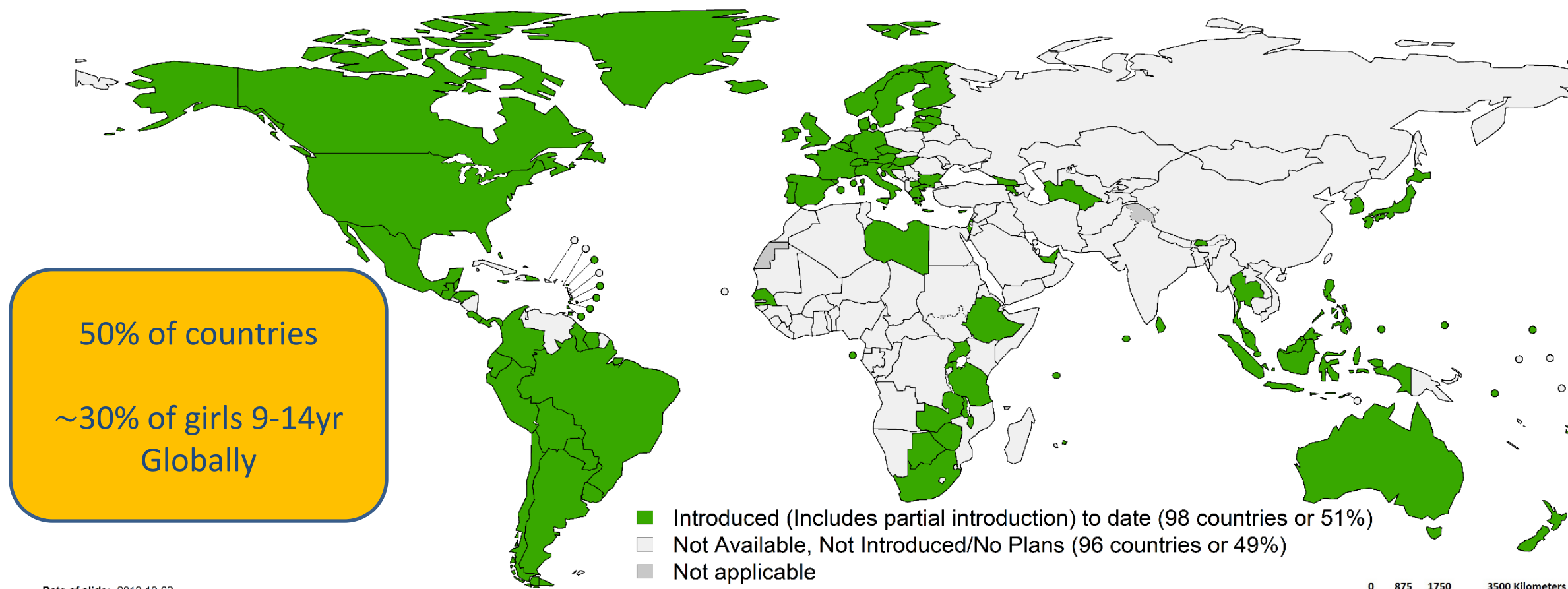
of women screened
with an high precision
test at 35 and 45 years
of age

90%

of women identified
with cervical disease
receive treatment and
care

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

Countries with HPV vaccine in the National Immunization Programme



Date of slide: 2019-10-02

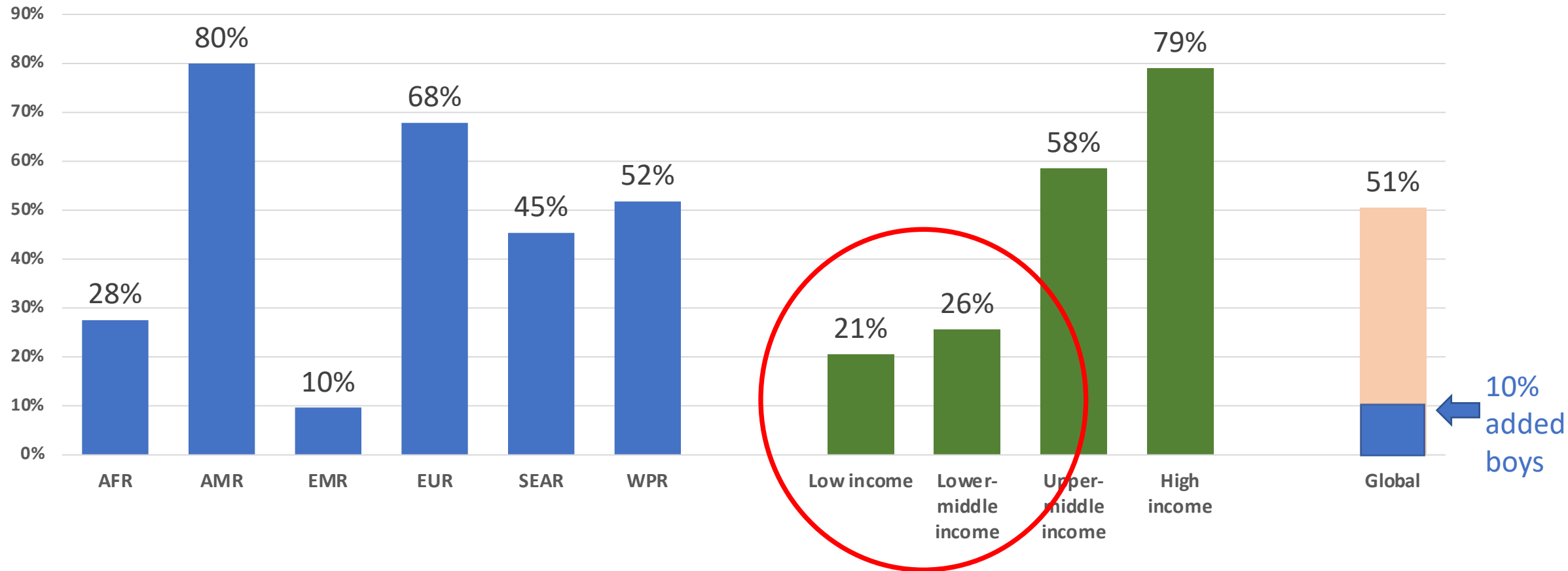
Map production: Immunization, Vaccines and Biologicals (IVB), World Health Organization(WHO)

