

Application of epidemiology to influence policy:
Thailand's experiences
in the preparedness and response
to emerging infectious diseases

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Outline

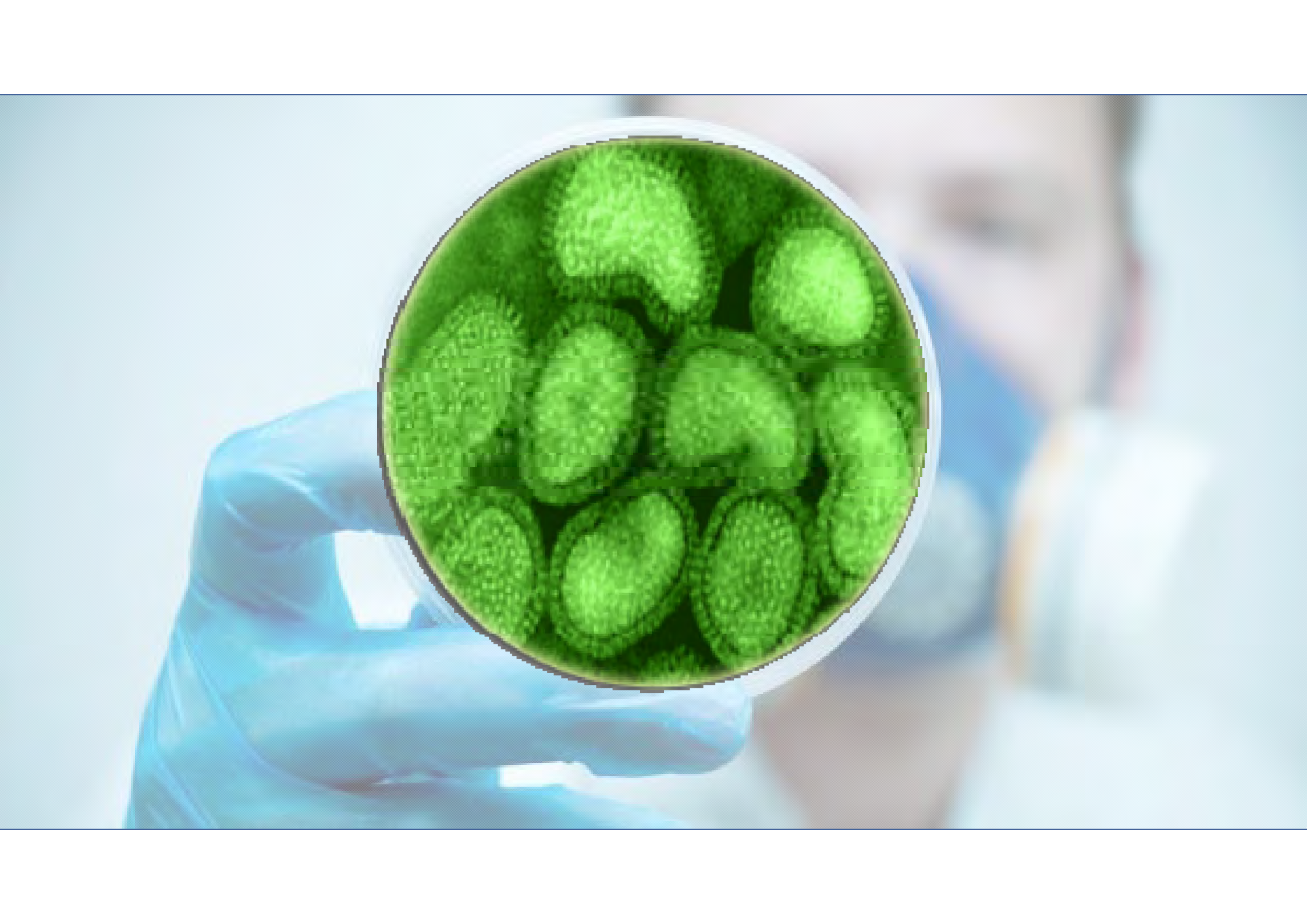
- EID threats and epidemiology in policy process
- Case study 1 - Driving policy on influenza vaccine capacity
- Case study 2 - Framing policy for influenza vaccination
- Case study 3 - Extension to national strategy on EID
- Key lessons learned

EID threats

A person wearing a blue lab coat and a white face mask is looking through a petri dish. Inside the petri dish, a glowing blue, spiky virus particle is visible, surrounded by other smaller, less distinct particles. The background is a blurred laboratory setting.

