

How Might Dengue Vaccine Be Used in Thailand?



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Outline

- How does Thailand introduce new vaccines?
- How might dengue vaccine be used in Thailand?
 - Immunization strategy
 - Program implementation

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Thailand Selected Demographics



Population

65 millions

Live Birth (2009)

733,014 /year

Total fertility rate

1.8*

Infant Mortality

15.0/1,000 live births
(2006 estimate)

GNI per capita

3,400 USD*
(PPP 9,200 USD)

Source: Mahidol Population Gazette, 2005 (vol. 14)

* For the year 2007, MoPH

EPI Immunization Schedule of Thailand

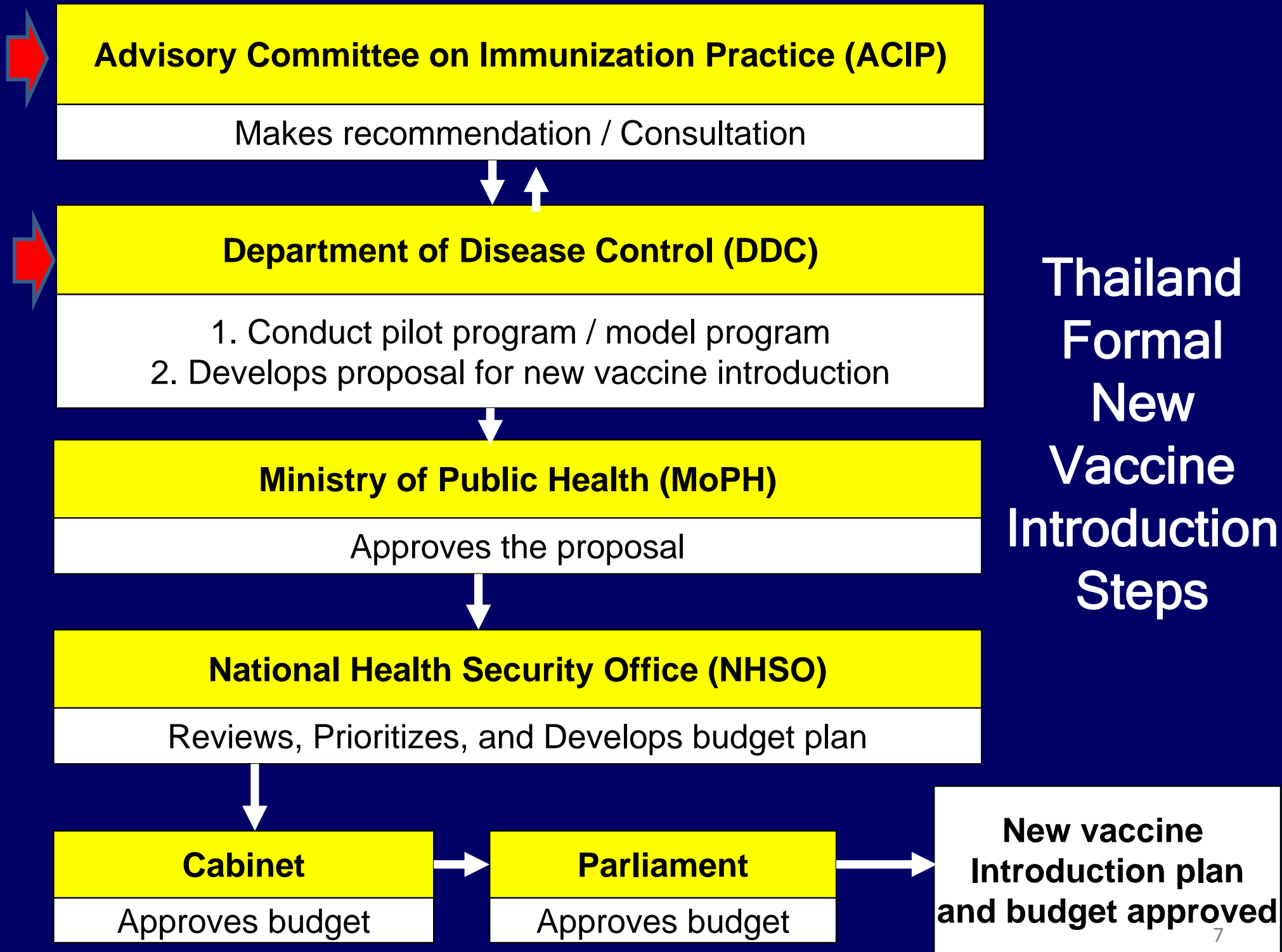
	<u>Age</u>	<u>Vaccines (10 +1 immunogens)</u>
<u>Infants</u>	At birth	BCG, HB ₁
	2 months	OPV ₁ , DTP ₁ , HB ₂
	4 months	OPV ₂ , DTP ₂
	6 months	OPV ₃ , DTP ₃ , HB ₃
	9 - 12 months	MMR1
<u>Older children</u>	1 ½ - 2 yrs	OPV ₄ , DTP ₄ , JE ₁ , JE ₂
	2 ½ - 3 yrs	JE ₃
	4 yrs	OPV ₅ , DTP ₅
<u>Students</u>	4 - 7 yrs	MMR2
	12-16 yrs	dT

