

# Immunization gaps and pitfalls



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สาขาวิชาโรคติดเชื้อ ภาควิชากุมารเวชศาสตร์

ศูนย์เชี่ยวชาญเฉพาะทางด้านโรคติดเชื้อเด็กและวัคซีน

คณะแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

IDAT 12/15/20



# Immunization across population



Adolescents/  
Adult  
HPV



Pregnant  
women

Influenza, Tdap



Pregnant  
women

RSV



## V vaccine... cancer prevention



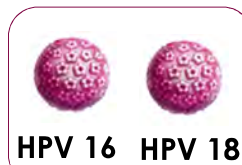
Harald zur Hausen  
1983: Identify HPV 16 from CA cervix



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



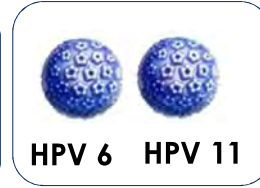
## 2V vaccines



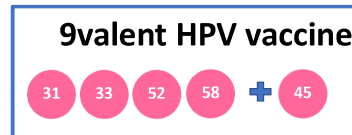
HPV 16 HPV 18



HPV 16 HPV 18



HPV 6 HPV 11



9valent HPV vaccine

เริ่มตั้งแต่ ปี 2560

EPI program

เด็กนักเรียนหญิง ป 5 ได้รับวัคซีน  
(2 dose)

Thai FDA:

Female 9-45 year

Male 9-26 years

Thai FDA: Female/Male 9-26 years

US FDA: Female/Male 9-45 years



## -IPV vaccines



## iai 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

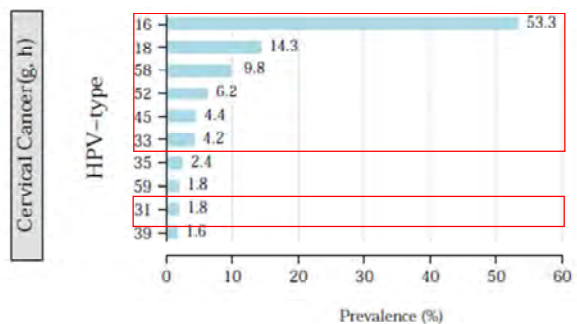
## AP: Vaccine shortage

**AP:** Vaccine is not replacing cervical cancer screening

**Recommend** vaccine among individual with CIN, Genital warts (ACOG 2019)

<sup>1</sup>Krimer AR Lancet Oncol 2015;775-86. <sup>2</sup>Lancet Oncol 2016;17:6

## requent HPV oncogenic types in Thailand



**68% → 94%**  
9 HPV Oncogenic type in  
Thailand

[illegible]

## -IPV vaccines... common questions

2-dose vs 3-dose of HPV vaccine • What is the additional effect

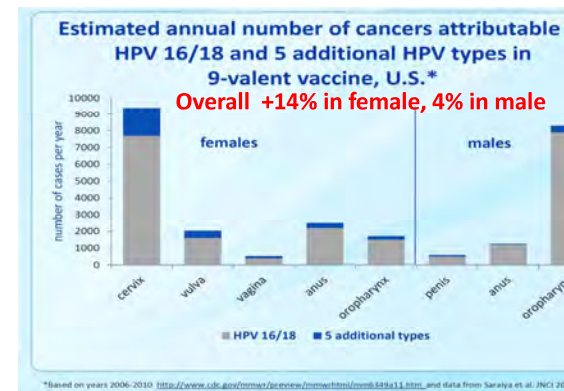
to before 15<sup>th</sup> BD: 2-dose

0 and 6-12 month

**15 to 26 years: 3-dose**

0, 1-2 and 6 month

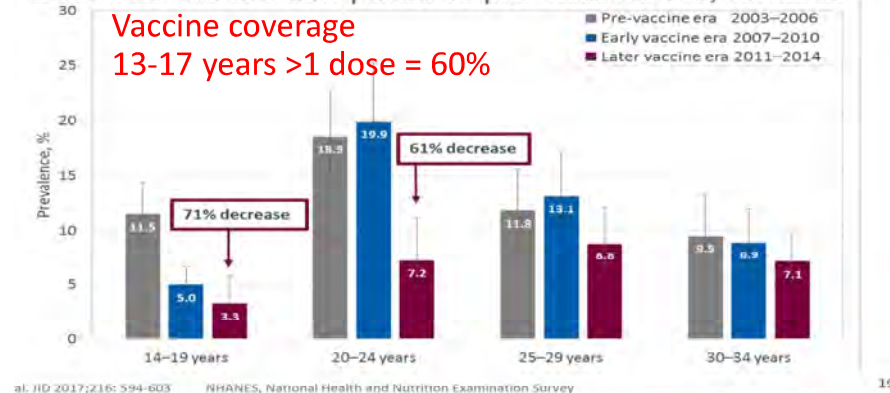
IWR 2016:65;1405–1408.



