“Fad or fabulous”? Assessing value of medicines using HTA to inform pricing

This webinar will start shortly

Use Q&A window to post questions (not “Chat”)
- “Q&A” to send your questions to the panelists
- “Chat” ONLY when sharing comments or documents with all participants

Please keep all comments respectful and constructive

The session is recorded for viewing on demand
- Slides and recording will be shared after the session
WHO Guideline provides **conditional recommendation** for using value-based pricing

WHO suggests the use of **value-based pricing** for medicines to support **price setting, and reimbursement decision-making** where appropriate, under the following conditions:

- Value-based pricing is **used in conjunction with other pricing policies**, such as price negotiation, internal and external reference pricing, and policies to promote the use of quality-assured generic and biosimilar medicines;
- **Adequate resources and skilled personnel** are available to implement value-based pricing;
- Value-based pricing using **health technology assessment (HTA) must include an analysis on budget impact and affordability** from the perspective of the payer and the patient;
- A **well-established governance structure** for value-based pricing using **HTA** is in place to ensure processes are transparent, and assessment reports and decisions are disseminated publicly;
- The method and perspective for determining value are **explicit**;
- Decisions and evidence should be **periodically reviewed and re-assessed**
Today’s Panellists

Vania Cristina Canuto Santos
Former President of National Committee for Technology Incorporation (CONITEC)
Ministry of Management and Innovation in Public Services, Brazil

Shankar Prinja
Professor of Health Economics
Department of Community Medicine & School of Public Health
Post Graduate Institute of Medical Education and Research, India

Steven Pearson
President, Institute for Clinical and Economic Review
The United States of America
The Federal Constitution stipulates health as everyone’s right and duty of the State, guaranteed through social and economic policies.

Challenge: provide free and universal assistance to more than 200 million inhabitants.

FUNDAMENTAL PRINCIPLES:
- Universal Coverage
- Integrality
- Equity
- Social participation

BRAZILIAN PUBLIC HEALTH SYSTEM (SUS)
ACCESS TO NEW MEDICINES IN BRAZIL

- **ANVISA**
  - Investigation and development
    - Clinical protocol approval
    - Access to investigational medicine
  - Registration
    - Quality, efficacy and safety evaluation
    - Registration approval
  - Ceiling price
    - Maximum price – SCMED
    - Approval based on Health Technology Assessment

- **SCMED**
  - Private Market
  - Public Health System - CONITEC/MoH
  - Health Insurances - ANS

- **Patient Access**

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ANS - National Agency of Supplementary Health
CONITEC – National Committee for Health Technology Incorporation
MoH – Ministry of Health
SCMED – Executive Secretariat of the Chamber of Drug Market Regulation (SCMED)
CONITEC: RULES FOR HTA

**Clinical Evidence**
(efficacy/safety/effectiveness)

**Economic Evaluation**
(cost-effectiveness and budget impact analysis)

**Assessment/Appraisal**
180 DAYS (+90 DAYS)

**Decision of Incorporation**
(Ministry of Health)
(Official Gazette)

**Availability on SUS**
180 DAYS

**Public Consultation**
(20 DAYS)

**Incorporation Request**

**Clínical Guidelines and Purchase**

**Patient Access**

Federal Law 12,401/2011
CONITEC: RECOMMENDATIONS

- Incorporated: 55%
- Not Incorporated: 33.5%
- Excluded: 11.5%
ADVANCES

1. Transparency, communication and stakeholders involvement

2. HTA process and methods
1. Transparency, Communication and Involvement

✓ New website of Conitec (https://www.gov.br/conitec)
✓ Availability of the date of submission of the demand and dossiers of the applicants
✓ Panel “Conitec in numbers”
✓ Disclosure of the post-meeting agenda
✓ Recording and making the video of the meetings available on the internet.
✓ Weekly Podcast
✓ Versions of technical reports for society (in plain language)
1. Transparency, Communication and Involvement