Data source: IVB database as at 2nd October 2019

Disclaimer:

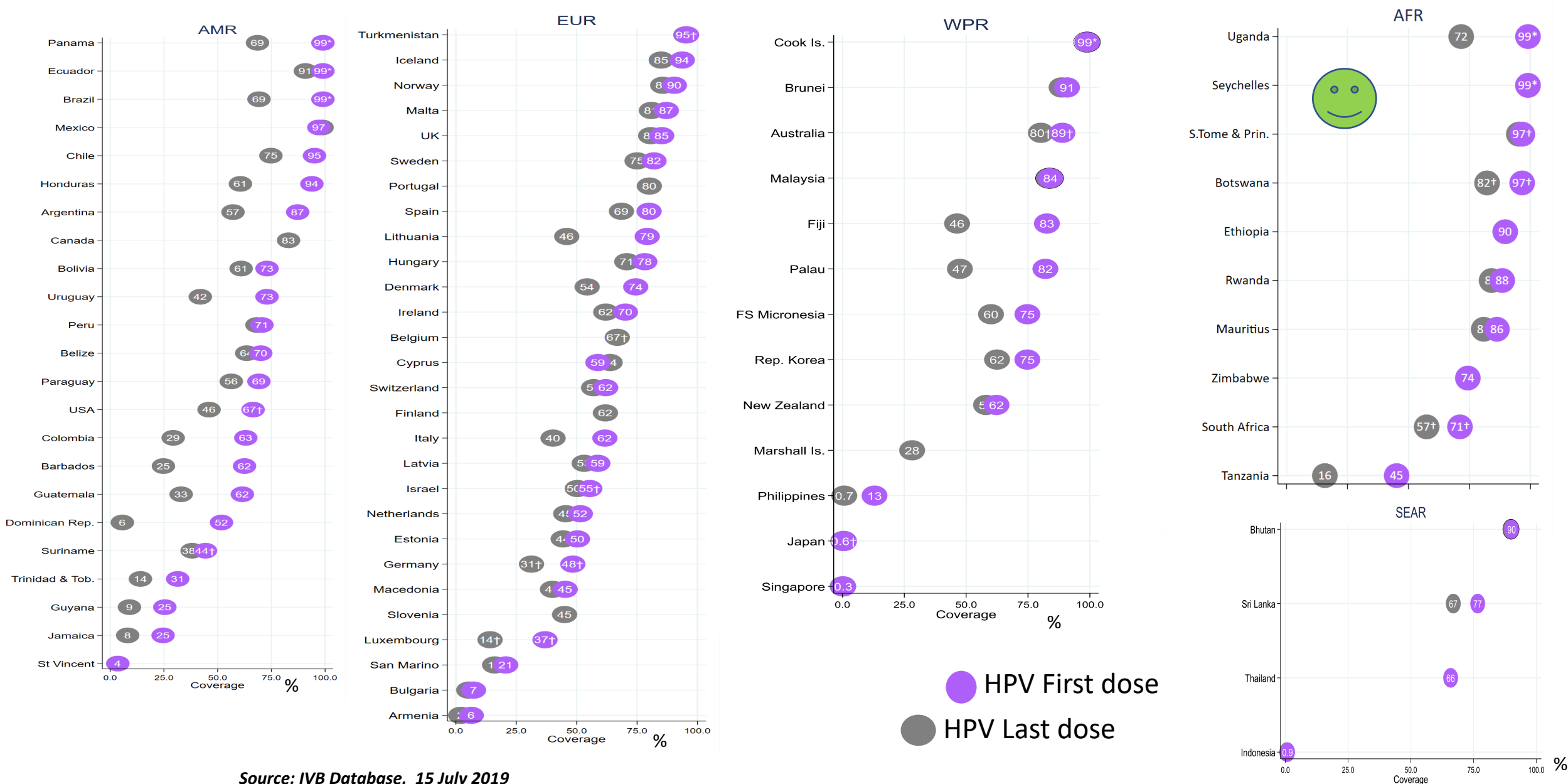
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area nor of its authorities, or concerning the delimitation of its frontiers 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

