Developing effective HTA structure
within HEALTHCARE SYSTEM

LESSON LEARNT FROM THAILAND

Netnapis Suchonwanich
Advisor of HITAP, Thailand
Former Deputy Secretary General of NHSO, Thailand
Health Insurance Schemes

- Gradual insurance coverage expansion given strong health care infrastructure

- **Civil Servant Medical Benefit Scheme (since 1980)**
  - Coverage: 5 M (7.66%)

- **Social Security Scheme (since 1990)**
  - Coverage: 11.8 M (18.07%)

- **Universal Coverage Scheme (since 2002)**
  - Coverage: 48.5 M (74.27%)

- General tax
- Non-contributory
- Fee for service (OP), DRG (IP)
- Comprehensive benefit package

- Payroll tax
- Tripartite contribution
- Capitation, DRG
- Comprehensive benefit package

- General Tax
- Non-contributory
- Capitation, global budget and DRG
- Comprehensive benefit package
Proposed versus approved capitation rate for UCS
Baht per capita nominal term 2002-2010

3109.78 Baht in 2017 equivalent to 94.23 USD for a basic package
The balanced perspectives

Access and efficacy

Adequacy

Efficacy

Public Health Insurance

Limit

Increasing

New advanced
Policy makers need more evidences

Faster access
- new drug
- Advanced technology
- Expensive intervention
don’t always get better outcomes

Global

UHC
new drug, advanced technology,
budget constraints

country

organization

Health Intervention and Technology Assessment Program
Strategies for increasing the value for money

**Policy**: NLEM, HTA, price negotiation, reimbursement with std. protocol, strong M&E

**Procurement**: central purchasing for spec. access items, distribution by VMI (vendor managed inventory), quality assurance

**Information**: National code for medicine, instrument & diagnosis

-Safety: Rational use of medicines
-Medication error
-Drug related problems
-Drug adherence etc.

-Quality: P4P, QOF, QS, P4Q

NLEM = National list of essential medicines
HTA = Health technology assessment
QOF = Quality outcome framework
QS = Quality Standard
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

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

Thai HTA guideline and standard cost list database issued 2009

2nd Thai HTA process guideline issued 2011

2007
Using HTA in benefit package decisions in Thailand

HTA = Health Technology Assessment
NLEM = National list of essential medicines
Benefit Package of the Universal Coverage Scheme

I. There were a large number of issues proposed by various groups of stakeholders to the SCBP.

II. The presentations made to the SCBP varied in the quality of evidences to support the proposals wherein some presentations were based on expert opinions or case studies.

III. It was evident that there was a bias toward power groups who could lobby the Secretariat.

Three major problems:

SCBP = Sub-committee for the development of Benefits Package and Service Delivery
NHSB = National Health Security Board

UCBP = The Development of the Universal Health Coverage Benefit Package Project
HITAP = Health Intervention and Technology assessment Program
IHPP = International Health Policy Program
Benefit Package of the Universal Coverage Scheme

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Three major problems:

- Systematic
- Transparent
- Participatory
- Evidence-based

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Key Developments of Benefit Package under UCs

Nominate
New benefit

- Health professional
- Complaint
- Public hearing

Review
Evidence

Research Organizations

Prioritize/Select
Topic

The working group on Topic Selection

Conduct Assessment

Research Organizations

Implement
New benefit

NHSO

Make a decision

NHSB

Consider result

Working groups (HWG and SCBP)

BP = Benefit Package
UCs = Universal Health Coverage Scheme
NHSB = National Health Security Board
NHSO = National Health Security Office
SCBP = Sub-committee for the development of Benefits Package and Service Delivery
HWG = Health Economics Working Group
Why do we need “HTA process guideline”?

HITAP’s guiding principles:
- Transparency
- Inclusiveness
- Consistency
- Timeliness
- Accountability
- Quality
**Thailand HTA process guidelines**

**Step 1**
*Stakeholders’ meeting on scope of the study

**Step 2**
Researchers present proposal to the Health Economic Working Group

**Step 3**
Researchers conduct studies

**Step 4**
*Stakeholders’ meeting on the preliminary results of the study

**Step 5**
Research quality inspection: internal and external reviewers

**Step 6**
Researchers present the results to the Health Economic Working Group

**Step 7**
Writing up the study report that include executive summary and policy recommendation

*Stakeholders include medicine nominators, practitioners and all clinical experts in the field, and pharmaceutical representatives*
Topic nomination meetings of civil groups and lay citizens
The Development of the Universal Health Coverage Benefit Package Project

Between 2010-2015

129 Nominated 63 Selected for assessment

The Number of Nominated and Selected Topics

<table>
<thead>
<tr>
<th>Category</th>
<th>Nominated</th>
<th>Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare industry</td>
<td>34</td>
<td>15</td>
</tr>
<tr>
<td>Lay citizens</td>
<td>26</td>
<td>10</td>
</tr>
<tr>
<td>Policy makers</td>
<td>24</td>
<td>16</td>
</tr>
<tr>
<td>Health professionals</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>Academics</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>Civil society</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Patient associations</td>
<td>9</td>
<td>4</td>
</tr>
</tbody>
</table>

Type of topics

- Screening and diagnosis: 31%
- Medicines/Vaccine: 25%
- Medical Devices: 23%
- Service Package: 21%