(+ Seasonal Flu in HCWs & High risk group)

Law & National Immunization Policy

- According to Thai Constitutional Law, having basic immunization (EPI) is the right of Thai people. Therefore, the government should provide the services with high coverage.
- Basic immunization services
 - Fully government funded
 - Free of charge *
 - Included in basic health service package
 - Safe and in good quality

** Also including foreign children living in the country*



**Thailand
Formal
New
Vaccine
Introduction
Steps**

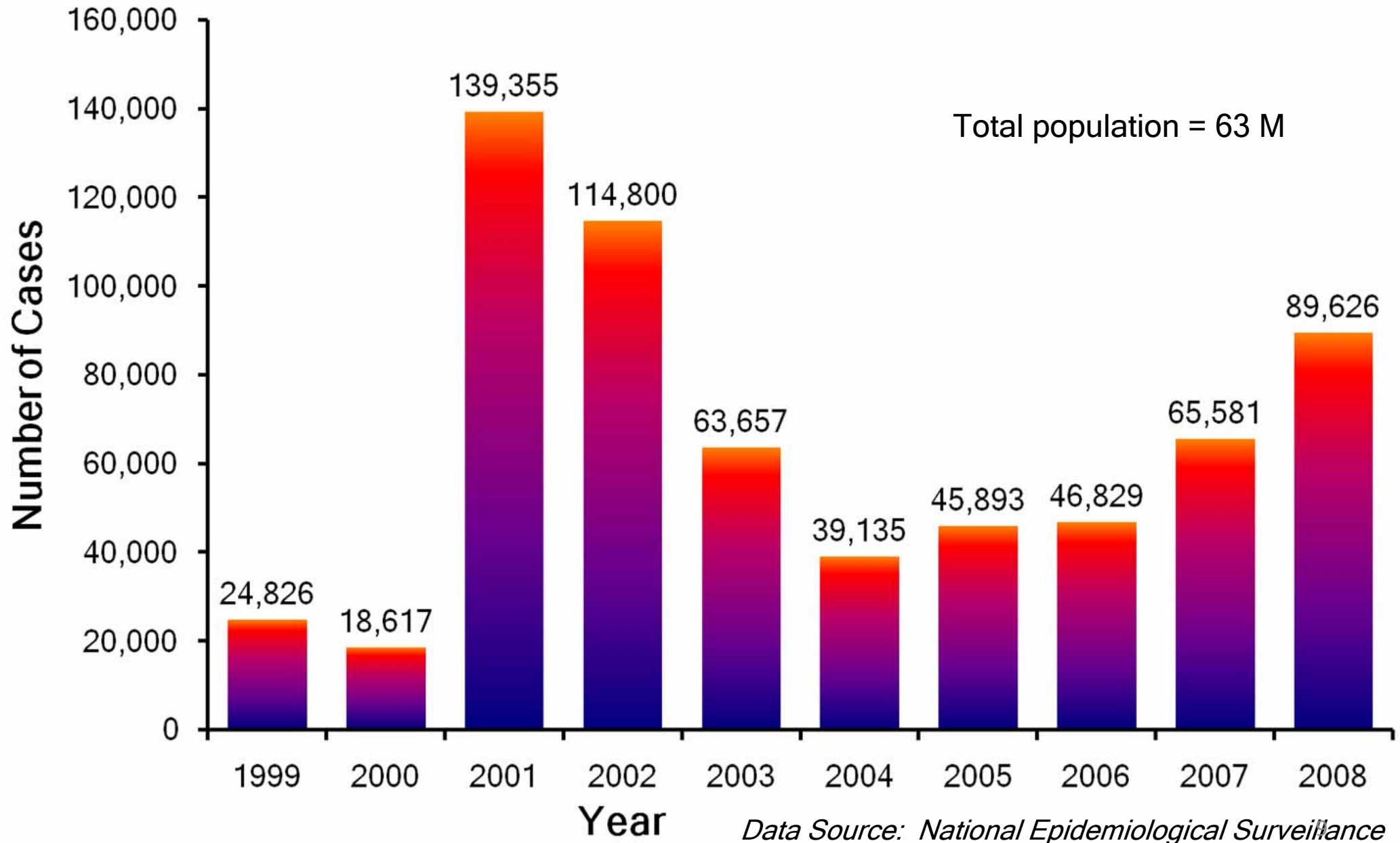
Decision Making on New Vaccine Introduction