Proportion of Countries that have introduced HPV vaccine by *WHO region* and *WB Income level*



Source: IVB Database, 2 Oct 2019

ESTIMATES: HPV vaccine PROGRAM COVERAGE, FEMALES, 2018



Key Barriers and Challenges

Global Strategy towards the Elimination of Cervical Cancer



1. Supply: *Limited supply of the HPV vaccine*

2. Costs: *Vaccine price*
High delivery cost

3. Quality of Introduction Planning and Management:

- *Choice and sustainability of delivery strategy*
- *Insufficient communication*
- *Addressing hesitancy related factors*

Vaccine
Introduction

High
Coverage

SUPPLY SHORTAGE

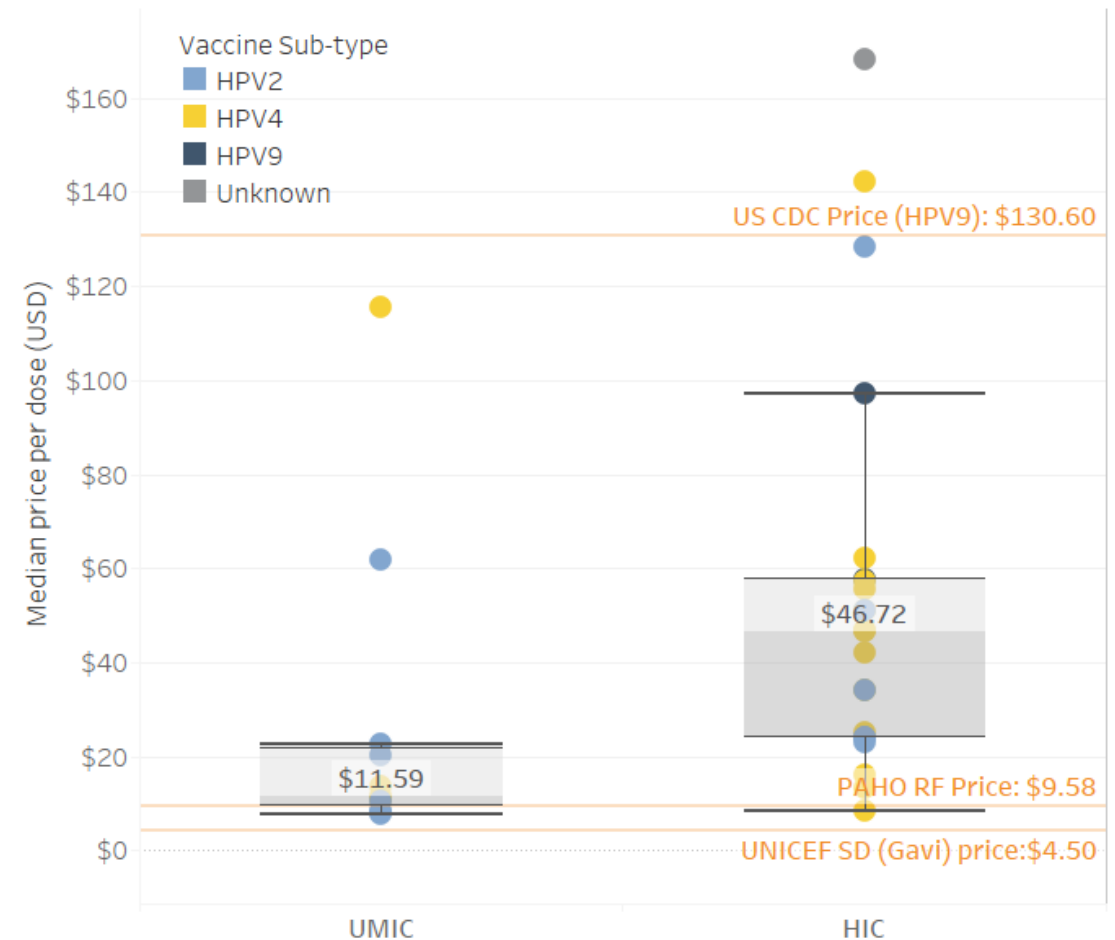
- Ongoing programmes generally receive vaccine supply they require - some stockouts, and supplier related challenges reported in PAHO
- Insufficient supply for overall GAVI countries demand - however all planned* 2019 GAVI supported HPV vaccine introductions are moving ahead with *routine cohorts* - Majority of planned Multi Age Cohort (MAC) postponed
 - * 11 countries planned, 10 received the final go-ahead for 2019, 4 of which with supply for MAC (smaller countries)
- 5 MICs have introduced in 2019 but at least one MIC has had to postpone introduction this year due to lack of supply