- Literature review and projects on social participation.
- Hiring people trained in social participation.
- Training in qualitative analysis.
- Registration of patients and associations; managers and health professionals and training of patients and patient organizations.
- Perspective of Applicants and Patient at Conitec’s meetings
- Listening of the seven main stakeholders involved in HTA process – in forums, with a specific methodology, to capture suggestions for the improvement of HTA process and greater inclusion of these actors in its stages (Biennial HTA Forums).
2. HTA Process and Methods

✓ In external demands - pre-submission meeting with companies
✓ Creation of three committees (drugs, guidelines and other technologies).
✓ Increase Conitec’s members (from 13 to 15)
✓ Chair for HTA methodologists in the Conitec meeting.
✓ Cooperation with industry for the 1st risk sharing agreement (Zolgensma).
✓ Random distribution of demands to partners
✓ Structuring of the horizon scanning area.
✓ Structuring of monitoring and reassessment of medicines area
2. HTA Process and Methods

✓ Greater number of Centers of Health Technology Assessment (NATS, by its abbreviation in Portuguese) hired to carry out HTA studies – increasing the participation of different methodologists (from 5 to 23)

✓ Qualitative analysis of public consultations suggestions

✓ International cooperation (Redetsa, NICE, Univ. of York, etc)

✓ ICER Threshold: R$ 40,000/QALY (1 GDP per capita) and modifiers until 3x for rare, severe, tropical or pediatric diseases.
CHALLENGES

1. HTA priority-setting criteria by MoH
2. Continue Rebrats capacity building
3. Improve the economic aspects for decision-making
4. Intensify the monitoring and reassessment of technologies
THANK YOU!
vaniac.canuto@gmail.com
Drug pricing in India: Role of health technology assessment

Dr. Shankar Prinja
Professor of Health Economics
Post Graduate Institute of Medical Education and Research
Chandigarh, India
Outline

- Stakeholders in Drug pricing in India
  - Regulator
  - Payer
    - Procurement
    - Government funded health insurance
    - National Health Programs
- Regulatory pricing and its impact
- Role of Payer in drug pricing
- Role of HTA in Drug pricing
Stakeholders involved in drug pricing in India

Drug Pricing

Payer
- Supply side
  - Centralized procurement and decentralized distribution
- Demand side
  - Public health programmes

Regulator
- Ceiling prices
  - Trade margin regulation
- Government funded health insurance for 500 million population
Current mechanism of drug pricing in India

Drug price control order 2013
Schedule – I (NLEM)

Scheduled formulations
(NLEM, 2022)

- Ceiling price fixation by NPPA
  - Annual revision based on wholesale price index

Non-scheduled formulations

- New Drug
  - Trade margin regulation (Retail price fixation)

Other formulations

- Price fixed by the manufacturer
### Impact of price regulation on sales of anticancer medicines

<table>
<thead>
<tr>
<th>Impact of Price Regulation on sales of anticancer medicines</th>
<th>Number of medicines</th>
<th>Names of medicines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate increase followed by a sustained decline</td>
<td>4</td>
<td>Bicautamide, Dacarbazine, Etoposide, Imatinib Mesylate, Capecitabine, Asparaginase, Gefitinib, Mycophenolate Mofetil, Tacrolimus, Trustuzumab, Temozolomide</td>
</tr>
<tr>
<td>Immediate increase followed by a sustained increase</td>
<td>7</td>
<td>Capecitabine, Asparaginase, Gefitinib, Mycophenolate Mofetil, Tacrolimus, Trustuzumab, Temozolomide</td>
</tr>
<tr>
<td>Immediate decline followed by a sustained decline</td>
<td>5</td>
<td>Arsenic Trioxide, Chlorambucil, Docetaxel, Letrozole, Methotrexate</td>
</tr>
<tr>
<td>Immediate decline followed by a sustained increase</td>
<td>1</td>
<td>Pegylated Interferon Alpha 2B</td>
</tr>
<tr>
<td><strong>Total medicines under study</strong></td>
<td><strong>17</strong></td>
<td></td>
</tr>
</tbody>
</table>