Health Intervention and Technology Assessment Program
UCBP process 2018

Nominate the topics annually

Review evidence based on the topic selection criteria

Prioritize the topics by the working groups for an assessment based on consensus

Present a list of prioritized topics to HTA WG

Need or impact for BP review
- New benefit
- Existing benefit with ineffective coverage
- Implementation research

Conduct an assessment by HTA institutes & submit to HTA WG
- Health outcome
- Budget impact
- Feasibility
- Economic evaluation
- Social/Ethical impact

Make a decision by Sub-committee for the development of Benefits Package and Service Delivery

8 groups
- Policymakers
- Health professionals
- Academics
- Healthcare industry
- Other subcom/working group

3 working groups
- working groups on topic review & selection
- Benefit package subcom.
- Health Economic working group

Decision
Using HTA in benefit package decisions in Thailand

HTA = Health Technology Assessment
NLEM = National list of essential medicines
Selection Process of Thai National List of Essential Medicines (NLEM)

The 22 National Expert Panels for each drug group appraisal for the items included in NLEM.

The Screening Working Group coordinate results from 24 working groups cost-effectiveness, equity, national affordability.

NLEM Subcommittee approve NLEM.

NLEM Committee make a final decision

Academics
Industrial
Public hearing

Priority setting steps before reimbursement

The Health Economic Working Group
Price negotiation working Group
Priority setting step before final approval

- Burden of diseases
- Alternative drug in same therapeutic group
- Total cost of treatment
- Efficacy & safety
- Budget impact

Summation scores and Priority Setting for Items to be listed in NLEM
Cost-Effectiveness threshold and price negotiation

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)

- If success: doesn’t mean to be included in NLED
- If not: doesn’t mean to be excluded
What HTA provided for UCS development

- Evidence of cost effectiveness
- 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
  - Simulation the threshold affordable prices for price negotiation
- Equity considerations
## Using economic evaluation to inform NLEM development during 2007-2010

<table>
<thead>
<tr>
<th>Cost-effectiveness study</th>
<th>Finding</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMG-CoA reductase inhibitors</td>
<td>Atorvastatin not cost-effective</td>
<td>Not included atorvastatin in the list</td>
</tr>
<tr>
<td>Osteoporosis drugs</td>
<td>not cost-effective</td>
<td>Not included in the list</td>
</tr>
<tr>
<td>Acetylcholinesterase inhibitors</td>
<td>not cost-effective</td>
<td>Not included in the list</td>
</tr>
<tr>
<td>Peginterferon alfa-2a, 2b</td>
<td>cost-effective</td>
<td>Included in the list</td>
</tr>
<tr>
<td>Tenofovir</td>
<td>cost-effective</td>
<td>Included in the list</td>
</tr>
<tr>
<td>Oxaliplatin</td>
<td>not cost-effective</td>
<td>Price negotiation and included in the list</td>
</tr>
</tbody>
</table>
Basic of decision making for policy maker

• Subsidy considered on the basis of Cost effectiveness, incremental cost effectiveness ratio (ICER)

→ Cost effectiveness is a key, but not sole criterion for listing

• Catastrophic prevention
• Medium to long term budget impact assessment
• Ethical consideration
• Supply side capacity to scale up new interventions
• Equity consideration
• Monitoring and evaluation
  - Accessibility, Efficiency, Quality and Effectiveness in Healthcare
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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low budget impact†</td>
<td>High budget impact†</td>
</tr>
<tr>
<td>Recommended</td>
<td>Lamivudine for treatment of people with chronic hepatitis B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intravenous cyclophosphamide + azathioprine for treating severe lupus nephritis</td>
<td></td>
</tr>
<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></td>
</tr>
<tr>
<td></td>
<td>Pegylate interferon alpha 2a + ribavirin for treating hepatitis C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Absorbent products for urinary and fecal incontinence among disabled and elderly people</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anti-immunoglobulin E for severe asthma</td>
<td></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.
Before using IRP, Thailand must first use HTA to determine the value and prioritize each new product.

<table>
<thead>
<tr>
<th>Level of coverage</th>
<th>Time to reimbursement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (≥80%)</td>
<td>Slow (&gt;3 years post-launch)</td>
<td>7</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium (≥40%, &lt;80%)</td>
<td>Delayed (1-3 years post-launch)</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low (&lt;40%)</td>
<td>Fast (within 1 year of launch)</td>
<td>9</td>
<td>6</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **1. Product of high clinical/economic value to the whole population;** e.g., vaccines
- **2. Product of high clinical value to a large sub-population;** e.g., HIV anti-virals
- **3. Product of high clinical value to a small population;** e.g., post chemo oncologics
- **4. Product of value to whole population, but not an imminent priority;** e.g., antibacterials where alternatives exist
- **5. Product of value to a large sub-population, but not an imminent priority;** e.g., novel anti-diabetics,
- **6. Product of value to a small population, but not an imminent priority;** e.g., anti-TNFs after DMARD failure
- **7. Product useful to whole population, however several low-cost alternatives exist;** e.g., statins with generics
- **8. Product useful to large sub-population, and several low-cost alternatives exist** e.g., cvd drugs
- **9. Product useful to small sub-population, and several low-cost alternatives exist**