COST: High prices for self-procuring countries create affordability barriers for non-Gavi MICs

1. Median *reported* price for HPV2 and HPV4 for self-procuring MICs is **\$11.59**:
 - ~20% higher than PAHO RF median price (\$9.58)
 - ~3 x higher than UNICEF SD Gavi price (\$4.50)
2. Wide range of prices for self-procuring MICs: from **\$7.64 to \$115.40 per dose** (*Non reported, high prices may have prevented introductions*).
3. Substantial overlap with price range in self-procuring HIC: **\$8.32 - \$168**

HPV Median Price for Self-procuring countries (2018)



Source: 2019 MI4A Purchase Data (country-reported), US CDC public pricing

Analysis on 4 dimensions show HPV vaccine affordability is one of the challenges particularly in poorer MICs

		Technical	Political	Financial	Procurement
Countries		Is CxCa Burden recognized?	Is there willingness to pay?	Is there an ability to pay?	Are procurement processes sufficiently strong?
<div>Low GNI</div> <div>4k</div> <div>6k</div> <div>High GNI</div>	AFR 1				
	AFR 2				n/a
	AFR 3				
	EUR 1				
	EUR 2				
	AFR 4				
	EUR 3				
	EUR 4				

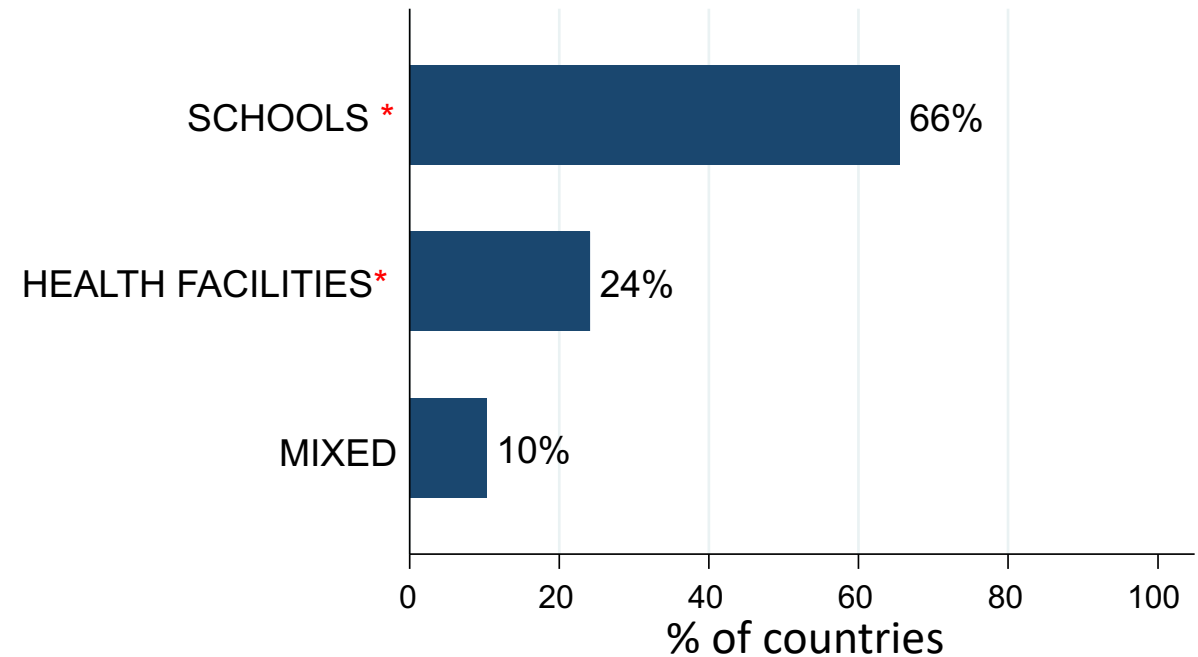
Key stakeholders interviews in subset of 21 candidate HPV introducing self- procuring MICs showed:

- Affordability of HPV vaccine is a major barrier especially in lower-income MICs.
- Strong technical assistance, in addition to financial aid, is needed in mid-tier MICs
- Higher income MICs face challenges other than finance

Legend: Small/No Intro Barrier Significant Barrier to Intro

HPV VACCINE DELIVERY STRATEGIES, COVERAGE & SUSTAINABILITY

PRIMARY DELIVERY STRATEGIES (2018)



* Note: These strategies are not always “exclusive”

