Current practice of using ICER threshold in Asia: Taiwan

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Incremental Cost-Effectiveness Ratio (ICER)

- When A drug has higher treatment costs and higher outcomes than that of B drug, we should use the ICER to make our decision.

\[
\text{ICER} = \frac{\text{Tx cost of } A - \text{Tx cost of } B}{\text{Effectiveness of } A - \text{Eff. of } B}
\]

Incremental cost-effectiveness plane

[Diagram: Incremental cost-effectiveness plane showing areas of rejection, uncertainty, acceptance]

Adapted from Laupacis et al., 1992

Figure 10.8 Cost-effectiveness plane showing the elliptical shape of the distribution of 95% of bootstrapped ICERs for a treatment that is more costly than the comparator and where the difference in effectiveness is not significant at 5% level.

Figure 10.9 Cost-effectiveness plane showing the elliptical shape of the distribution of 95% of bootstrapped ICERs for a treatment that is more costly than the comparator and where the difference in effectiveness is not significant at 5% level.

Would be accept

Figure 10.11 Cost-effectiveness plane showing the distribution of bootstrapped ICERs for a treatment that is more effective and more costly than the comparator, and the decision-maker’s maximum willingness to pay for a range of values of \( \lambda \).
Threshold of ICER

- USA: US $50,000/QALY (rule of thumb)
- Canada: CAN $20,000 ~ CAN $100,000/QALY
- Australia: AUS$42,000 ~ AUS$76,000/LYG
- NICE: £20,000 ~ £30,000/QALY
- WHO, 2002: < 3 GDP/capita/DALY averted
- Australia PBAC: 1.26 ~ 2.29 GDP/capita/life-year gained
- England NICE: 1.4~2.1 GDP/capita/QALY

Value in Health 2004;7:118. Use of Cost-Effectiveness Analysis in Health-Care Resource Allocation Decision-Making: How are cost-effectiveness thresholds expected to emerge?

Format of the Assessment Report

1. Product information
2. Current status of disease management
3. Availability of assessment report from international society?
   - CADTH/Canada
   - PBAC/Australia
   - NICE/UK
   - SMC
   - Cochrane, INAHTA, CRD (York), Micromedex, MD consult, PubMed, EMBASE
4. Summary of the comparative effectiveness
5. Summary of the economic evaluation
6. Taiwan situation: suggest comparators, target population, Taiwan epi. data, budget impact
7. Conclusions

Operation Standards for New Drug Pricing and Reimbursement

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- Category 1 new drug
  (Breakthrough innovative product, substantial improvement)
- Category 2 new drug
  - Category 2A (moderate improvement)
  - Category 2B (similar)

Pricing and Reimbursement Guideline (1)

- Category 1 new drug: (Breakthrough innovative product)
  - Via head-to-head comparison or indirect comparison indicates substantial improvement of the therapeutic value
  - Pricing principle
    - Set at median price of international ten ref. C
    - Have efficacy and safety clinical trial in Taiwan with a reasonable scale, add 10%.

Did not ask for local cost-effectiveness data

* UK, Germany, Japan, Swiss, US, Belgian, Australia, France, Sweden and Canada
Bonus principle for Category 2A new drugs

- Have efficacy and safety clinical trial in Taiwan with a reasonable scale, add 10%.
- Have pharmacoeconomic study in Taiwan, add the maximum of 10%.

Summary

- Provide incentives to drug industry
  - For breakthrough and innovative product, set the reimbursement price at international median
  - Give incentive to conduct clinical trial in Taiwan to receive a mark up of 10%
  - Have pharmacoeconomic study in Taiwan, add the maximum of 10% for Category 2A new drugs
  - New drug if appraised to have clinical value, use brand product to be the price reference
  - Accept pay for performance or coverage with evidence development proposal from industry

Problems

- No consensus on which final outcome variables we should use
- How big the incremental effectiveness can be classified as substantial improvement or moderate improvement
- Can the results of indirect comparison reflect the true differences
- The quality of PE study is used to determine the level of bonus (6, 8, 10%), how
- Did not decide the ICER threshold yet

Taiwan BNHI is welcome of any proposal of the Risk Sharing S.

Thank you for your attention!