1. Policy issues

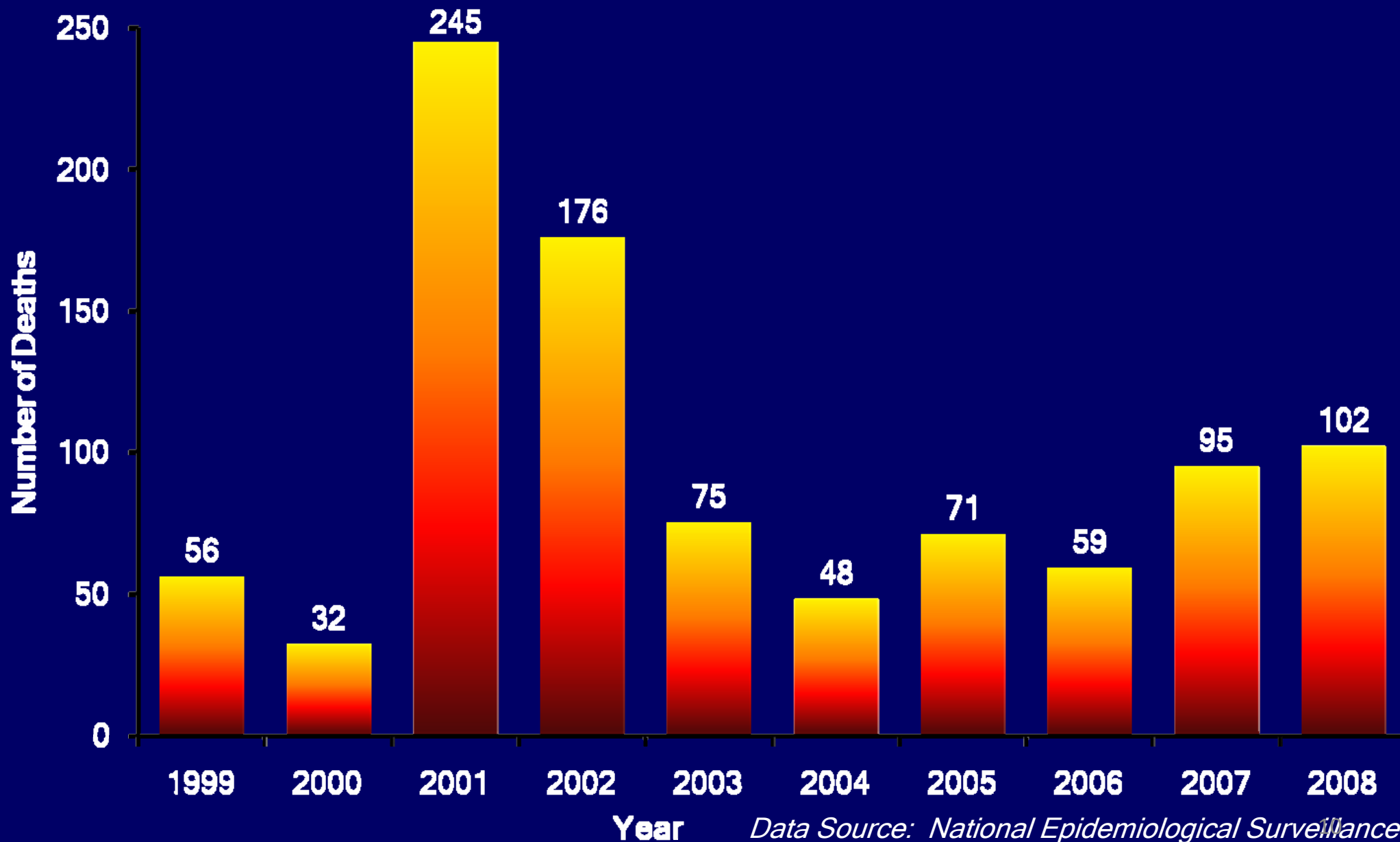
- Public health priority
- Disease burden
- Economic & financial
- Alternative interventions
- Vaccine safety & efficacy