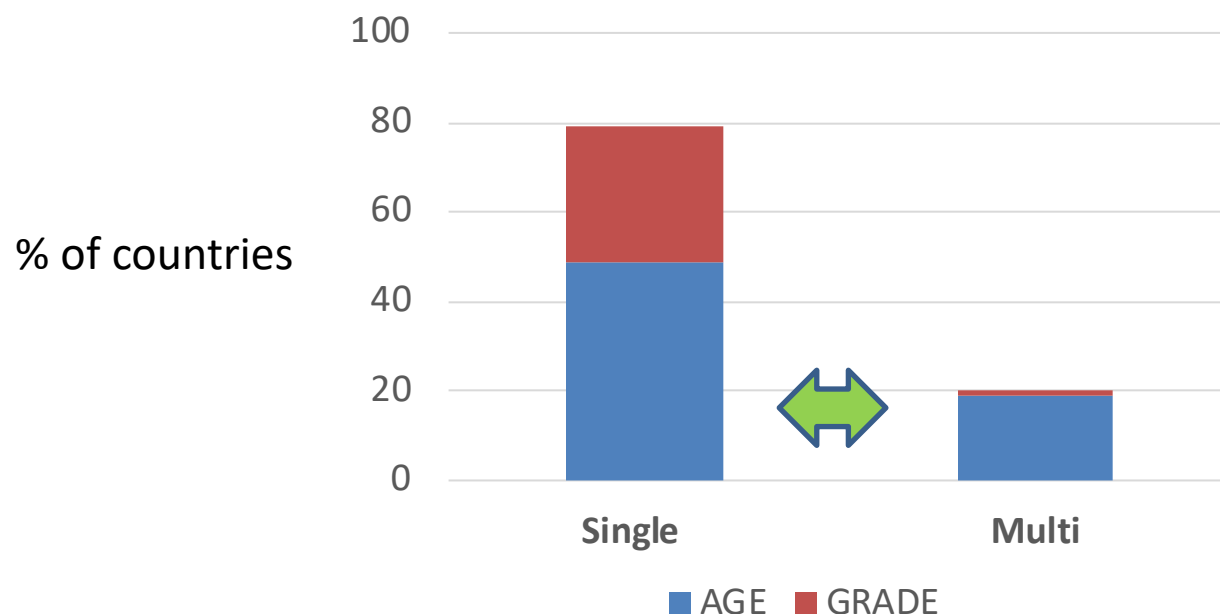
Sustainability:

- For GAVI-supported countries delivery cost are key concern
- Budget constraints (*outreach*) lead to re-thinking of strategy, including annual schedule
- L/LMICs describe HPV vaccination as “routine” and vaccination in schools as “routine outreach”

Source: IVB Database, 1 June 2019. Preliminary data

TARGET AGE FOR HPV VACCINATION & COVERAGE

ELIGIBILITY CRITERIA OF TARGETS (2018)



Target age within the primary target (9-14) is not static over time:

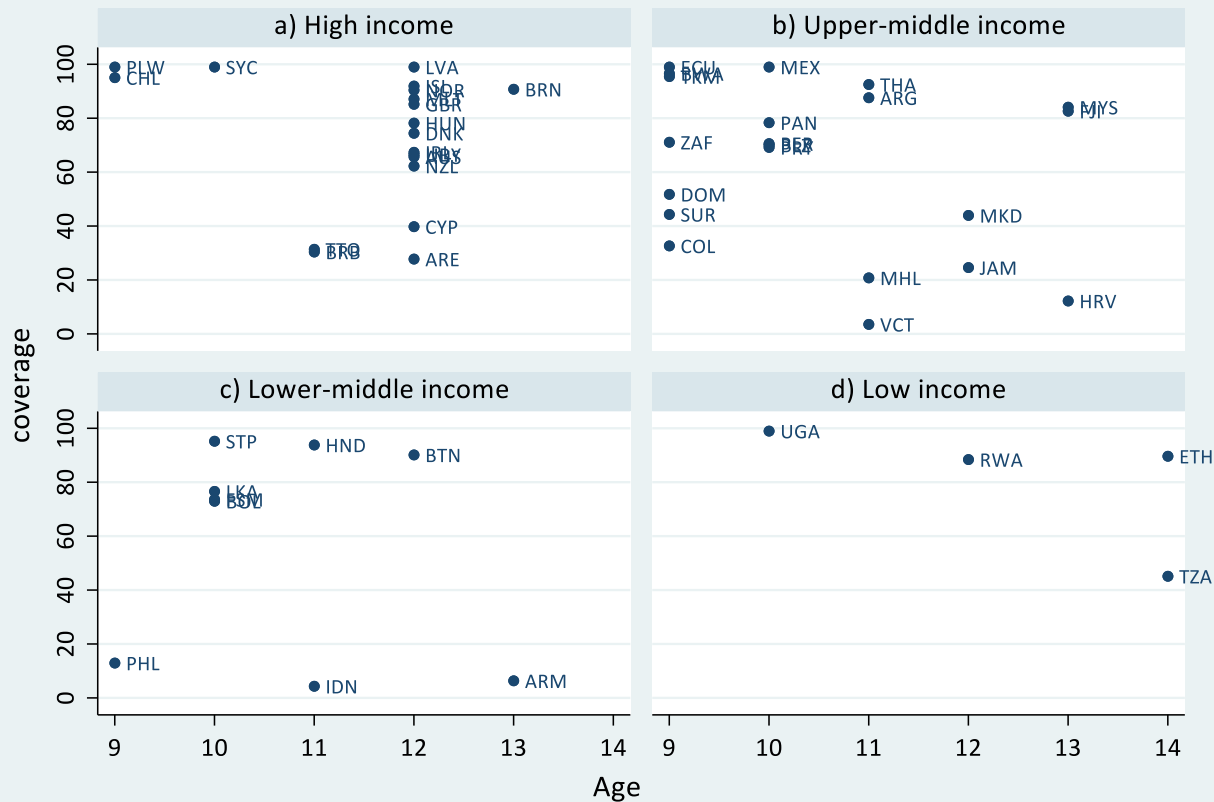
- **25%** (N=17) of Single-cohort programmes started as Multi-cohort programmes
- **33%** (N=6) of Multi-cohort programmes had started as Single-cohort programmes
- Several changed from School Grade to Age
- Several have changed the Age of the Single cohort

