Health technology assessment and policymaking in Thailand

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Outline
Health financing profile

- Population: 67 million
- Income per capita: USD 4,210
- Life expectancy: 75.3 (F), 70.5 (M)
- Total health expenditure: USD 11.2 billion (4% of GDP)
- Public: household finance: 74%: 18% of THE
- Government-financed benefit plans (% coverage):
  - Social Security Scheme (13%)
  - Civil Servant plan (12%)
  - Universal Health Coverage plan (UHC) (74%)

(Data on health expenditure from National Health Account 2008, IHPP)
Milestones of HTA development in Thailand

1982: First econ. evaluation publication
1990: Center for Health Econ.
1991: TASSIT
1993: Health econ. in schools of pharmacy
1997: Economic recession
1999: Universal Coverage plan
2002: HTA unit, MOH
2005: ISPOR Thai Chapter
2007: HITAP Guidelines, database
2008: Health econ. for coverage decisions
2009: Universal Coverage plan

TASSIT: Technology Assessment for Social Security in Thailand
ISPOR: International Society for Pharmacoeconomics and Outcomes Research
HITAP: Health Intervention and Technology Assessment Program
Current development of HTA in Thailand

• Expanding area of research, with policymakers’ demands

• General perception: HTA = economic evaluation

• No commonly-accepted direction and guidelines for social and ethic analysis

• High-education training in schools of pharmacy (Pharmacoeconomics courses)

• HTA units: HITAP and others in universities

• Established standards, guidelines, tools:
  • National Methodological Guidelines for HTA
  • Cost-effectiveness threshold – 1 GNI per capita per QALY gained
  • Thailand’s HTA database
  • Standard Costs Menu

• Contributions to policies
Utilization of HTA in coverage decisions

- **Universal Health Coverage plan – benefit package**
  - UHC manager: National Health Security Office (NHSO)
  - Literally, all services are covered, except those on ‘negative’ list
  - Interventions: diagnosis, treatment, prevention, health promotion, rehabilitation
  - Focus: safety, effectiveness, cost-effectiveness, budget impact

- **National List of Essential Medicines (NLEM)**
  - Executive Committee, with support from technical working groups
  - National pharmaceutical benefit package
  - Interventions: pharmaceuticals, vaccines and other biological products
  - Focus: safety, effectiveness, cost-effectiveness, budget impact and others
Health Intervention and Technology Assessment Program

Staff: Total 50
- 40 researchers & RAs
- 7 PhD, 20 MSc (4 PhD candidates)
- Mentors: fellows 1:5

Finance: 1 million USD a year
- Domestic: international 9:1

HTA:
- Research
- Infrastructure development
- Capacity building
- Policy connection
- Dissemination

Networks: domestic & international
- Researchers/experts
- HTA users: policymakers, practitioners
- HTA units in Asia - HTAsiaLink
- Others

Autonomous HTA unit, under Ministry of Health
HITAP’s HTA processes

1. **Appraisal of results**
   - Peer review, submission of comments and discussion
   - HITAP, experts, private business/industry, policy makers, consumers/beneficiaries

2. **Dissemination of results and recommendations**
   - Publication, presentation and dialogues
   - HITAP, funding agencies, the media, consumer groups and other NGOs

3. **Conducting HTA research**
   - Consultation and technical collaboration
   - HITAP, experts and relevant stakeholders

4. **Topic Selection**
   - Consultation
   - HITAP, policy makers, healthcare providers, consumer groups, professional associations, etc.

- UHC benefit package: 5 topics/year
- NLEM: 5 topics/year
Steps in HTA applied by HITAP

**HTA phase**
- Topic selection
- Conducting HTA research
- Appraisal of results
- Dissemination of results and recommendations

**Approaches**
- Consultation
  - Consultation (to identify research questions)
  - Technical collaboration

**Participants**
- HITAP, policy makers, healthcare providers, consumer groups, professional associations, etc.
- HITAP, experts and relevant stakeholders
- HITAP, funding agencies, the media, consumer groups and other NGOs

HITAP itself have no mandate to make any policy decision but to inform policy development.
UHC benefit package development

Participatory-Transparent-Evidence-based-Contestable

Criteria:

- Magnitude & severity of problems
- Effectiveness of interventions
- Variation in practice
- Financial impact on households
- Equity & ethical dimension
  - problem of the marginalized
  - rare diseases

Nomination of interventions

Prioritization

Assessments

Appraisals

Decisions

Appeals by stakeholders
### Examples of using pharmacoeconomics to Inform the sub-committee of NLEM (2007-2011)