2. Programmatic issues

Reported DHF Cases, Thailand



DHF Deaths in Thailand



Public Health Priority



Economic Evaluation

**Cost of Vaccination
Program**

Cost-averted

- Treatment
- Productivity lost
- Quality of life

Economic Evaluation : Favourable

Cost of Vaccination Program

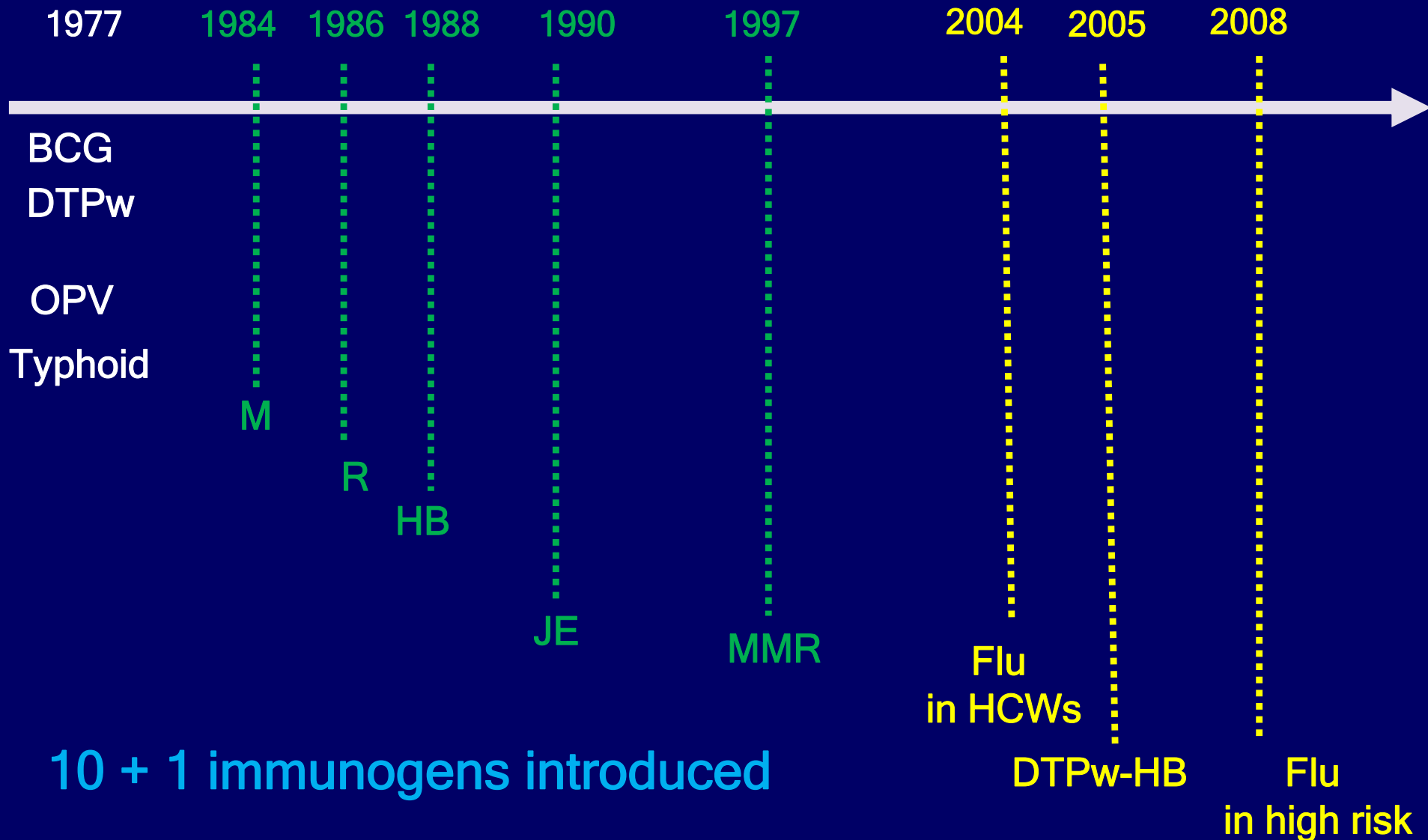
Cost-averted

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Financial Issue



New Vaccine Introduction in Thai EPI