Thailand as well as fellow countries have been struggling to get prepared and respond effectively to EIDs.

- SARS
- Avian & pandemic influenza
- Ebola
- MERS
- Zika virus
- other



Finance,
admin. &
logistics

Policy
develop.
& support

EID
preparedness
& response

Manpower
& infrastr.

Technical
& strategic

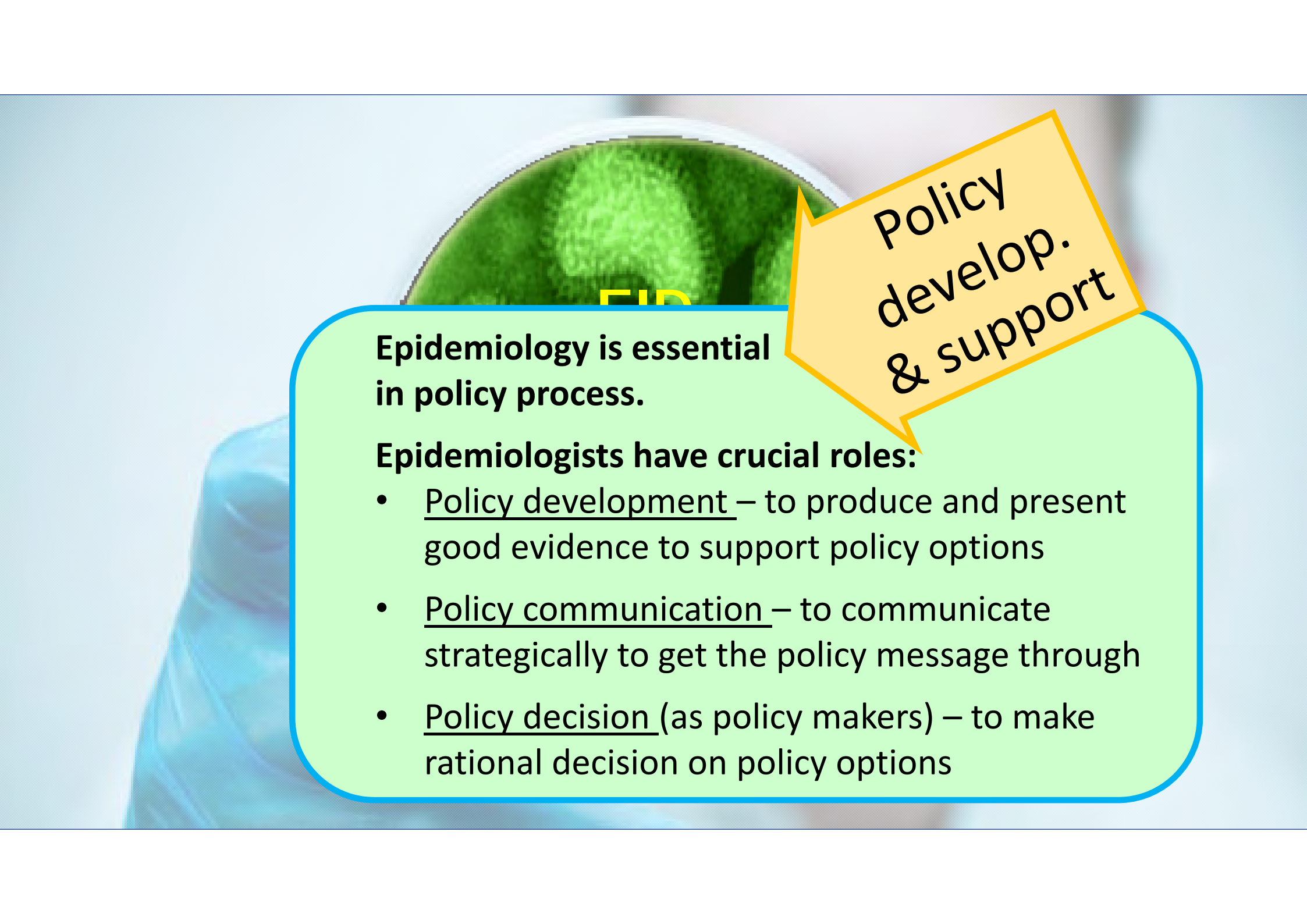
A hand in a blue glove holds a green globe. The globe has the text 'EID' in yellow. To the left of the globe, the text 'preparation & implementation' is partially visible in yellow. An orange speech bubble points to the globe with the text 'Policy develop. & support'. A light green rounded rectangle contains a bulleted list.