## Public Health impact of HPV vaccines

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

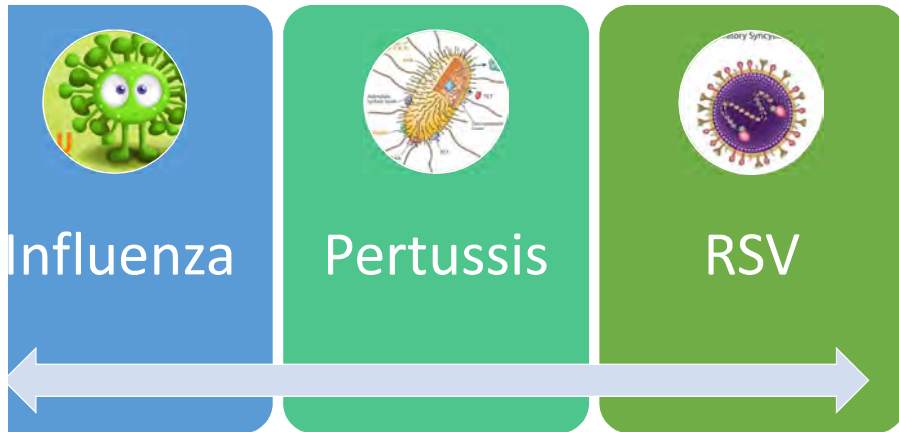
Later vaccine era compared to pre-vaccine era, females

al. *JID* 2017;216:594-603. NHANES, National Health and Nutrition Examination Survey.

19

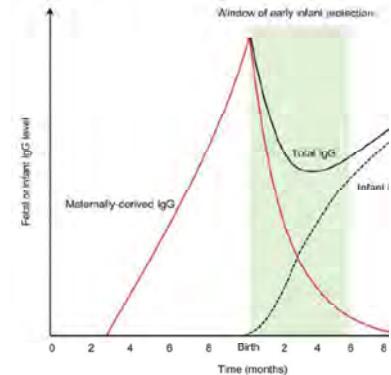
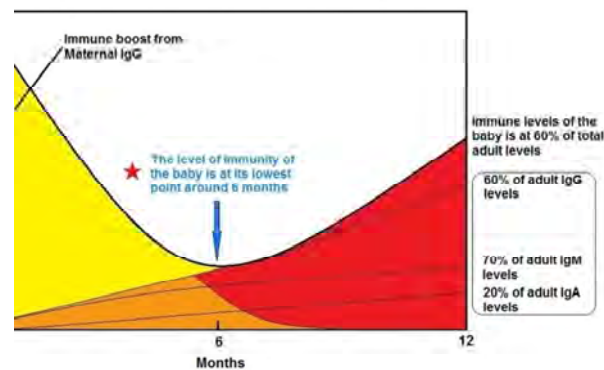


## immunization among pregnant women



## Infant immunity and Passive maternal Ab transfe

Immunoglobulin levels of an infant in the first year of life



Slide courtesy of Assoc.Prof.Surasith Chaithongwongwat



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

- Term 4000 gm
- 2 d ท้องอืด ดูดนมไม่ค่อยลง
- 1 d ไข้ ผื่นแดง ชีพมลง
- V/S BT 38.4 c, PR 188/min,
- RR 66/min, SpO2 86%,
- BP 103/55 mmHg
- erythematous rash

**ER:** neonatal sepsis

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

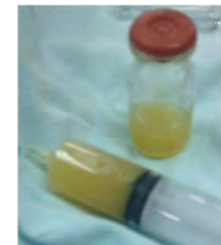


## A 22-day infant abdominal distension fever and rash

- 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 /4.6gm/dL  
LDH 6,313/ 700 U/L

**gram positive cocci in pairs**



Influenza B, Streptococcus Group A pleural effusion with TS

