

# Immunization gaps and pitfalls



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สาขาวิชาโรคติดเชื้อ ภาควิชาคุณภาพเวชศาสตร์

ศูนย์เชี่ยวชาญเฉพาะทางด้านโรคติดเชื้อเด็กและวัคซีน

คณะแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย



## V vaccine... cancer prevention



Harald zur Hausen  
1983: Identify HPV 16 from CA cervix



Douglas R. Lowy & John T. Schiller  
1992: Protein L1- Virus Like Particle induce Ab to prevent HPV infection



## Immunization across population



Adolescents/  
Adult  
HPV



Pregnant  
women  
Influenza, Tdap



Pregnant  
women  
RSV



## HPV vaccines



HPV 16 HPV 18



HPV 16 HPV 18



HPV 6 HPV 11

เริ่มตั้งแต่ ปี 2560  
EPI program  
เด็กนักเรียนหญิง ป 5 ได้รับวัคซีน  
(2 dose)

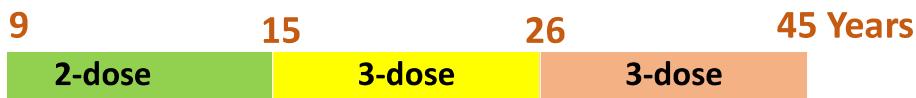
Thai FDA:  
Female 9-45 year  
Male 9-26 years

9valent HPV vaccine  
31 33 52 58 + 45

Thai FDA: Female/Male 9-26 years  
US FDA: Female/Male 9-45 years



## HPV vaccines



mai EPI program launched for girl 10 years old

AP: No catch up (potential role of 1-dose HPV<sup>1-2</sup>)

DA approved indication to expand broader age both female/male

AP: Vaccine shortage

AP: Vaccine is not replacing cervical cancer screening

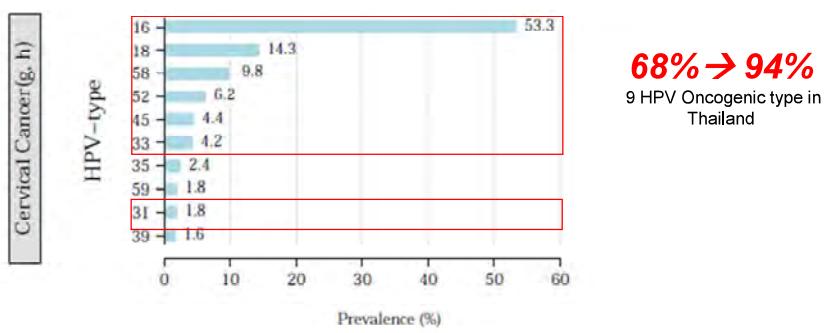
recommend vaccine among individual with CIN, Genital warts (ACOG 2012)

<sup>1</sup>Krimer AR Lancet Oncol 2015;775-86. <sup>2</sup>Lancet Oncol 2016;17:619-24.



IWR 2016;65:1405–1408.

## requent HPV oncogenic types in Thailand



Data updated on 18 May 2017 (data as of 30 Jun 2015 - 30 Jun 2015).  
High-grade lesions: CIN 3, CIN = HSIL; Low-grade lesions: LSIL or CIN 1.  
The samples for HPV testing come from cervical specimens fresh / fixed biopsies or exfoliated cells.  
Data source:  
1) Data from systematic reviews and meta-analysis performed by IGO. The IGO HPV Information Centre has updated data until June 2014. Reference publications: 1) Bruni L, J Infect Dis 2012; 215: 2189. 2) De Sanjoan S, Lancet Infect Dis 2007; 7: 453.  
2) Chaissonkham S, Asian Pac J Cancer Prev 2007; 8: 279. 3) Chaissonkham S, J Natl Cancer Inst 1996; 88: 60. 4) Chappell P, Int J Infect Dis 2009; 13: 212. 5) Lawasathanan P, Asian Pac J Cancer Prev 2012; 13: 6918. 6) Setthirathabodee-Teelak W, Microbiol Immunol 2010; 54: 417. 7) Suttoraporn K, Southeast Asian J Trop Med Public Health 2012; 43: 503. 8) Chaissonkham S, Asian Pac J Cancer Prev 2007; 8: 279. 9) Chaissonkham S, Asian Pac J Cancer Prev 2012; 13: 6918. 10) Chaissonkham S, Asian Pac J Cancer Prev 2012; 13: 212.  
\*Based on meta-analysis performed by WHO's Infection and Cancer Epidemiology Group up to November 2011, the IGO HPV Information Centre has updated data until June 2015.  
Reference publication: 1) Guan R, Int J Cancer 2012;131:2349 2) Clifford GM, Cancer Epidemiol Biomarkers Prev 2005;14:1137.



## HPV vaccines... common questions

### ose vs 3-dose of HPV vaccine

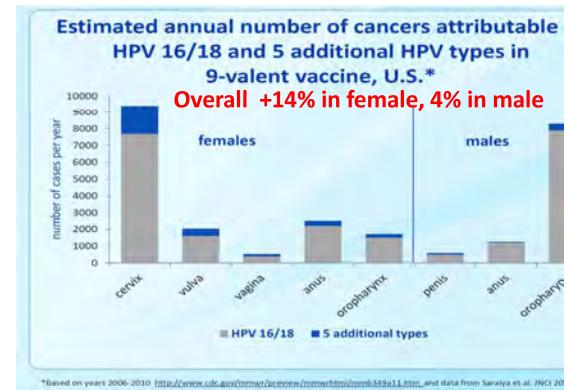
o before 15<sup>th</sup> BD: 2-dose

0 and 6-12 month

5 to 26 years: 3-dose

0, 1-2 and 6 month

- What is the additional effect of 9v HPV vaccine?