<table>
<thead>
<tr>
<th>Drugs under consideration</th>
<th>ICER (Baht/QALY)</th>
<th>Coverage decisions</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>recombinant human erythropoietin (rHuEPO) treatment in chemotherapy-induced anemia</strong></td>
<td>negative dominant</td>
<td>No</td>
<td>2008</td>
</tr>
<tr>
<td><strong>osteoporosis drugs</strong> (alendronate, residronate, raloxifene) for primary and secondary prevention of osteoporotic fractures</td>
<td>300,000-800,000</td>
<td>No</td>
<td>2009</td>
</tr>
<tr>
<td><strong>atorvastatin, fluvastatin. pravastatin</strong> for primary prevention of cardiovascular disease</td>
<td>negative dominant</td>
<td>No</td>
<td>2009</td>
</tr>
<tr>
<td><strong>galantamine</strong> for treatment of mild-to-moderate Alzheimer's disease</td>
<td>157,000</td>
<td>No</td>
<td>2010</td>
</tr>
<tr>
<td><strong>donepezil, rivastigmine</strong> for treatment of mild-to-moderate Alzheimer's disease</td>
<td>180,000-240,000</td>
<td>No</td>
<td>2010</td>
</tr>
<tr>
<td><strong>adefovir, entecavir, telbivudine, pegylate interferon alpha 2a</strong> for treatment of chronic hepatitis B</td>
<td>negative dominant</td>
<td>No</td>
<td>2011</td>
</tr>
<tr>
<td><strong>simvastatin</strong> for primary prevention of cardiovascular disease</td>
<td>82,000</td>
<td>Yes</td>
<td>2009</td>
</tr>
<tr>
<td><strong>pegylate interferon alpha 2a&amp;2b</strong> plus ribavirin for treatment of chronic hepatitis C subtype 1 4 5 &amp; 6</td>
<td>cost-saving</td>
<td>Yes</td>
<td>2011</td>
</tr>
<tr>
<td><strong>lamivudine or tenofovir</strong> for treatment of chronic hepatitis B</td>
<td>cost-saving</td>
<td>Yes</td>
<td>2011</td>
</tr>
</tbody>
</table>
## Decision making

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<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nilotinib</strong> for the second-line treatment of chronic myeloid leukemia</td>
<td>86,000</td>
<td>Yes</td>
<td>2012</td>
</tr>
<tr>
<td><strong>Oxaliplatin (FOLFOX)</strong> for treatment of advance colorectal cancer</td>
<td>126,000</td>
<td>Yes</td>
<td>2012</td>
</tr>
<tr>
<td><strong>Imiglucerase</strong> for treatment of Gaucher disease type 1</td>
<td>6,300,000</td>
<td>Yes</td>
<td>2012</td>
</tr>
</tbody>
</table>

Ceiling threshold = 120,000 THB/QALY
Not just about listing... Pricing negotiation & identifying alternatives

<table>
<thead>
<tr>
<th>Medicines</th>
<th>Original price (Baht)</th>
<th>Negotiated price (Baht)</th>
<th>Potential saving (per annual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenofovir</td>
<td>43</td>
<td>12</td>
<td>375 million</td>
</tr>
<tr>
<td>Peg-2a 180 mcg</td>
<td>9,241</td>
<td>3,150</td>
<td>600 million</td>
</tr>
<tr>
<td>Angiogenesis inhibitor</td>
<td>40,000 (Ranibizumab)</td>
<td>1,000 (Bevacizumab)</td>
<td>1,600 million</td>
</tr>
</tbody>
</table>
Health technologies is cost-ineffective

- Peritoneal dialysis for ESRD (ICER=435,000)
- Hemodialysis for ESRD (ICER=449,000)
- High budget impact

Social considerations

- the catastrophic diseases
- life-saving intervention

Policy recommendations

- peritoneal dialysis was included into UC benefit package
- haemodialysis for those not suitable for peritoneal dialysis
Impacts from HITAP

Making efficient use of health interventions and health budget for the Thai government with established mechanism (saved >1,000 m baht)

Capacity building in Thailand: PhD, master; >150 trained on HTA per year. For other countries: India (30), Maynmar (20), Indonesia, Japan, China, Malaysia, Singapore etc.

Research dissemination: published 60 papers in peer reviewed journals and being cited more than 1,000 times in international journal publications
What are the key success?

- **Getting block grant** in the first five years to establish the organization
- **Building up our own troops** (grooming junior staff) >> building team spirit, working as a team, sharing values, sustainable team (99% still with us), and attracting new talented forces.
- **Establishment of the UC in Thailand** is a good opportunity for HTA
- **Neutral position**
Future challenges

- Demands for HTA continue
  - Rising expenditures of the three benefit plans
  - Medical Device Act: approval of high-cost equipment
  - Strong civil society organizations → transparency
- Strengthened capacity – users & researchers
- Role of industry?
- Expansion of HTA networks, local and regional
Thank you!

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