*The formulations of these 17 medicines under study for determining the impact of price regulation accounted for 24.45% of the sales in the anti-cancer medicines market in 2020 in value terms.*
Heterogeneity in findings

- Drug indication: curative or palliative care use
- Single/Multiple indication of drugs
- Initial price of a drug
- Substitution effect for profiteering
## Centralized Drug Procurement and Decentralized Distribution

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage of drugs*</td>
<td>182-315</td>
</tr>
<tr>
<td>Overall drug procurement budget (USD)**</td>
<td>3.4-87.5 million</td>
</tr>
<tr>
<td>Per capita drug procurement budget (USD)**</td>
<td>5.8-51</td>
</tr>
</tbody>
</table>


Impact of centralised drug procurement on drug prices

**Role of Purchaser: Government funded health Insurance**

**National Flagship insurance program: Ayushman Bharat Jan Aarogya Yojana (AB PM-JAY)**

- **Health cover of Rs.5 Lakh per family per year**
- **No cap on family size, age or gender**
- **Implemented in Trust, Insurance and Mixed mode**
  - Benefits can be availed at any empaneled hospital across India
- **Completely paperless and cashless services**
  - Pre-existing conditions are covered from day one
- **Covers secondary and tertiary care across 27 specialities and 1970 procedures**
  - Case-based bundled payment mechanism for inpatient care of specific ailments

Two types of HBPs:
1. Surgical: Inclusive bundled payment for surgical package
2. Medical: Payable on per date rate depending upon admission unit (Ward, ICU etc)

**Largest Completely Public Funded Health Assurance Scheme in the World**

76 packages comprise drugs
Using HTA for STGs under PM-JAY: Adjuvant Trastuzumab Therapy

Cost Effectiveness of Trastuzumab for Management of Breast Cancer in India

Use of trastuzumab for 1 year is NOT cost effective in India for management of breast cancer

- Purpose: We undertook this study to evaluate the incremental cost per quality-adjusted life-year (QALY) gained with use of adjuvant trastuzumab as compared with chemotherapy alone among patients with nonmetastatic breast cancer in India.
- Methods: We used a Markov model to estimate the incremental cost of using trastuzumab (for 1 year, 6 months, or 9 weeks) as compared with chemotherapy alone using a societal perspective, excluding indirect productivity losses. Although the outcomes (QALYs) in the standard chemotherapy arm were estimated after calibrating the model as per survival data from 2 Indian cancer registries, effectiveness estimates from the HERA trial and a joint analysis of the NSABP B-31 and NCCN N9831 trials were used to estimate the consequences of 1-year trastuzumab use. The cost of treatment was estimated using national standard treatment guidelines and real-world use estimates for different treatment modalities as per data from Indian cancer registries. Probabilistic sensitivity analysis was undertaken to evaluate parameter uncertainty.
- Results: For 1 year of trastuzumab use, the incremental benefit per patient, incremental cost per QALY gained, and probability of being cost effective using HERA trial estimates were 1.29 QALYs, 178,877 Indian national rupees (INR); US$2,558, and 4%, respectively, whereas the corresponding figures using joint analysis estimates were 1.69 QALYs, INR 134,413 (US$1,922), and 57.3%, respectively.

Updated STGs
Maximum 8 Cycles Allowed

Improved Access & Annual Savings of INR 416 crore
HBP Rationalization using HTA evidence: PM-JAY Oncology Packages

Cost Effectiveness of Ribociclib and Palbociclib in the Second-Line Treatment of Hormone Receptor-Positive, HER2-Negative Metastatic Breast Cancer in Post-Menopausal Indian Women

Nidhi Gupta¹, Dharma Gupta², Jyoti Dixit³, Nikita Mehra³, Ashish Singh⁴, Manjunath Nookala Krishnamurthy⁵, Gaurav Jyani⁵, Kavitha Rajsekhar⁶, Jayachandran Perumal Kalaiyarasi⁷, Partha Sarathi Roy⁷, Prabhat Singh Malik⁸, Anisha Mathew⁸, Pankaj Malhotra⁹, Sudeep Gupta¹⁰,¹¹, Lalit Kumar¹¹, Amal Kataki¹¹, Shankar Prinjha¹²

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Abstract

Background In this study, we evaluate the cost and outcomes of cyclin-dependent kinase 4/6 inhibitors (CDK4/6i) plus fulvestrant, fulvestrant alone, and conventional chemotherapy as the second-line therapy for hormone receptor-positive (HR+), human epidermal growth factor receptor 2-negative (HER2−) metastatic breast cancer (MBC) in India.