Source: IVB Database, 1 June 2019

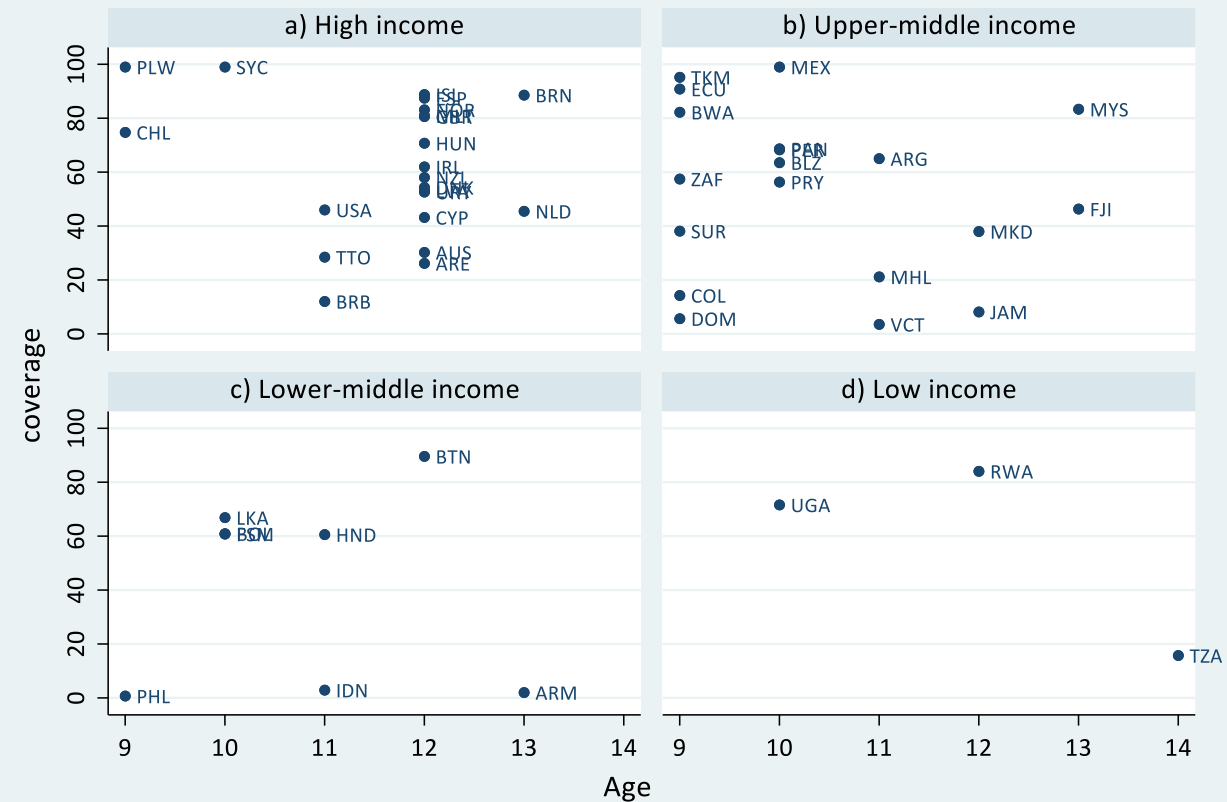
HPV vaccine coverage in countries with single cohort strategies, 2018

females, by target cohort (age), income group and dose

FIRST DOSE



LAST DOSE



AFRICA example HPV vaccine introductions & target age

Due to GAVI supply constraints in 2018, MACs (9-14) postponed:

- Countries given option to decide which single cohort: 9 or 14 yr?