Source: modified from DDC, MOPH 2009

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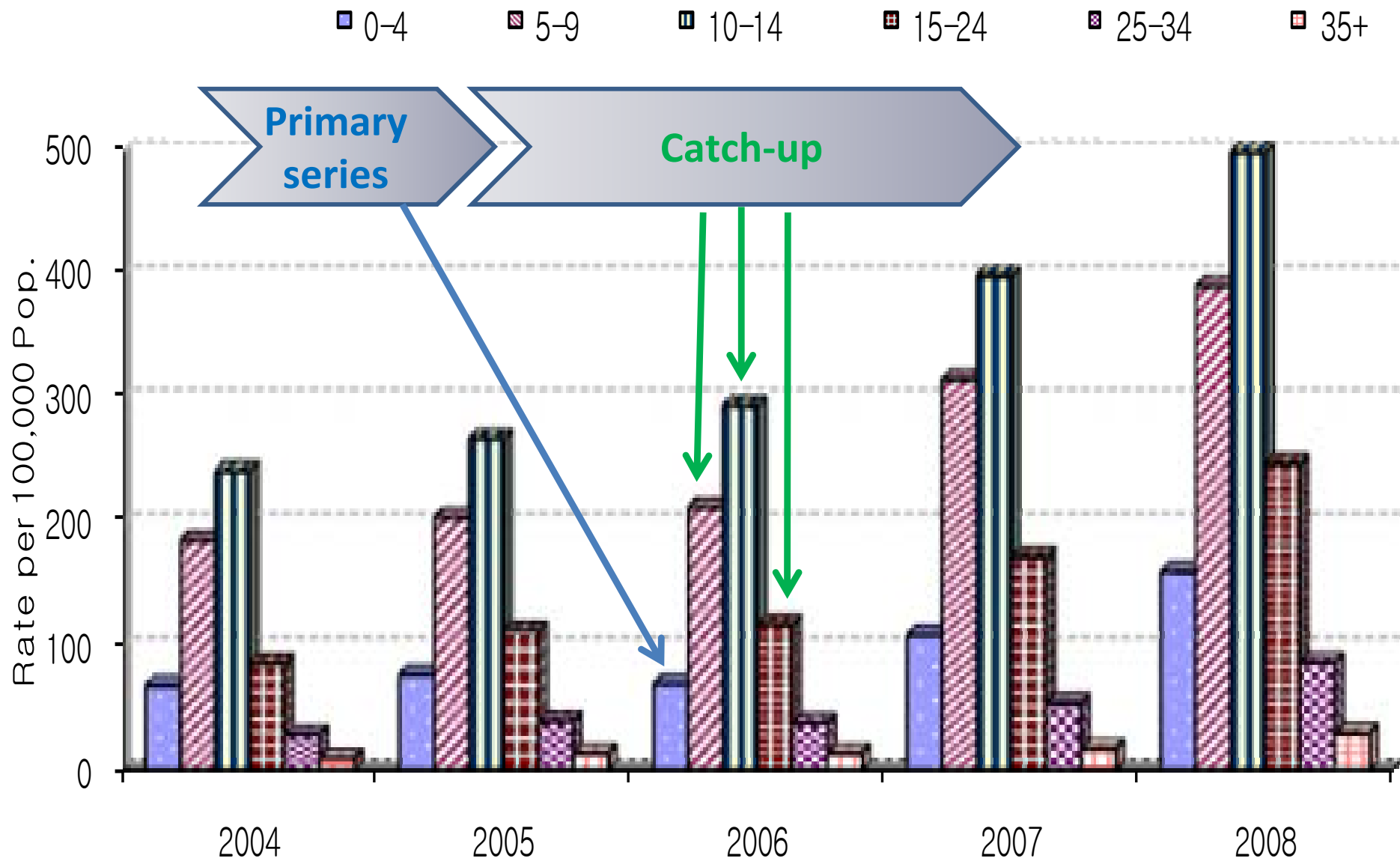
How might dengue vaccine be used?

- **Immunization strategy**

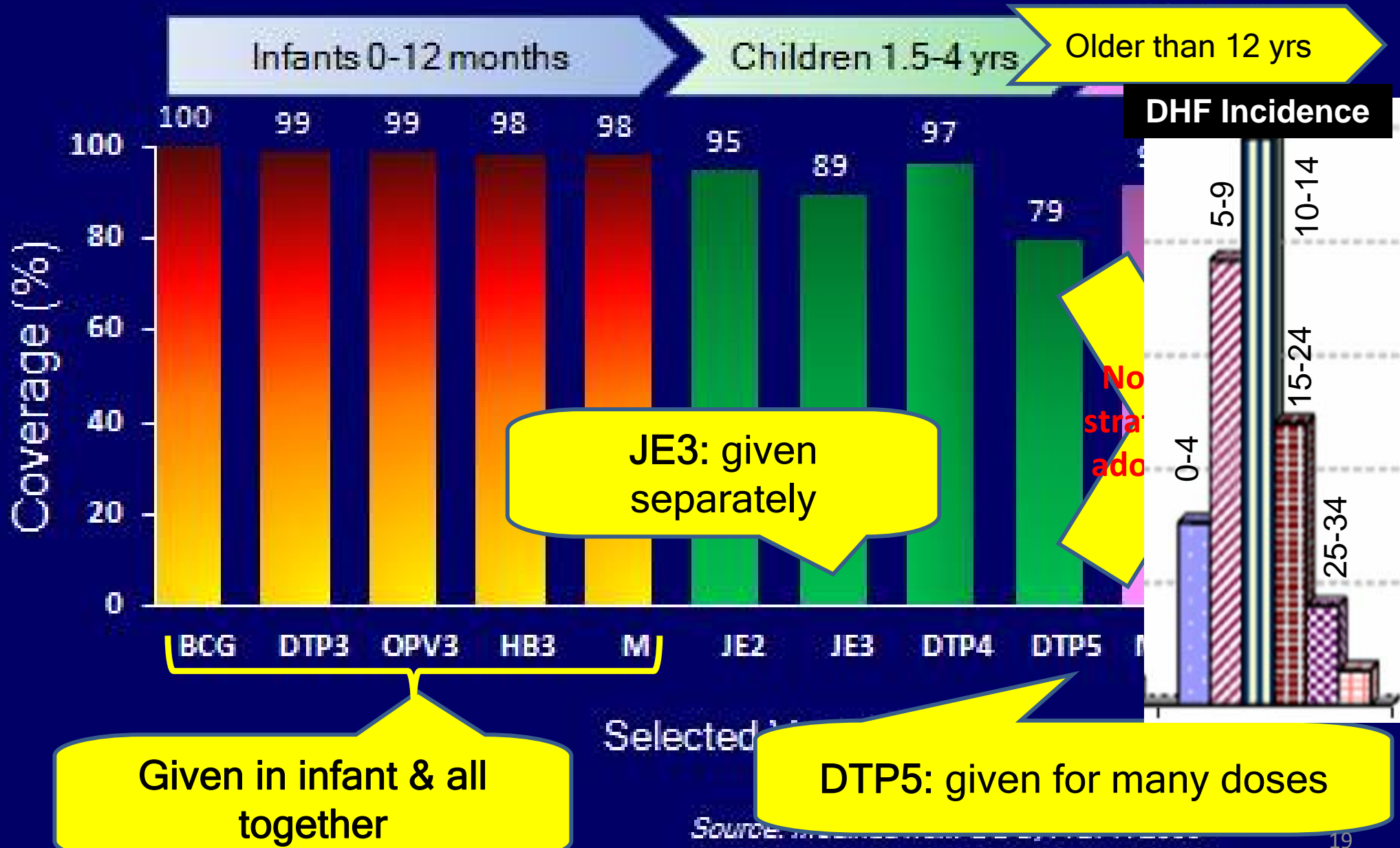
- Primary immunization should be started in infant.
- Catch-up program might be launched for older age groups as next priority.
- Schedule should be compatible with the existing EPI schedule.