Methods Using a Markov model, the clinical effectiveness of managing HR+, HER2− MBC in postmenopausal women with either a CDK4/6i (either ribociclib or palbociclib) and fulvestrant, fulvestrant alone, and chemotherapy (single-agent paclitaxel or capecitabine) was measured in terms of quality-adjusted life-years (QALYs). The costs were estimated from two different points of view: scenario I, as per the prevailing market prices of the drugs; and scenario II, as per the reimbursement rates set up by the publicly financed national health insurance scheme. Incremental cost per QALY gained with a given treatment option was compared against the next best alternative and was assessed for cost effectiveness using a threshold of 1-time the per capita gross domestic product (GDP) in India from a societal perspective.
Using HTA Evidence for Price negotiations and Policy Translation

Success stories

Routine Care (NVHCP)
- SOF/DCV for non-cirrhotic and SOF/DCV-genotype 3
- SOF/LDV-Non genotype 3

Scenario 1
- SOF/DCV for non-cirrhotic
- SOF/VEL for cirrhotic patients

Scenario 2
- SOF/VEL for both cirrhotic and non-cirrhotic

PUNJAB GOVT. PRICE NEGOTIATIONS

- SOF/DCV (US $)
  - 2016: 271
  - 2017: 106
  - 2018: 65

- SOF/LDV (US $)
  - 2016: 310
  - 2017: 194
  - 2018: 139

National Guidelines for Diagnosis & Management of Viral Hepatitis

What Regimen To Use
- DAAs are the recommended first-line treatment in India. The combination of the DAAs and the duration of treatment will depend on presence or absence of cirrhosis and on the genotype of the virus.
- The following algorithm will provide guidance on selection of regimens and the duration of treatment in treatment-naive hepatitis C patients:
  - Perform HCV RNA 12 weeks after completion of the treatment.
Way forward

HTA informed
Value based pricing of drugs

- Easier for payer to use value based prices for setting reimbursement rates
- Difficult to implement by Regulator
- Separate packages with description of drugs for each ailment under a specific speciality
- Value of the drug keeps varying over time and according to different indications
THANK YOU
Value-Based Pricing for Drugs in the US

Applying “comparative effectiveness” to drug value assessment
Institute for Clinical and Economic Review (ICER)

• Birth as an ethics and evidence policy research program at Harvard Medical School

• Since 2013 an independent health technology assessment group

• Develop publicly available value assessment reports on medical tests, treatments, and delivery system innovations

• Use cost-effectiveness analysis as the basis of value-based price benchmarks

• Convene independent appraisal committees for public hearings on each report
ICER: What is the Vision?

- Fair Price
- Fair Access
- Future Innovation
Funding 2023

- Nonprofit Foundations: 65%
- Manufacturer Contributions: 15%
- Health Plans and Provider Group Contributions: 10%
- ICER Analytics Subscribers: 8%
- Philanthropy/Other: 2%

ICER Policy Summit and non-report activities only
Cost-Effectiveness and Value-based Pricing

Overall Cost ($) vs Overall Health Benefit

Cost-effectiveness threshold or range

First new drug

Second new drug
## ICER’s Value-based Price Benchmarks (Examples)