EID

preparation
& implementation

Policy
develop.
& support

- Clear policy direction is essential for coordinating multi-sectoral efforts.
- Strong policy support is crucial for mobilizing funding, essential resources and cooperation .




**Epidemiology is essential
in policy process.**

Epidemiologists have crucial roles:

- Policy development – to produce and present good evidence to support policy options
- Policy communication – to communicate strategically to get the policy message through
- Policy decision (as policy makers) – to make rational decision on policy options

**Policy
develop.
& support**

A large crowd of people, mostly of East Asian descent, is shown wearing white face masks. The crowd is dense and fills the background. In the center, there is a circular graphic with a green, textured background. Overlaid on this graphic is the text "Case 1 Drive for influenza vaccine capacity" in a yellow, sans-serif font.

Case 1
Drive for
influenza vaccine
capacity



Drive for influenza vaccine capacity RATIONALE

- In the face of influenza pandemic, vaccination is the most effective strategy.
- To ensure national security in pandemic, access to a pandemic vaccine must be secured.
- Policy for national capacities on influenza vaccine and vaccination is essential.



Drive for influenza vaccine capacity **EVIDENCE**

Estimated impacts of a flu pandemic

- Low estimates: 6.5 M cases;
6,500 – 35,000 deaths
- High estimates: 26 M cases;
26,000 – 143,000 deaths

(Ref. National strategic plan on AI & PI, 2005-2007)

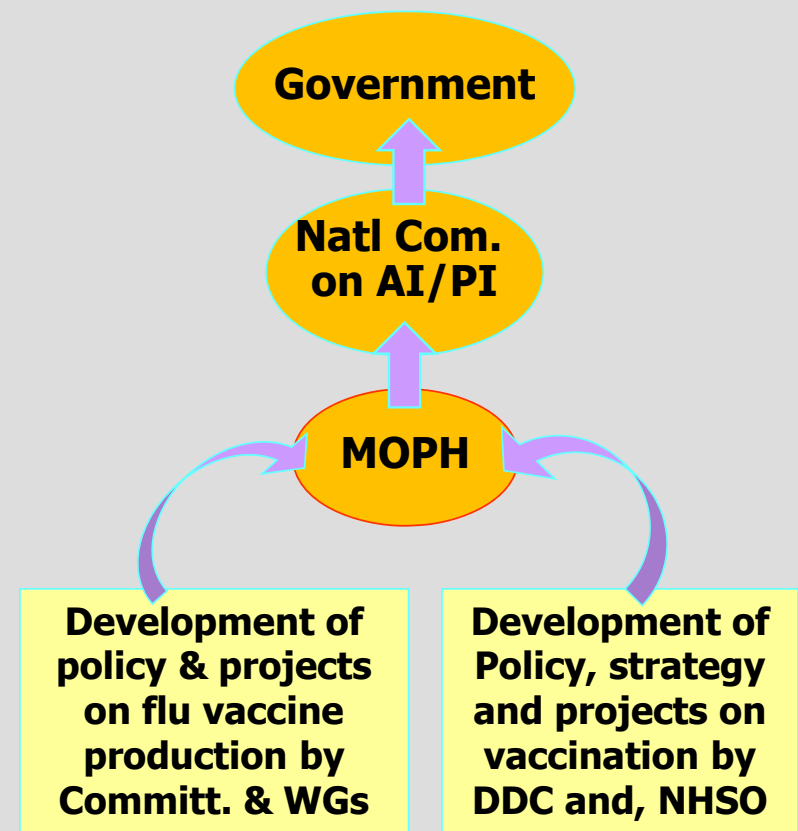
Estimate of economic impact

- 0.39% GDP loss from avian influenza outbreaks in 2004, as benchmark for estimation of influenza pandemic

(Ref. NESDB 2005)

Drive for influenza vaccine capacity POLICY PROCESS

- Development of policy & projects on flu vaccine manufacture by ad hoc committees & WGs
- Development of policy and projects on vaccination by DDC & NHSO
- Policy and projects were proposed through MOPH, National Committee for Government approval





Drive for influenza vaccine capacity
COMMUNICATION STRATEGY

- Highlighting national security
- “Siamese Twins” logics

Drive for influenza vaccine capacity **COMMUNICATION STRATEGY**

Highlighting national security for establishing influenza vaccine manufacture

- A pandemic will cause numerous cases & deaths, huge economic loss or recession, profound political instability, tremendous impact on work force and armed forces; ultimately - the national security.
- National security is beyond conventional health economic analysis.