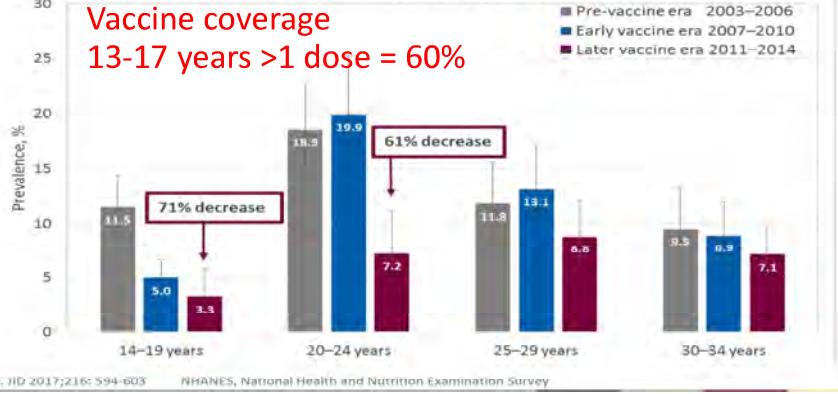
## ublic Health impact of HPV vaccines

### accine type prevalence (HPV 6,11,16,18), NHANES

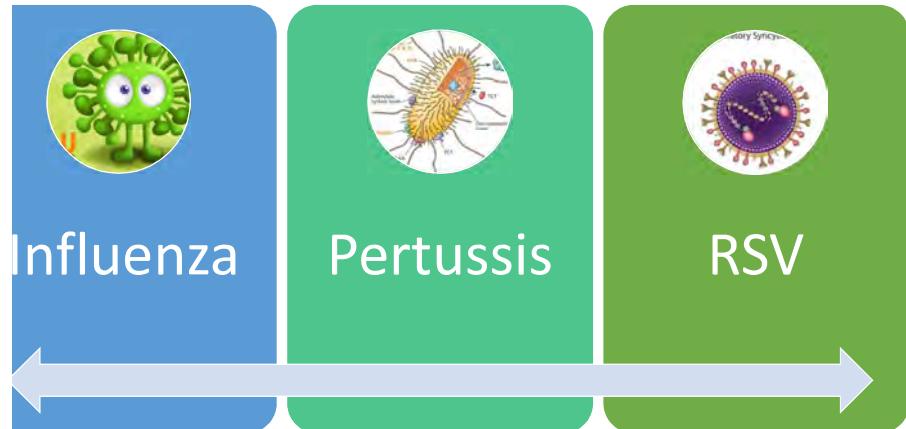
Later vaccine era compared to pre-vaccine era, females

Vaccine coverage

13-17 years >1 dose = 60%

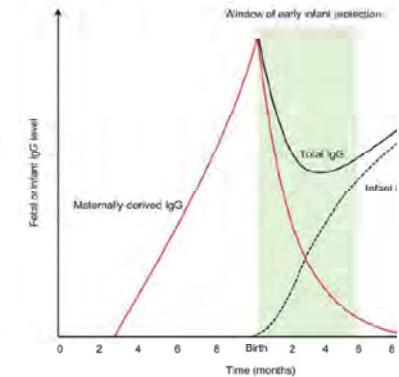
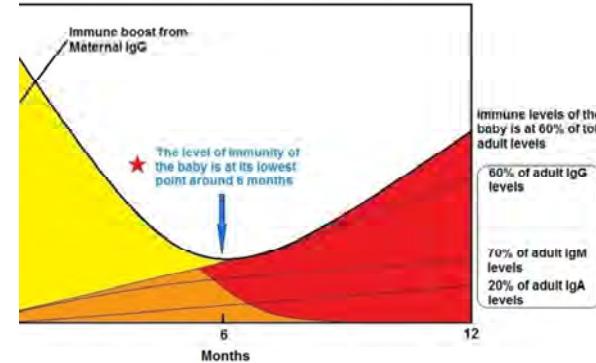


## vaccination among pregnant women



## Infant immunity and Passive maternal Ab transfer

Immunoglobulin levels of an infant in the first year of life



Slide courtesy of Assoc.Prof.Surasith Chaithongwongwatt

## A 22-day infant Ever abdominal distension& rash

- Term 4000 gm
  - 2 d ท้องอืด ดูดนมน้อยลง
  - 1 d ไข้ ผื่นแดง ซีมลง
- V/S BT 38.4 c, PR 188/min,  
RR 66/min, SpO<sub>2</sub> 86%,  
BP 103/55 mmHg  
erythematous rash



ER: neonatal sepsis

**Management:** IV loading, ET tube transfer to ICU  
: Cefotaxime 200 MKD + Ampicillin 100 MKD



## A 22-day infant abdominal distension fever and rash

- Hb 12.1 g/dL, Hct 36.5%,
- WBC 4,570/uL, N 70%, L 17%**  
platelet 256,000

WBC 114,000 cell/mm<sup>3</sup> (PMN 35%, Mono 65%)

Glucose 66 mg/dL  
Protein 3.4 / 4.6 gm/dL

○ LDH 6,313/ 700 U/L  
**gram positive cocci in pairs**



**Influenza B, Streptococcus Group A pleural effusion with TSS**