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Drugs</th>
<th>Discount Needed*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinal Muscular Atrophy</td>
<td>Spinraza</td>
<td>83-90%</td>
</tr>
<tr>
<td>Opioid Use Disorder</td>
<td>Probuphine and Vivitrol</td>
<td>53-69%</td>
</tr>
<tr>
<td>Rheumatoid Arthritis</td>
<td>Rinvoq</td>
<td>25-26%</td>
</tr>
<tr>
<td>Asthma</td>
<td>Xolair, Nucala, Cinqair, Fasenra, Dupixent</td>
<td>62-80%</td>
</tr>
<tr>
<td>Treatment-Resistant Depression</td>
<td>Spravato</td>
<td>25-52%</td>
</tr>
<tr>
<td>Cardiovascular Disease</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>Migraine</td>
<td>Nurtec, Ubrelvy</td>
<td>0%</td>
</tr>
<tr>
<td>CAR-T for Leukemia and Lymphoma</td>
<td>Yescarta and Kymriah</td>
<td>0%</td>
</tr>
<tr>
<td>Hemophilia A</td>
<td>Hemlibra</td>
<td>0%</td>
</tr>
</tbody>
</table>
How is ICER’s work used?
Drug makers

- Dupixent for severe atopic dermatitis
- Praluent for high cholesterol
- Zolgensma for spinal muscular atrophy
- Remdesivir for COVID-19
- Leqembi for Alzheimer’s Disease
Federal and State Government

- Department of Veterans Affairs
- State Medicaid programs
  - Drug Affordability Review Boards

Federal drug policy considerations

Applications within “comparative effectiveness analysis” for Medicare negotiation?

Medicare demonstration programs capping prices for drugs receiving accelerated approval?
Private insurers

• Formulary development: 85-90% of private plans using ICER reports
  ▪ Support for clinical review, price negotiation
  ▪ Indication-specific formulary considerations

• Benefit design
  ▪ Excluding drugs an option if negotiated price does not meet ICER price targets was attempted but not fully implemented
Brand-Name Drugs, List vs. Net Price Growth, 2014 to 2020

Source: Drug Channels Institute analysis of SSR Health data. List and estimated net pricing figures are based on data for approximately 1,000 brand-name drugs with disclosed U.S. product-level sales from approximately 100 currently or previously publicly traded firms. The products and companies account for more than 90% of U.S. branded prescription net sales. Net prices equal list price minus off-invoice rebates and such other reductions as distribution fees, product returns, chargeback discounts to hospitals, price reductions from the 340B Drug Pricing Program, and other purchase discounts. Data for 2020 reflect first three quarters only.

Published on Drug Channels ([www.DrugChannels.net](http://www.DrugChannels.net)) on January 5, 2021.
Special Reports and Materials

- Unsupported Price Increase Report
- Barriers to Fair Access Report
- ICER Analytics online platform
- Methods papers
  - Health Equity methods in HTA
  - Assessment of rare and ultra-rare treatments
  - Assessment of one-time cell and gene therapies
ICER Reviews of Cell and Gene Therapies

FDA Approval Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Therapies</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>Kymriah</td>
<td>$474,000</td>
</tr>
<tr>
<td></td>
<td>Yescarta</td>
<td>$373,000</td>
</tr>
<tr>
<td></td>
<td>Luxturna</td>
<td>$850,000</td>
</tr>
<tr>
<td>2018</td>
<td>Zolgensma</td>
<td>$2,100,000</td>
</tr>
<tr>
<td></td>
<td>Abecma</td>
<td>$419,000</td>
</tr>
<tr>
<td>2021</td>
<td>Carvykti</td>
<td>$465,000</td>
</tr>
<tr>
<td></td>
<td>Zynteglo</td>
<td>$2,800,000</td>
</tr>
<tr>
<td></td>
<td>Hemgenix</td>
<td>$3,500,000</td>
</tr>
<tr>
<td>2022</td>
<td>Roctavian</td>
<td>Expected March 2023</td>
</tr>
</tbody>
</table>

Achieves good value for money using traditional $150,000 per QALY or evLY gained thresholds with shared savings analyses.
Key Modifications for cell and gene therapies

- Optimistic/conservative benefit (duration, magnitude, quality)
- Threshold analysis for durability of effect
- “Shared savings” analyses
  - 50% of cost offsets assigned to health system
Challenges and advantages of non-governmental HTA

• Challenges
  • Funding from sources that strengthen independence from industry
  • The weight of industry criticism can be intense
  • Not unreasonable to question legitimacy and accountability
  • No statutory power blunts impact when payers cannot walk away

• Advantages
  • Nimble to evolve methods, adapt quickly
  • Freedom from governmental interference enhances independence
  • ICER has odd distinction of being a private organization with an operational monopoly over formal HTA in the US
Panel discussion
Theory vs reality

In your view, how well have the theoretical benefits of value-based pricing aligned with real-world pharmaceutical pricing in your contexts?