**NATIONAL
SECURITY**

Drive for influenza vaccine capacity **COMMUNICATION STRATEGY**

“Siamese Twins” logics for influenza vaccination

- **Reducing burden of season influenza**
 - Reduce morbidity and mortality from influenza, pneumonia & complications
 - Reduce economic and social impacts
- **Supporting Pandemic preparedness**
 - Create demand for vaccine production
 - Improve infra. & systems for vac delivery
 - Familiarize people & health providers with flu vaccination



Drive for influenza vaccine capacity **OUTCOME / PROGRESS**

Influenza vaccine manufacture

- Construction > 90% completed
- First batch expected in 2020
- Capacity 2-10 M doses/yr
- To shift to producing a pandemic vaccine when needed
- R&D for a LAIV H5 finished, registered for pandemic use
- Surge capacity planning in process





Case 2
Framing influenza
vaccination
policy



Framing influenza vaccination policy

RATIONALE

Rationale for establishing influenza vaccination

- Reducing burden of season influenza
- Supporting Pandemic preparedness

Key questions for vaccination policy

- Who to be vaccinated?
- When to vaccinate?
- What vaccine will be chosen?
- What vaccination model to be used?

Framing influenza vaccination policy EVIDENCE

Target group for vaccination

With limited budget, aiming primarily to reduce severity and deaths in high risk populations

- Target groups were identified through assessment of influenza risks in different pop. based on epidemiologic data, assessed & recommended by SAGE/WHO
- WHO recommended targets were ascertained and prioritized based on existing data from surveillance & studies.

Recommended target pop:

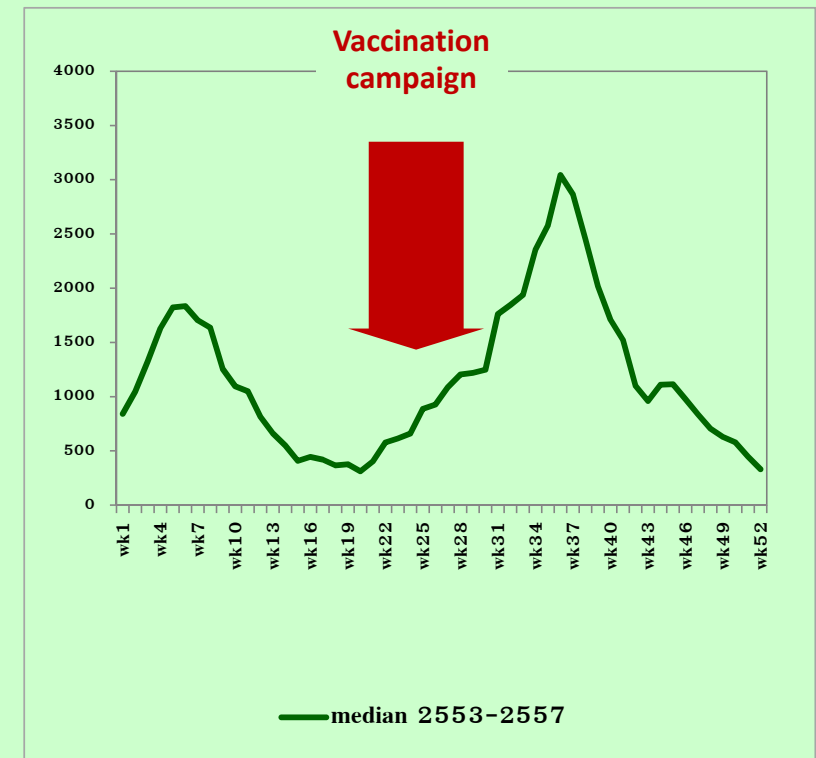
- *Pregnancy (2nd -3rd tri.)*
- *Chronic diseases*
- *Elderly (> 65 yrs.)*
- *HIV infection,*
- *Mental disability*
- *Obesity (> 100 kgs.)*
- *children 6 mos.-2 yrs.*
- *Health care workers*