Considerations: **Impact** (losing cohorts ~ sexual initiation)

Programmatic (school – drop out)

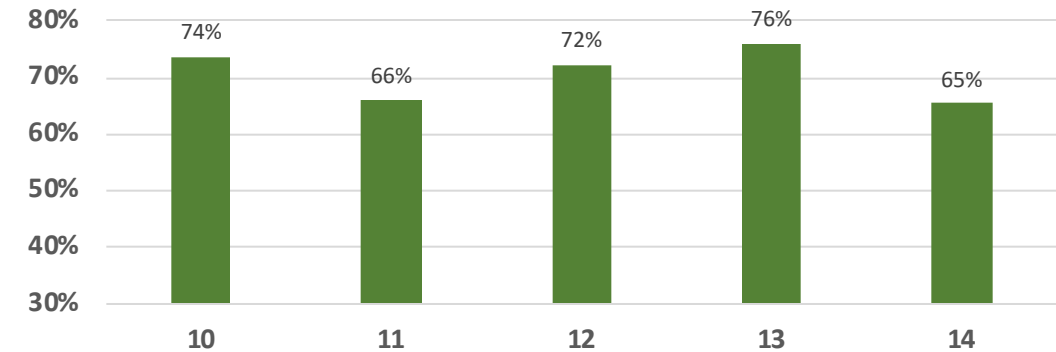
Lower age: 9/10 yr

- Zimbabwe (10 yr in MAC): HPV1 = 76% (2018)
- Senegal (9 Yr, Routine): HPV1 ~ 60% cumul. admin (2019)

Higher age: 14 yr

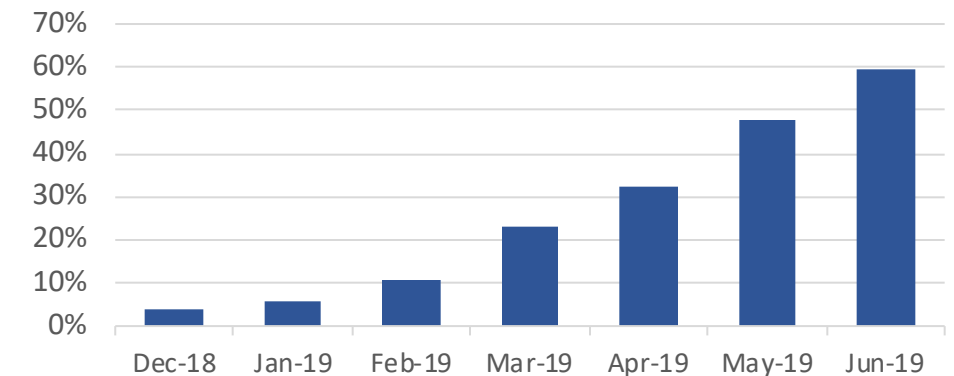
- Zimbabwe (14yr in MAC): HPV1 = 67% (2018)
- Ethiopia (14 yr, Routine): HPV1 = 90% (2018)
- Tanzania (14 yr, Routine): HPV1 = 45% HPV2 = 16% (2018)
HPV1 >70% admin (2019)
- Zambia (14 yr, Routine): HPV1 >75% admin (2019)

Zimbabwe , HPV 1 coverage
2018 by age



Source: Numerators: Zimbabwe MoH HPV coverage report June 2018; denominators: UNPOP

Senegal, HPV1 cumulative coverage (MSAS)



Source: MOH Presentation, HPV workshop Senegal. Sept 2018

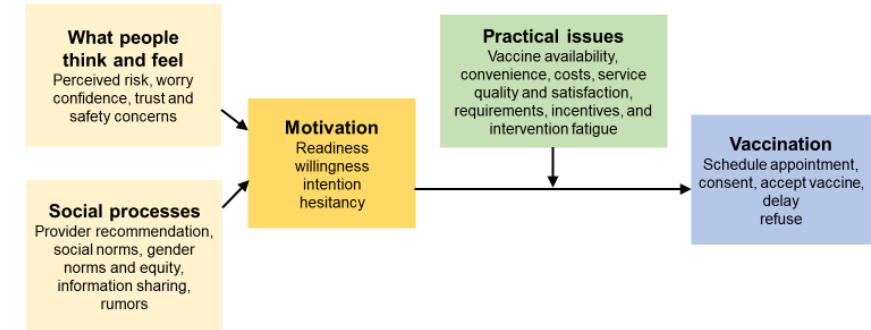
Insufficient communication

- Lack of research into stakeholders and their perceptions, motivation to inform communication plans
- Low knowledge levels in parents & girls ¹
- Knowledge gaps and lack of trust in vaccine among vaccinators and other medical professionals ²
- Suboptimal planning and implementation of communications plans – insufficient focus on key stakeholders ²
- Coordination and engagement among all stakeholders insufficient to address rumors and safety events ³

1. Perlman S. et al. Knowledge and Awareness of HPV Vaccine and Acceptability to Vaccinate in Sub-Saharan Africa: A Systematic Review. [PLOS One](#). 2014; 9(3): e90912
2. Results from HPV PIEs in Georgia, Moldova and Armenia, 2018
3. GACVS, 5-6 June 2019 Report, WER 28 , 12 July 2019