- **Program Implementation**

Fig 2 Reported Cases of D.H.F, Total(26,27,66) per 100,000 Population , by Age-



Vaccine Coverage Survey in Thailand, 2008



How might dengue vaccine be used?

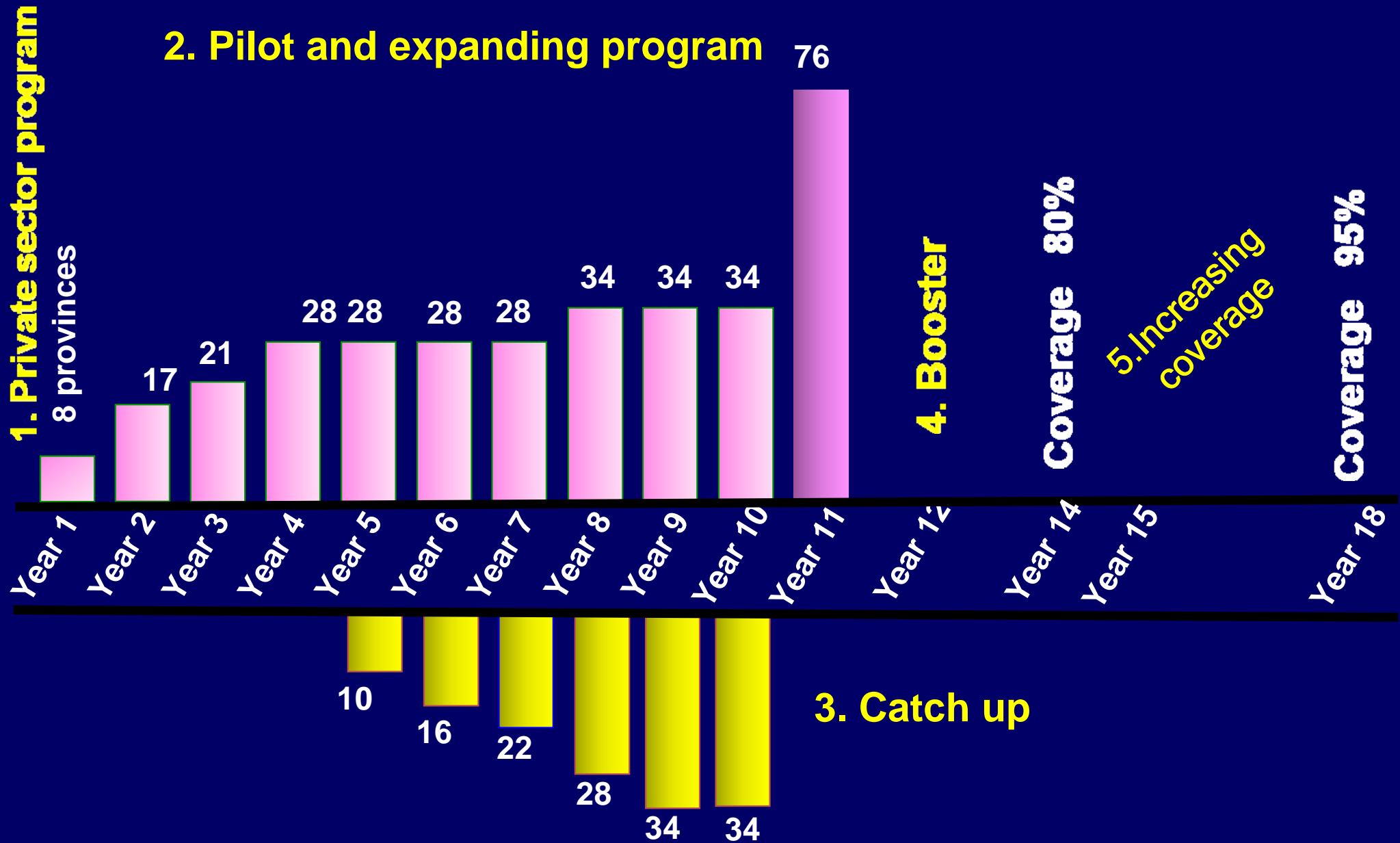
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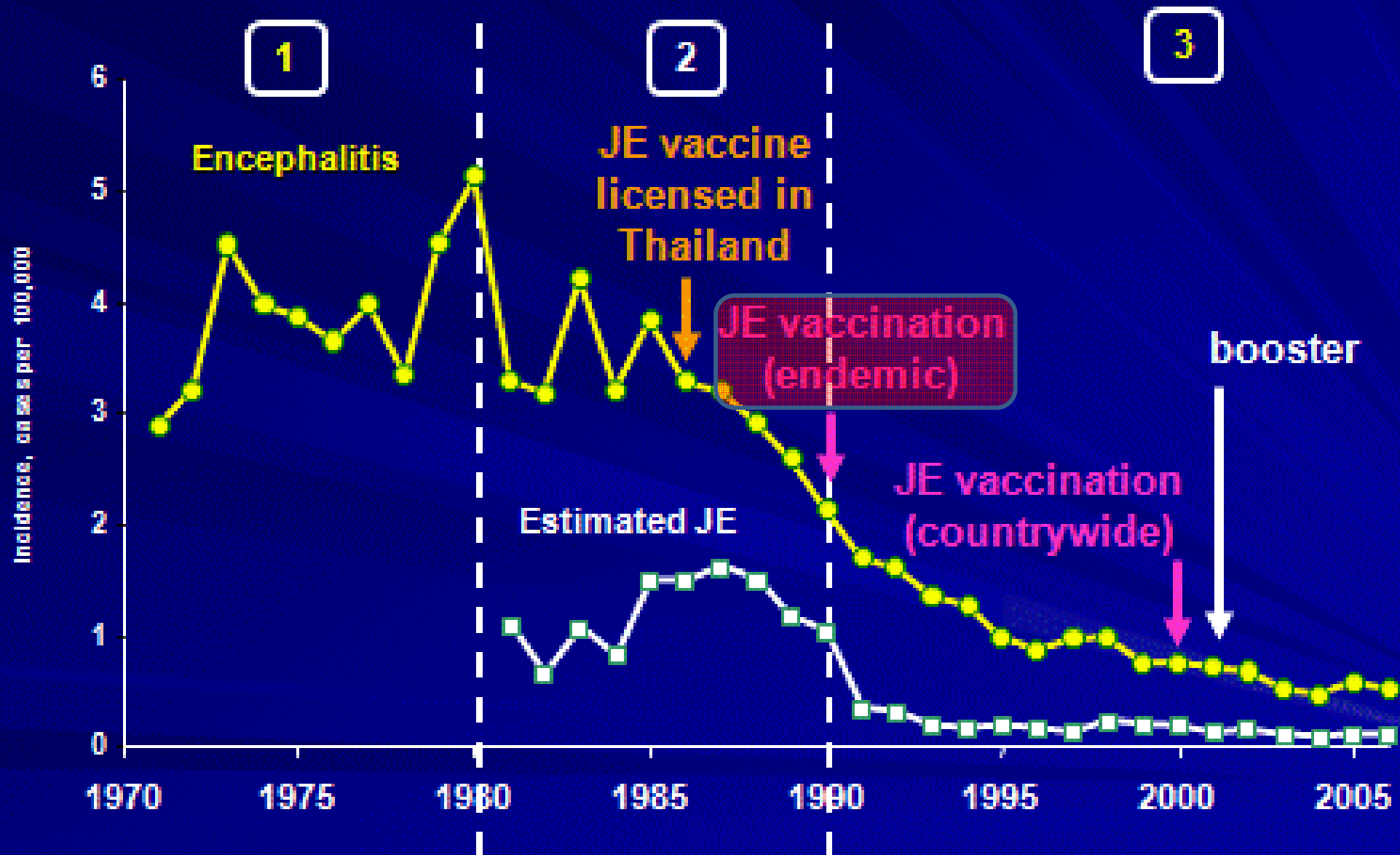
- **Program Implementation**

- Starting introduction in private sector, then introducing into EPI beginning with a pilot and then expanding stepwise

Dengue Immunization Implementation Scenario



Annual incidence of encephalitis and estimated JE, Thailand 1971-2006



How might dengue vaccine be used?