What are some of the gaps for achieving more alignment?

What has been the role of HTA in this process?

- Prevent pricing irregularities i.e. price-value alignment
- Focus on the right “value”
- Reward the innovators through price
Several published research papers concluded that costs for new medicines are only weakly associated with their estimated clinical benefits, including in countries with established HTA. What’s going on?

### Price-value alignment

Some new cancer drugs may be neither affordable nor clinically beneficial over existing treatments.

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**UK**

<table>
<thead>
<tr>
<th>Cost 2015 USD</th>
<th>Overall Survival</th>
<th>Quality of Life</th>
<th>Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;110</td>
<td>●●●●</td>
<td>●●●●</td>
<td>●●●●</td>
</tr>
<tr>
<td>90–110</td>
<td>●●</td>
<td>●●●●</td>
<td>●●●●</td>
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<tr>
<td>70–90</td>
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<td>50–70</td>
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<td>30–50</td>
<td>●●●●●●●●●</td>
<td>●●●●●●●●●●</td>
<td>●●●●</td>
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<tr>
<td>10–30</td>
<td>●●●●●●●●●</td>
<td>●●●●●●●●●●</td>
<td>●●●●</td>
</tr>
<tr>
<td>&lt;10</td>
<td>●●●●●●●●●●</td>
<td>●●●●●●●●●●</td>
<td>●●●●</td>
</tr>
</tbody>
</table>

- ● = improvement
- ●● = no effect or mixed effect (aggregated)
- ●●●● = reduction

Focus on the right “value”
What should be valued and how?

› How could social criteria such as equity and fairness be better incorporated in value assessment?

› Should there be a value placed on potential, yet uncertain benefits (e.g. "hope")? e.g. medicines being ‘fast-tracked’ through regulatory approval and conditional reimbursement?
**Rewarding the innovators through price**

1. “Not cost effective at a zero price”
   
   › Costs associated with delivering the new technology outweigh the potential health benefits achieved
   › New technology results in people spending additional time in health states with high resource use and/or low health-related quality of life either during or after the treatment period

2. HTA methodology has not considered dynamic efficiency
   
   › Pricing with consideration to the allocation of social surplus (producer + consumer surplus) over the full life-cycle of the technology

See: Davis S. Assessing Technologies That Are Not Cost-Effective at a Zero Price [Internet]. London: National Institute for Health and Care Excellence (NICE); 2014.

To say that an intervention is cost-effective but not affordable must mean that the criteria used to judge cost-effectiveness do not reflect the scale and value of the opportunity costs.

Lomas et al 2018

To say that an intervention is cost-effective but not affordable must mean that the criteria used to judge cost-effectiveness do not reflect the scale and value of the opportunity costs.

Do HTA methodologies adequately capture the opportunity costs? If not, what can we do about it?

Are the prices paid for high-cost medicines really reflective of societal willingness to pay, as per value assessment? If not, what should be done about it?
In your view, what are the top promises and challenges of using HTA to inform pricing of medicines now and in the future?

› With the arrival of hundred-thousand medicines, to what extent is pricing according to HTA value assessment still relevant?

› For country authorities looking to build a HTA system to inform medicine pricing, facilitate affordable access, and design health benefit packages, what would be your top 3 suggestions?
Q&A with the audience
Webinar recordings and slides have found a home, finally!

https://www.who.int/news-room/events/detail/2021/07/06/default-calendar/pharmaceutical-policy-webinar-series---past-events

We thank all experts and webinar participants for your support!