Coverage decision and medical practices: the role of health technology assessment in Thailand

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Background

Population 67 millions

Total health expenditure (THE): 3.7% of GDP (Public 77%)
Sources: National Health Account Report, 2013

GDP per capita: 5,779 USD
Sources: World Bank, 2016

Establishment of the Universal Coverage Scheme (UCS) in 2002 (~1/5 of THE)

Universal Health Coverage

Sources: National Health Account Report, 2013

World Bank, 2016
Role of HTA in Thailand

Semi-autonomous, non-profit institute under the MoPH, Thailand

UCS Establishment 2002

HTA on RRT for ESRD 2004

PD-first policy for UC 2005

2007

HTA-informed benefit package development for UCS and NLEM 2008/2009

Thai HTA guideline and standard cost list database issued 2009

2008/2009

2nd Thai HTA process guideline issued 2011
Health Technology assessment: HTA

- Value for money
  - Incremental cost-effectiveness ratio (ICER)
  - Cost-effectiveness threshold = 160,000 THB/QALY (5,000 USD)
- Budget impact compared current practice and new intervention
- Feasibility study

HITAP has no mandate to make any policy decision but inform policy development
## HTA-informed decision making

<table>
<thead>
<tr>
<th></th>
<th>National List of Essential Medicine development (NLEM)</th>
<th>Non-pharmaceutical package development (UCS benefit package)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Responsible authority</strong></td>
<td>National Drug Committee chaired by Deputy Prime Minister</td>
<td>National Health Security Board chaired by Health Minister</td>
</tr>
<tr>
<td><strong>Year of establishment</strong></td>
<td>1981</td>
<td>2002</td>
</tr>
<tr>
<td><strong>Year of HTA introduction</strong></td>
<td>2008</td>
<td>2009</td>
</tr>
<tr>
<td><strong>Groups responsible for topic nomination</strong></td>
<td>20 medical specialist groups and the Subcommittee for development of NLEM</td>
<td>7 stakeholder groups (decision makers, academics, professionals, industry, civil society, patients and the public)</td>
</tr>
<tr>
<td><strong>Technical body supporting HTA data</strong></td>
<td>Health Economic Working Group (HITAP as the secretariat)</td>
<td>IHPP, HITAP, and academics</td>
</tr>
<tr>
<td><strong>Evidence requirement</strong></td>
<td>Cost-utility, budget impact, price negotiation</td>
<td>Cost-utility, budget impact, feasibility, accessibility</td>
</tr>
<tr>
<td><strong>Current capacity</strong></td>
<td>12-18 HTAs conducted annually by 4-6 public institutes and private firms</td>
<td>10 HTAs conducted annually by IHPP/HITAP</td>
</tr>
<tr>
<td><strong>Implementing agency</strong></td>
<td>Three public insurance schemes (UCS, CSMBS, SSS)</td>
<td>National Health Security Office (for only UCS)</td>
</tr>
</tbody>
</table>
### Thailand HTA process guidelines

<table>
<thead>
<tr>
<th>Step 1</th>
<th>“Stakeholders’ meeting on scope of the study”</th>
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</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Researchers present proposal to the Health Economic Working Group</td>
</tr>
<tr>
<td>Step 3</td>
<td>Researchers conduct studies</td>
</tr>
<tr>
<td>Step 4</td>
<td>“Stakeholders’ meeting on the preliminary results of the study”</td>
</tr>
<tr>
<td>Step 5</td>
<td>Research quality inspection: internal and external reviewers</td>
</tr>
<tr>
<td>Step 6</td>
<td>Researchers present the results to the Health Economic Working Group</td>
</tr>
<tr>
<td>Step 7</td>
<td>Writing up the study report that include executive summary and policy recommendation</td>
</tr>
</tbody>
</table>

*Stakeholders include medicine nominators, practitioners and all clinical experts in the field, and pharmaceutical representatives*
Incr. LYs
Incr. cost
500,000
-500,000
-5
5

1. ICER 300,000 THB/QALY at current price

2. Negotiated price based on CE threshold

3. Final negotiated price based on budget impact and affordability of 3 schemes

Accept the technology if ICER < 160,000 THB/QALY*

*5,000 USD (1 USD = 35 THB)
# Appraisal results and decision making

<table>
<thead>
<tr>
<th>Policy recommendation</th>
<th>Assessment results*</th>
<th>Not cost-effective (ICER &gt;1 per-capita GDP/QALY)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Low budget impact†</td>
<td>High budget impact†</td>
</tr>
<tr>
<td></td>
<td>Low budget impact</td>
<td>High budget impact</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td>Recommended</td>
<td>● Lamivudine for treatment of people with chronic hepatitis B</td>
<td>● Imiglucerase for Gaucher type 1</td>
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<td></td>
<td>● Intravenous cyclophosphamide + azathioprine for treating severe lupus nephritis</td>
<td>● PD-first policy for ESRD</td>
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<tr>
<td></td>
<td>● Smoking cessation program</td>
<td></td>
</tr>
<tr>
<td>Not recommended</td>
<td>● Implant dentures for people who have problem with conventional complete dentures</td>
<td>● Pegylate interferon alpha 2a + ribavirin for treating hepatitis C</td>
</tr>
<tr>
<td></td>
<td>● Absorbent products for urinary and fecal incontinence among disabled and elderly people</td>
<td>● Anti-immunoglobulin E for severe asthma</td>
</tr>
</tbody>
</table>

ICER, incremental cost-effectiveness ratio; GDP, gross domestic product; QALY, quality-adjusted life-year; THB, Thai baht.

* Two cost analysis studies, that is, screening for risk factors for leukemia in people living in the industrial areas, and system for screening, treatment, and rehabilitation of alcoholism, are not included in this table.

† High budget impact >THB 200 million per annum; low budget impact ≤THB 200 million per year.
HTA-informed price negotiation

Cost-effectiveness of treatment for chronic hepatitis C

- *Peg-interferon alpha 2a,2b plus ribavirin* offer cost-saving option.
- Medicines were included in NLEM in 2011.

**Price negotiation of PEG-IFN (180 mcg)**

- New costly treatment (*Sofosbuvir*) is under consideration.

**Potential saving per year**

= 600 million THB

Other considerations

• Feasibility

Hematopoietic stem cell transplantation (HSCT) for severe thalassemia patient

➢ Related HSCT was cost-effective.
➢ UCS Subcommittee agreed to include the transplantation in the benefit package, but feasibility of the service provision needed to be studied.

• Social and ethical issues

HLA-B*1502 screening for preventing severe adverse drug reactions

➢ Carbamazepine is the first line treatment for epilepsy and neuropathic pain.
➢ Cost-effectiveness results are contradict.

Barriers to the development of HTA systems

- Silo-based decision-making process
- Low quality decision-making criteria
- Respect for expert opinions or authorities
- Strict control on research dissemination

Source: Policy brief and working paper: Conductive factors to the development of HTA in Asia. PMAC 2016
Six contextual factors of the establishment of HTA systems

- Settings’ independence from external support
- Effective collaboration between HTA agencies and local stakeholders
- Local training on HTA-related disciplines
- High proportion of public investment
- Political will, leadership, and legislation
- Good health information infrastructure

Source: Policy brief and working paper: Conductive factors to the development of HTA in Asia. PMAC 2016