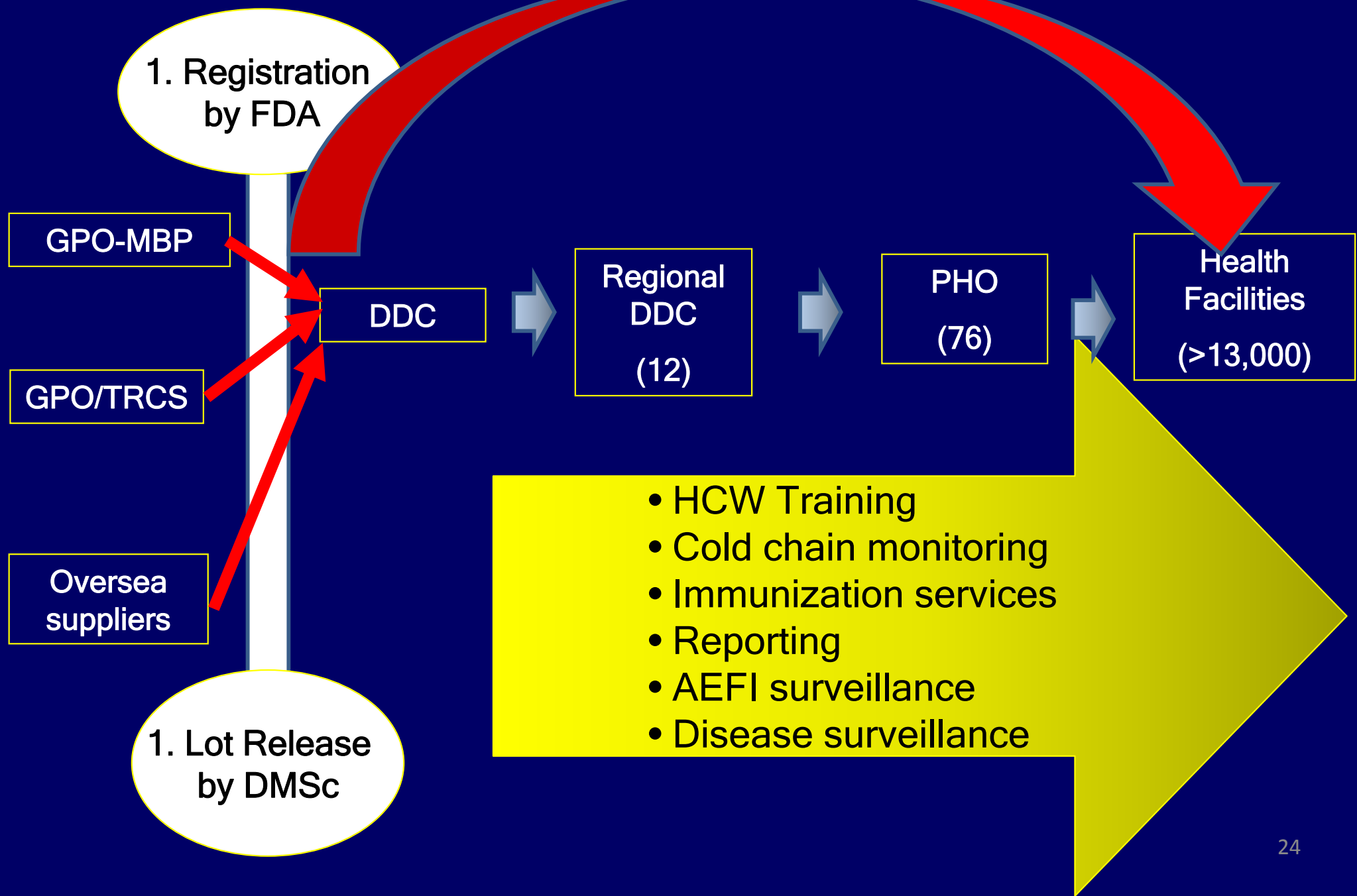
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- Primary immunization should be started in infant.
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- **Program Implementation**

- Starting introduction in private sector, then introducing into EPI beginning with a pilot and then expanding stepwise
- Strengthening the system: Vaccine quality control and assurance, cold chain monitoring, staff training, service system, reporting, AEFI & disease surveillance
 - Vector control should be still carried on.

Current Vaccine Logistics Pathway



Conclusion

- Dengue vaccine, which is safe, efficacious, affordable, and applicable under existing infra-structure, is expected for the introduction.
- Dengue immunization program is likely to start in private sector and, then adopted into EPI with pilot and expanding program in infants; catch-up program for older age group is next priority.
- Information on vaccine safety & efficacy as well as economic & operational models for plausible scenarios are necessary, which should be made available as soon as possible, before availability of the vaccine.

Acknowledgement

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Thank you very much