Framing influenza vaccination policy

EVIDENCE

Timing for vaccination

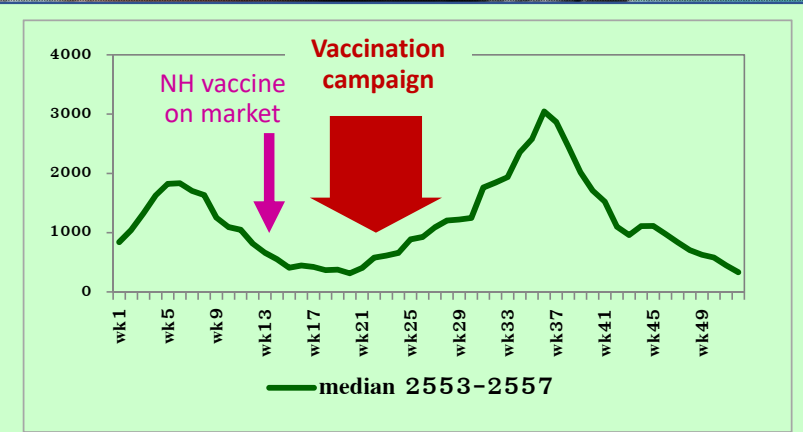
- Based on surveillance, influenza in Thailand has bimodal seasonality, higher peak in the rainy season (Jun-Oct).
- ACIP recommended that vaccine be given early in the influenza season, as soon as vaccine is available on market.
- Annual vaccination campaign is set to start in April-May to maximize impact from vaccine.



Framing influenza vaccination policy EVIDENCE

Choice of vaccine strain

- Based on retrospective review, circulating influenza virus strains in Thailand matched equally well with NH or SH vaccine of the respective year.
- SH strain vaccine is available on Thai market by March, and locally produced vaccine is available by April-May, therefore, SH strain vaccine is chosen for its freshness for campaign.

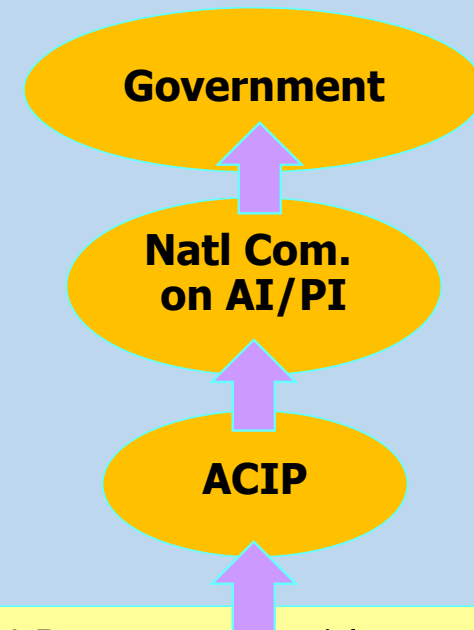


[http://images.craveonline.com/article_imgs/Image/vaccine\(1\).jpg](http://images.craveonline.com/article_imgs/Image/vaccine(1).jpg)

Framing influenza vaccination policy

POLICY PROCESS

- The national immunization program (NIP) prepared evidence for the consideration of ACIP on policy options.
- ACIP provided recommendation to NIP/DDC/MOPH on influenza vaccination policy and strategy.
- NIP formulated influenza vaccination program in coordination with NHSO and other concerned agencies based on ACIP recommendation.



NIP prepared evidence for ACIP consideration on policy options

Framing influenza vaccination policy

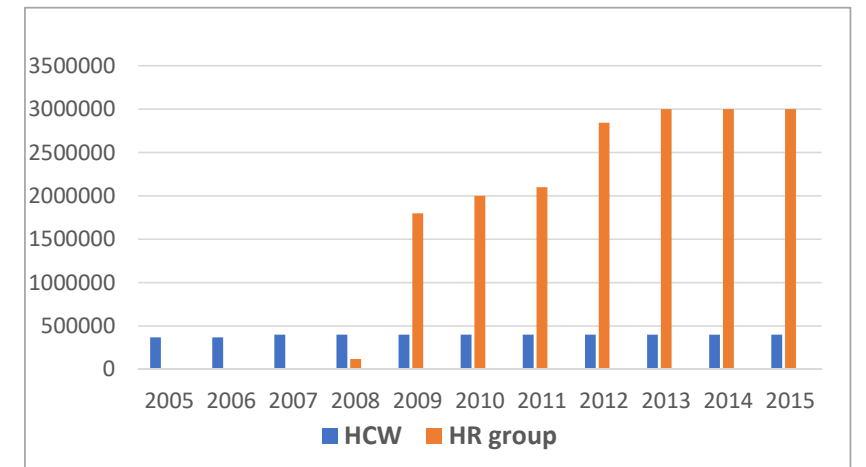
PROGRESS


■ Vaccination to HCW

- since 2004
- maintained at 0.4 M doses/yr
- high coverage

■ Vaccination to high risk pop.