Demand factors

Increasing Vaccination Model

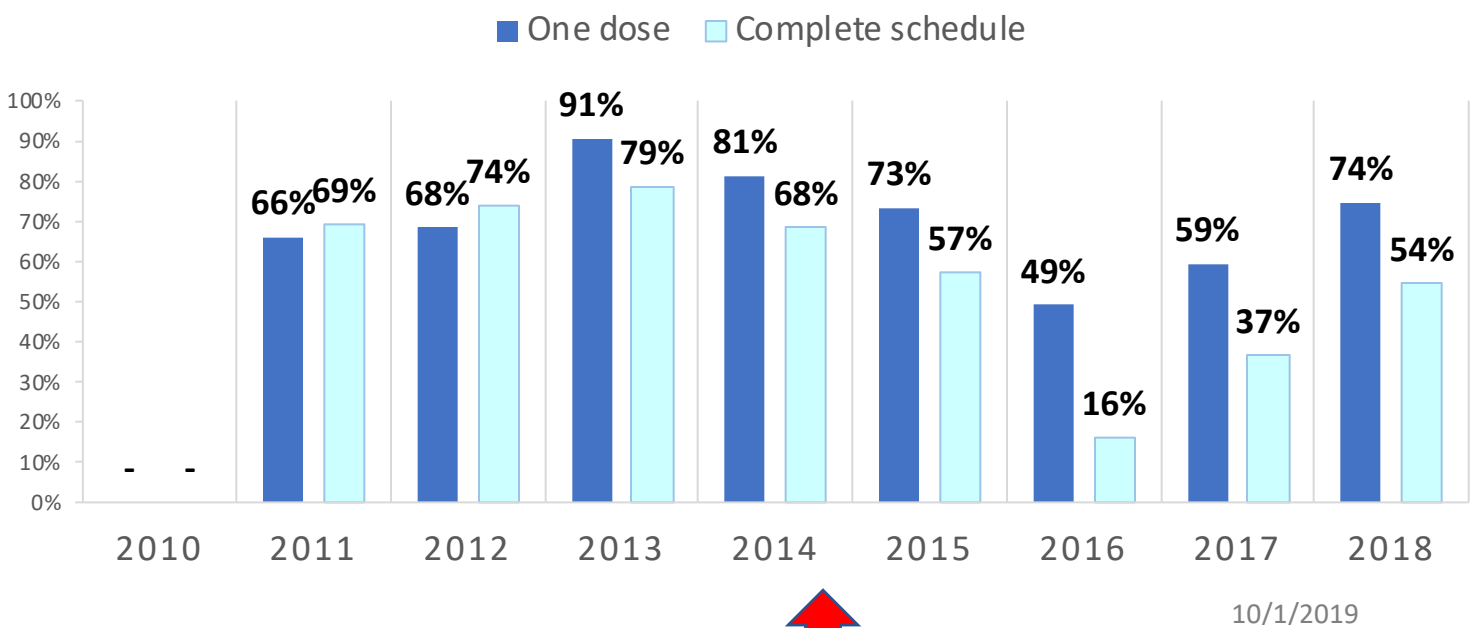


Source: The BeSD expert working group. Based on: Brewer NT, Chapman GB, Rothman AJ, Leask J, and Kempe A (2017), Increasing vaccination: Putting psychological science into action, *Psychological Science for the Public Interest*. 18(3): 149-207

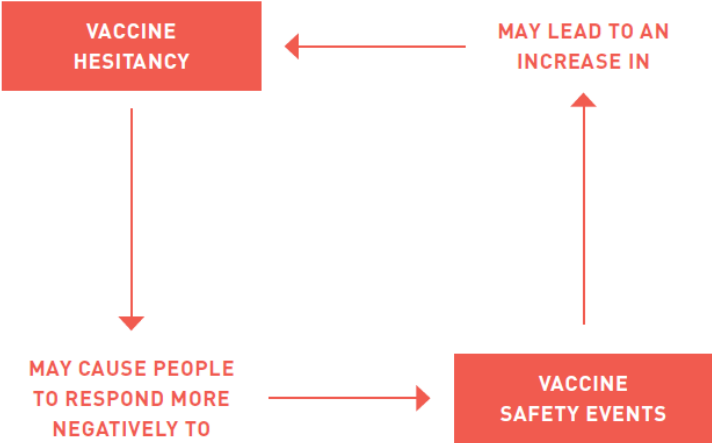
Hesitancy & safety events

DENMARK

FEMALE HPV VACCINATION PROGRAM COVERAGE



“POTS” Crisis



Country	Issue	Coverage
Japan	CRPS	<1% (2017)
France	MS	19% (2016)
Colombia	Anxiety-related reactions	13% (2017)
Denmark	POTS	36% (2017)
Ireland	POTS/CRPS	50% (2016/17)

Key Messages

- **HPV vaccine introductions:** Progress in GAVI countries & MICs still slow
 - Introduction decisions affected by vaccine price, cost & sustainability of delivery strategies; pace slowed by the supply constraints.
- **HPV vaccine Coverage:** Successful programmes show high coverage is possible, but majority of countries have <80% coverage
 - Affected by choice of delivery strategy and quality of planning and implementation
 - Key is demand creation and dealing with hesitancy among stakeholder
- To reach the 90% goal of the Global Cervical Cancer Elimination Strategy
 - Prioritize impact through introductions in high burden GAVI countries and MICs
 - Assist low performing countries with *redesign* and coverage improvement plans



Thank You