- Since 2005, stepwise expansion
- maintained at 3 M doses/yr
- improving coverage



The background of the slide is a microscopic image showing various virus particles. A large, prominent green virus particle is centered in the foreground, containing several smaller, spherical subunits. The background is a dark, reddish-brown color with numerous other virus particles of various sizes and shapes, some appearing as small spheres and others as larger, more complex structures with surface proteins.

Case 3
Extension to
National Strategy
on EIDs

Extending to National Policy & Strategy on EIDs

RATIONALE

- Devastating impact of EID; need for preparedness & capacities

EVIDENCE

- Previous records & statistics; national experiences with SARS, AI/PI, etc.

POLICY PROCESS

- MOPH-partners collaborating on development of policy and National Strategy on EIDs, seeking advocacy of the NS from various partners, and forwarding it through concerned authorities and national committees to the Government

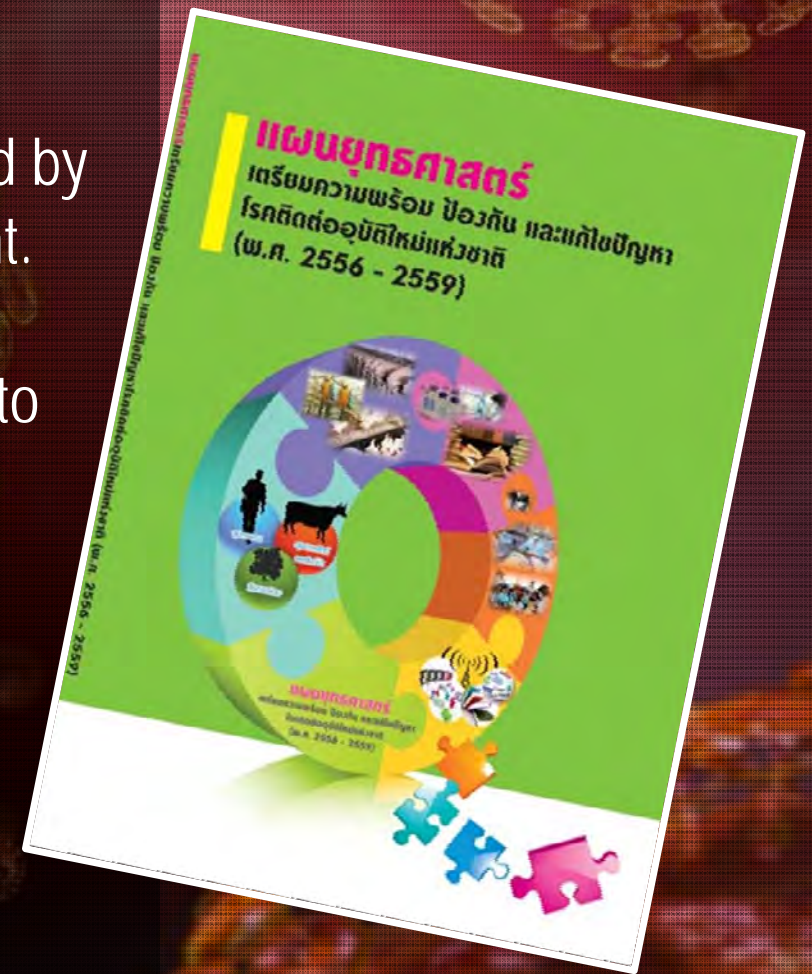
COMMUNICATION STRATEGY

- Stressing on need to ensure national security, political stability and mitigation of health and economic impact

Extending to National Policy & Strategy on EIDs

PROGRESS

- A National Strategic Plan on EIDs was endorsed by National Com on EIDs approved by Government.
- The National Plan is observed and translated into actions plans by several multi-sector partners.
- Budgetary support has been provided to many agencies in reference to the National Plan.
- Simulation exercises of action plans have been extensively conducted on several EID threats.



Key lessons learned

- Epidemiologists can make a big difference by influencing policy if they are aware of their potential and have a will to do so.
- Influencing policy has as much to do with the art of communicating policy message as the science of producing good evidence.
- Backgrounds and agendas of the policy makers must be well heeded.
- Involvement of multi-sectors and the public is fundamental for achievements.



Thank you